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Editorial.

National Health Week.

NATIONAL Health Week, which this year will be celebrated during the period October 7th to 13th, will, as usual, provide a great deal of work for many medical officers of health throughout the country.

When Health Week was originated very little had been done in the matter of propaganda, and for a year or two it had rather a vogue, but like most human affairs it has shewn a tendency to wear out.

The War, with its sterilizing effect, put it further still in the background, but of late the awakening in health matters has caused those interested in hygiene to reconsider its possibilities. It must be admitted by all those who have carefully studied the subject that there is a great difference between what sanitary science has to give and what the public are ready to take.

One of the most remarkable things in the development of science in the last ten years has been that in connection with sanitary affairs. An immense amount of knowledge has accumulated as a result of research, and while the profession is ready to act in many and various directions, public opinion has not yet been convinced of the necessity of action. Nearly every development of sanitary science has shewn how important it is for the individual to collaborate, and he or she will not do this until convinced of the importance of personal action. It is hardly too much to say that, leaving out strictly professional procedure, health, for the individual can be

summed up in two words—cleanliness and diet. And yet how ignorant are most of the public on these points. No doubt, speaking generally, our population on the whole is cleaner than it was, but even so, immense further improvement is possible. As regards food and feeding the position is the same. How few understand the mere elements of dietary and food values. One result of this is seen in the flaming advertisements in the daily press vaunting various patent foods and drugs. From this it is apparent that the main idea seems to be that it is necessary for everything to contain the largest amount of food value so understood. Very many things are advertised as nourishing and sustaining to the last grain or drop, regardless of the fact that what is really necessary is a balance of the essential constituents. If the public would understand the principles of feeding and learn that what is wanted is good plain *fresh* food, less money would be wasted on patent articles and consequently less would be spent on patent medicines to endeavour to minimise the evil results of improper feeding.

Propaganda work has done much, but very much still remains to be done, and it is difficult then to see how this can be effected without getting the personal attention of the people themselves. In this lies the value and idea of Health Week. It relies on the use of "massed effort." If every sanitary officer, every newspaper, the churches and the teachers all combined for a brief period to concentrate on health, to shew its real simplicity and its relation to happiness, and to do this periodically, there is little doubt that another great force is added to those working for hygienic betterment.

What should be the relation of the medical officer of health to the movement? Many classes of workers call themselves sanitary officers, but the medical officer of health should never forget that he really is, and should always strive to prove that he is, the "chief of the staff." He should never forget that he owes it to his office, his profession and himself not only to be a scientific adviser but an organiser of effort. By organising a function such as Health Week, he is not only doing something likely materially to aid the people, but at the same time giving added appreciation to the importance of his office, and possibly doing not a little to ease the burden of his future work.

The Food and Drugs (Adulteration) Act, 1928.

THIS measure, to which reference was made when it was in bill form, received the Royal Assent on August 3rd, and is to come into operation on January 1st, 1929. In the course of its passage through Parliament, a passage facilitated by the Government, it underwent little or no change. It remains as it commenced, in spite of criticism and appeal from authorities outside political circles, essentially a consolidating Act. As such it is not, of course, without advantages, since nowhere more than in relation to the legislation relating to food is there so much confusion as a result of the legislative practice so favoured in this country of maintaining Acts in operation until they are reduced to mere skeletons by the passage of innumerable amending Acts.

To a certain extent there are indications that the demands for consolidation so often voiced by health officers have been heard, and the appearance of this Act is evidence additional to that provided by the Housing Act of 1925. What may be in store in this connection is not definitely known, but rumours of attack upon other measures, not excepting the Public Health Acts themselves, are common.

In the process of consolidation of the Sale of Food and Drugs Acts there has been a marked boiling down, and this new Act appears as a quite small measure, running to no more than thirty-eight sections all told. In these there are given all the essential provisions with regard to the sampling and analysis of food articles in general and the legal and other procedure and administrative methods to be adopted in connection therewith. Certain special articles—milk, butter, cheese, etc.—are also referred to, standards for some of these being named and power given to the Minister of Health and the Minister of Agriculture and Fisheries to make regulations with regard to some of them, in respect of composition, and the use of preservatives. When discussing the measure in its earlier stages it was suggested that it might prove, if nothing else, extremely convenient. When it comes into operation at the beginning of next year an opportunity will be given of discovering whether or not it has this advantage, and if it possesses any shortcomings likely to outweigh this advantage these no doubt will appear in process of working.

Atmospheric Pollution.

THE thirteenth report of the Advisory Committee on Atmospheric Pollution is now published.* The enquiries described were carried out under the directions of the Meteorological Office, but in order to develop the research side of the work the Department of Scientific and Industrial Research will in future be responsible for the Government's share of the task. Dr. J. S. Owens will continue to co-ordinate the records prepared by local authorities and to prepare an annual report upon them, while the Department's own researches will come within the responsibilities of the Director of Fuel Research.

The present report summarises observations made at eighty different stations in the United Kingdom, and these stations are classified under the letters A to D, in order of quantity of pollution, A indicating a low amount of deposit in the gauges and D a large amount. It is pleasing to notice that from 1914 to 1927 the number of stations ranking as A and B has increased from 54 per cent. of the total in 1914-15, to 87 per cent. in 1926-7. Stations ranking as D, however, have shown little improvement throughout the period. The different types of deposit are recorded, the highest tar deposit during the year being at Burnley, and the lowest at Southport, while carbonaceous matter was highest at Newcastle-upon-Tyne. The highest deposit of sulphates was at Burnley, but the increasing use of gas, among other factors, is causing a reduction in sulphate deposit. In Glasgow and in London, especially, the sulphate deposit has diminished in greater proportion than the total deposit, though the latter, too, has been reduced during the years 1914-27.

Section 2 gives the results obtained with the automatic filter, showing the hourly variations in deposit, and giving the effect of the coal stoppage of 1926. Owing to the importation of coal of a smoky nature during this stoppage the effect on atmospheric pollution was not the same as that of 1921. The average figure for May, June and July, 1926, in London, was rather worse than that of the same period of the previous year. In Stoke-on-Trent, however, the beginning of the stoppage made itself felt almost immediately in a reduction of pollution, but later, as coal supplies became available, the pollution increased, and eventually the amount of smoke was greater than usual.

Section 3 gives dust counter observations, and an account of a haze in Norfolk, which consisted of salt crystals.

Perhaps from the point of view of the medical officer, the most important fact is that brought out by a curve which shows that nearly all the ultra-violet rays are cut off by a small amount of smoke in the air.

* * *

London's Water Supply.

A FEW years ago Sir Alexander Houston surprised us by the introduction of a new style of writing water reports. While not neglecting the technical side of the subject he endeavoured to attract the attention and interest of the general public by a graphic description of that wonderful undertaking the "New River." The gratifying reception given to this attempt led him to an incursion into Kent with a description of the wells there which contribute a remarkably pure water sufficient, at 35 gallons per head per day, to supply the needs of a town the size of Manchester.

Now* he takes the River Lee for his text. He modestly describes his style as simple and homely, but admits he attempts to lure his readers into the rose-coloured and sunny paths of romance. His narratives are not at all of the usual guide-book character, not merely descriptions of places, but as he leads the reader downwards from the sources of the stream he brings before him much interesting information, archæological, historical, and biographical, which must have entailed a great deal of research work. The connection of Izaak Walton with the Lee River leads to much quaint information about fish and fishermen and incidentally of bird life on the streams and reservoirs. As in former reports this special article is profusely illustrated with maps and photographs.

Few, it is imagined, even in London, have any idea of the magnitude of the operations of

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*THE INVESTIGATION OF ATMOSPHERIC POLLUTION. Report on Observations in the year ending March 31st, 1927. Thirteenth Report. Department of Scientific and Industrial Research. H.M. Stationery Office, 1928. pp. 54. Price 6s. 6d. net.

*Twenty-second Annual Report on the Results of the Chemical and Bacteriological Examination of the London Waters for the twelve months ended December 31st, 1927. By Sir Alexander Houston, Director of Water Examination, Metropolitan Water Board. London: P. S. King and Son, Ltd. pp. 101, illustrated. Price 21s.

the Metropolitan Water Board. About seven million persons are each day supplied with about 36 gallons of water of a quality not easily surpassed. The supply is constant, unmetered (except for trade purposes) and the poorest person can drawan unlimited quantity. From time to time grumbles are heard that whereas the old companies used to pay dividends, the Water Board has to levy a rate. People forget, or do not know what were the conditions existing before the Board was formed. Water was turned on for a few hours each day, necessitating the provision of storage cisterns, often of the crudest description, insufficient in size and liable to pollution; baths, even in the best class houses, were rarely seen partly for this reason and partly because an extra charge was made for water carried above the ground floor; mains were not linked up, so that a whole section of the metropolis might be deprived of water through drought or accident. Moreover, the quality of the water in some instances was not up to the chemical standard of purity expected now. What its bacteriologic content was is not known, that method of examination not being available in those days.

The great improvement which has been effected in the purity of the water is due to the exertions of Sir Alexander Houston. In his report he deals with the methods he has introduced and investigations he is constantly making: included in these are chlorination, green growths, the excess lime method (used in dealing with the Southend water supply) and the search for pathogenic microbes. The usual tables showing the chemical and bacteriological results obtained are given in the report. Except to the experienced these do not convey an idea of the constant watchfulness which is exercised in Sir Alexander's laboratories or the amount of work involved.

One branch of this work on which Sir Alexander lays stress is the complete and thorough examination (chemical and bacteriological) each week of all the various kinds of water which "feed" the filters. These pre-filtration waters include raw waters of various kinds, stored water, gravel water, etc. The idea underlying the examination of pre-filtration waters is that if these can be pronounced to be epidemiologically "safe" the perfect working of the filtration process becomes almost of secondary importance, except from the point of view of producing a physically attractive product. Sir Alexander rather feels that the pulse of the Metropolitan Water Supply is the condition of the pre-filtration waters, and holding that view he has not scrupled to modify the work of water examination so as to obtain the kind of information required.

SIR HUMPHRY ROLLESTON, K.C.B., Regius Professor of Physic, University of Cambridge, has accepted the position of Hon. President of the Industrial Health Education Society. In furtherance of its objects and more particularly of propaganda in the interests of the health of miners, the Central Miners' Welfare Committee has made a grant of £500 to open up work in the mining areas where the Society has not hitherto operated. The Durham Miners' Welfare Committee has made a second grant of £250, and the Society is at present engaged in an extensive programme in Monmouthshire and South Wales, for which the Welfare Committee gave a grant of £500. In Scotland the Lanarkshire Committee has subscribed a further £150, and the Lothians Committee £50. The Society has just completed a programme in Northumberland, towards which the Welfare Committee gave £150. During the next six months a new feature of the work will be exhibitions of health films in addition to the health talks on occupational sicknesses and diseases.

"BRITISH RAINFALL, 1927," is the title of a volume, the sixty-seventh of the series, containing a full account of the rainfall of the year under review, arranged on lines similar to those of previous volumes. The total rainfall for the year at each of 4,970 stations is also given. The rainfall during 1927 over the British Isles as a whole was in excess of the average for the fifth successive year. Only four wetter years have occurred during the last sixty. The excess of rainfall was most marked in the summer, each summer month, except May, having received more rain than the average. The snowfall in the British Isles during the half-century, 1876—1925, is dealt with in a separate article. Copies of the publication can be purchased from all branches of H.M. Stationery Office or through any bookseller, price 15s. 0d. net, postage 5d. extra.

The Food Requirements of the Infant.

By LEONARD FINDLAY, D.Sc. (Glas.), M.D., F.R.F.P.S. (Glas.),

Professor of Pædiatrics, University of Glasgow.

The Meeting in Edinburgh, in January, 1928, was one of the outstanding events of the session so far as the Maternity and Child Welfare Group was concerned, and this paper by Professor Findlay not the least important feature of that meeting.

THE subject I have chosen for discussion is one about which at first sight there might seem little that is new to be said, but it is of such fundamental and far-reaching importance in the branch of medical work which we have selected to practise, that even if nothing new is said, the mere repetition of what we consider our guiding principles, or what we might call our creed, will do us all the good in the world. The subject of the food requirements of the infant is one, too, which is of special interest to you, because, as I understand it, your chief aim is to keep the healthy babies from becoming sick, whereas my excuse for existence is rather to make sick babies well.

So long as breast-feeding was more or less universally practised there was little call for a consideration of the amount of food required by the infant, since the child was simply put to the breast and allowed to drink its fill. If the mother had not enough milk, or if she did not desire to suckle her child, a wet-nurse was procured. With the passage of time, however, it would seem that our mothers have become less able to suckle their children, and in this country there has developed an ever-increasing antagonism to the employment of the wet-nurse. Hence, substitute feeding has come more and more into prominence and with it the natural corollary—the amount of the substitute that should be given. The nature of the substance I do not intend to touch upon to-day.

As I have just remarked, it is the custom in the case of the breast-fed child to let it decide for itself how much it will take—it is put to the breast either at stated times, or even at irregular times, and allowed to drink its fill. Some, and it must be admitted, quite sound physicians still hold that this is all we require to know about the subject. As they say: "Allow the child to be the judge of the amount required—satisfy its appetite—the excess will overflow and all will go well." There is no doubt that such a system would tend to avoid the ills that I will detail later on, and if one pays attention to the young animal world, *e.g.*, either in the field or in the kennel, and sees how every now and then throughout the live-long day the lamb or the puppy runs to and fro from its mother, sucking when it listeth, and with what good results this practice is followed, we are forced to stop and consider how far we are true "students of nature," as Hipprocates first urged us to become, and as all great physicians since his time have said should be our watchword, when we lay down rigid rules and regulations for the frequency and times of breast-feeding.

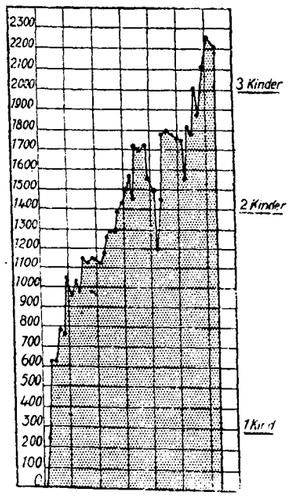
Unfortunately, however, the child, just like the adult, though no doubt less frequently, does not always limit the intake to what is necessary for supplying the fuel for the multifarious workings of the body. Excess of food may be taken from bad habit or with the intention of assuaging discomfort due to very different causes, *e.g.*, gaseous distension, colic, pain or thirst. That breast-fed children seldom suffer from nutritional disease, and certainly from overfeeding, I think all of us who have had much to do with infants will admit. I do not say it never occurs, but in my experience an insufficient supply is infinitely more common. The reason for this is probably to be found in the fact that nature usually supplies just enough for the needs of the infant. In order to stimulate the mamma, suction is necessary, and this must be the greater the emptier the breast, whereas the more satisfied the infant becomes the less powerful are the efforts at suction. If, however, an increased stimulus is supplied, as, for example, by putting a second healthy and vigorous child to the breast, enough for two children will be secreted. Langstein and Meyer of Berlin record the case of a wet-nurse who suckled first one child, then two, and finally three children at one time, and the amount of milk secreted, as estimated by accurate weighing before and after

suckling, was found to steadily increase with the number of children, so that ultimately the daily amount was practically three times what it was when only one child was suckled.

FIG. 1.

Chart showing amounts of milk supplied by a wet-nurse with one or more children at the breast.

(Langstein and Meyer.)



In any case, I suppose you will all agree with me that overfeeding at the breast is rare. I, personally, have seen more cases where irregular breast-feeding has brought about minor disturbances, *e.g.*, vomiting, loose motions, colic, night restlessness, etc., but much more frequently have I seen cases where an insufficient supply of breast-milk has been the cause of illness.

That the bottle-fed child, on the other hand, can be overfed and suffer in consequence I have absolutely no doubt. Some time ago Dr. Fleming and I carried out a series of experiments on the question. We took apparently healthy infants and fed some on the reputed requirements and the others on decidedly more than they required. For a time all went well and it seemed as if those fed liberally would do better, but invariably their tolerance ultimately broke and gastro-enteritis ensued. Nevertheless, I would say that in the case of the bottle-fed child, just as in the case of the breast-fed child, underfeeding is the more frequent cause of mischief.

The body can be likened to an engine, and a most efficient engine it is, for not only does it keep working night and day, year in and year out without cessation, but it has the power of repairing any wear and tear at the same time. But just like an engine it requires fuel for the production of its energy, although sometimes from the amount of fuel supplied the medical attendant would seem to think that it is some miraculous machine he was contemplating and able to do its work on air and water alone. Unless an infant receives enough fuel or nourishment to supply the necessary energy for its normal functions, and a surplus to cope with waste (excreta), repair of wear and tear and growth, only one result can follow—a result which is proportionate to the deficiency. There may be enough to enable the vital functions to act, though perhaps at a slower rate, and also to cope with wear and tear when there may be no loss in weight but a stationary weight. If, however, there is not enough for the above processes then the infant will live on its own tissues—consume itself, and wasting is the inevitable result.

That insufficiency of food is one of the commonest causes of the infant not thriving—the so-called marasmus—at least in the West of Scotland, I have not the slightest doubt. We at the Children's Hospital in Glasgow have been preaching this doctrine for some years, and lately Dr. Donald Paterson, as a result of his experiences at the out-patient department of Great Ormond Street Hospital, has reiterated the same dictum. Underfeeding alone may bring the child into a parlous state, and, by rendering him more susceptible to infection, may in reality be the prime cause of death when such is ascribed to otitis media, gastro-enteritis and broncho-pneumonia. Each of these infections is serious enough in a well-nourished infant, but they are almost hopeless in one which is marantic. In view of the seriousness, then, of underfeeding or inanition it is essential that those of us who are entrusted with the care of infants should be able to recognise it.

In general the symptomatology is a stationary weight or a loss of weight. The child on occasion may be quite contented and sleep well if there is just enough food to supply the necessary energy for all but growth, but if the deficiency is greater, then the child is frequently cross especially in the latter part of the interval between the feeds. After the child has been fed he may fall asleep but he wakens easily and cries much until he gets his next feed. Because there is a deficiency of food it is only natural that there

will be little left over for excretion, and constipation results. But as food residue is not the only constituent of the fæces, consisting as they do, in addition, largely of bacteria and intestinal secretions, some material is passed but it is scanty and composed of mucus, desquamated epithelium and bacteria, and has none of the characters of a normal motion, which is composed chiefly of food residue. This type of stool, the so-called hunger-stool, is small, dark in colour and mucoid. Sometimes the rectal evacuations are infrequent and at long intervals, whereas in other cases they are frequent, perhaps after every feed, and under these conditions are apt to be taken as evidence of intestinal irritation (enteritis), and the insufficient diet which is the cause is further cut down. This hunger-stool is very typical of inanition, and the medical attendant should make it an invariable rule to inspect the motions of all infants who are not thriving. Another not infrequent and *a priori* unexpected symptom of insufficient food is vomiting. The vomiting may at times occur often and at other times seldom: on occasion it is forcible and recalls that met with in pyloric stenosis, but it may consist of mere mouthfuls and suggest overflow.

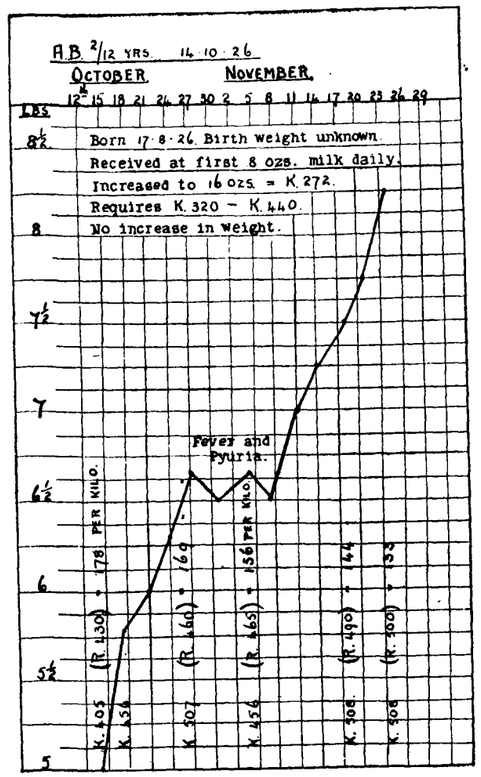
The lesson to be drawn by us from the above story of the symptomatology of inanition is that it is often exceedingly reminiscent of gastro-enteritis, or what one might say gastro-intestinal irritation, and tends to put one off the idea that a deficient supply can be the cause of the child's illness. Examination of the motions and an enquiry into the history of the feeding will, however, usually put us on the right lines.

The following two case histories with charts (Figs. 2 and 3) are illustrative of the symptoms of inanition and the effect of supplying the requisite amount of food.

The first case (Fig. 2) was that of a girl aged two months at the time of admission to hospital. The child was apparently healthy at birth but the weight was unknown. She was bottle-fed from the beginning, at first receiving 8 ozs. of milk daily and gradually increased to 16 ozs. daily, which latter represented a caloric value of 272 whereas at two months the child required 440 calories per day. The child had not thriven, had no vomiting but the bowels were constipated. Physical examination revealed nothing abnormal and the child was simply given the requisite amount of food with the result that there followed a steady increase of weight which was interrupted for ten days, however, by a transient pyogenic infection of the urinary tract.

FIG. 2.

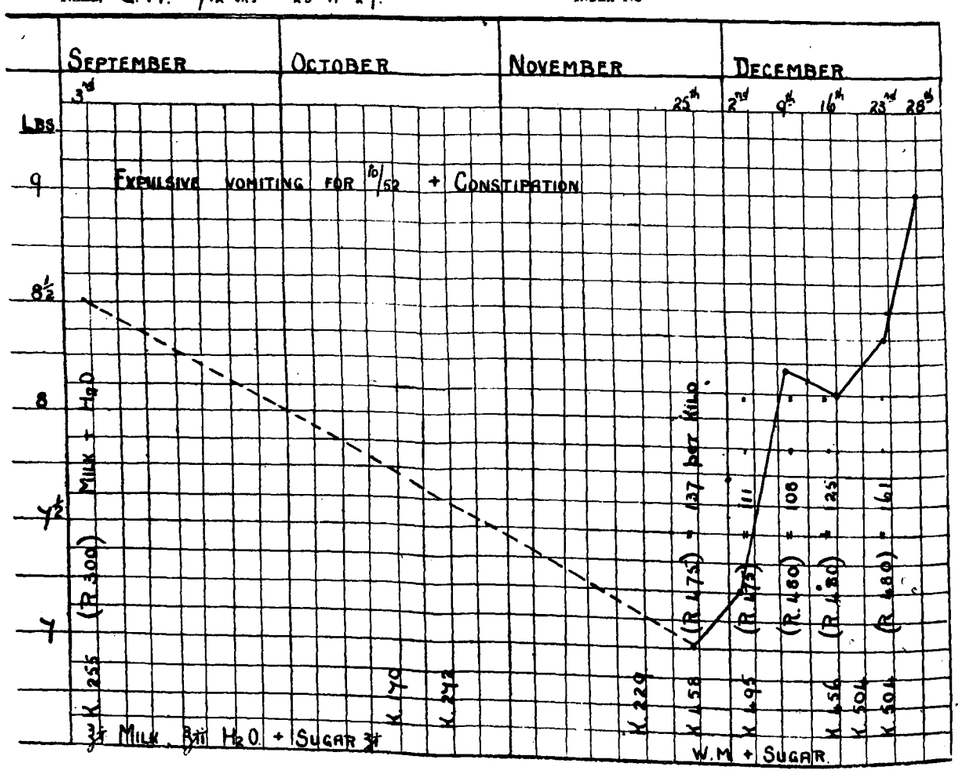
Case of inanition showing effect of supplying the requisite amount of food.



The other case (Fig. 3) is that of a male infant who came under observation at the age of three months and with a weight of 7 lbs. The child was healthy and weighed 8½ lbs. at birth, had never been breast-fed, but had been given milk and water and sugar in insufficient amount. He had never thriven, vomiting—expulsive in character—occurring after the feeds; constipation had been present from birth and had continued till admission in spite of several variations in the amount and frequency of the feeds. The infant was sent to hospital as an example of pyloric stenosis, but physical examination failed to reveal the presence of this condition or any other disease, and with the administration of the requisite amount of nourishment the child made an uninterrupted recovery.

FIG. 3.

Case of inanition showing the result of supplying the requisite amount of food.



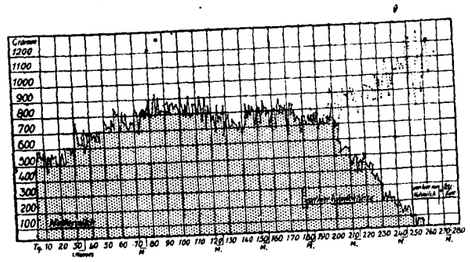
The question of how much nourishment a child requires is therefore no idle one, nor is it of purely academic interest but one of great practical importance. There is, too, not merely a physiological side to the matter, but also an economic aspect, especially in these days when health authorities are supplying gratis milk or its equivalent for the children of the less favoured classes. To allow all infants irrespective of age an equal amount of milk, if not required, will throw on the community an unnecessary expense.

In what way then, I will ask, has it been decided how much food a child requires? There are several means by which an answer to this question has been sought. The earliest estimations were made from a study of the amount taken by a healthy breast-fed infant. The infant was accurately weighed before and after each feed and the increase in grms. represented the number of ccs. consumed. This has been done by several workers, some of them like Reyher making observations on their own child (Fig. 4). Camerer and Feer, and Meyer, have also supplied us with figures (Fig. 5). Camerer and Feer have estimated from many observations the average daily quantities of milk to be the following:—

1st week	..	..	0-16 ozs.
2nd ,,	..	..	17 ozs.
4th ,,	..	..	20 ozs.
8th ,,	..	..	27 ozs.
14th ,,	..	..	28 ozs.
20th ,,	..	..	30 ozs.
20th ,,	onwards	..	35 ozs.

FIG. 4.

Chart showing daily amount of milk taken by a healthy breast-fed child. (After Reyher.)



From these various records it is seen that the normal breast-fed infant fairly early—it may be by the third month—takes almost its maximum amount of milk, and therefore as it increases in age the amount per unit of body weight falls. By using caloric values instead of quantities, Rubner and Heubner gave as the average requirements for children during the first year of life 100 calories per kilo. body weight for the first three months, 90 calories per kilo. for the second three months, 80 calories per kilo. for the third three months, and 70 calories per kilo. for the fourth trimester.

FIG. 5.

Representing graphically the caloric requirements per kilo. body weight according to age.

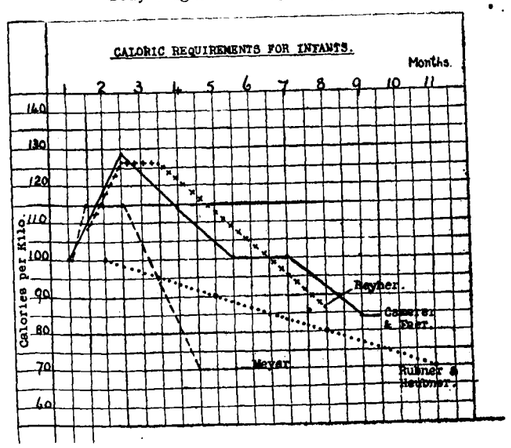
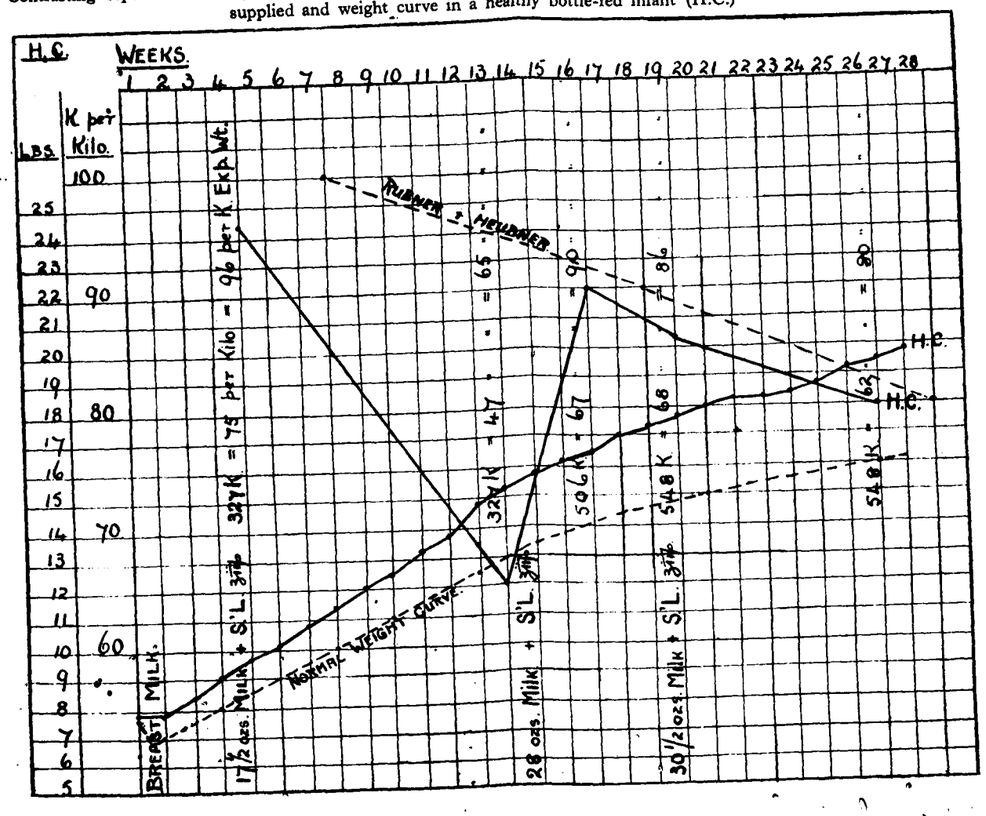


FIG. 6.

Contrasting reputed calories per kilo. body weight and average weight curve with actual calories per kilo. body weight supplied and weight curve in a healthy bottle-fed infant (H.C.)



From clinical experience I am inclined to consider this estimation correct, for not infrequently one finds that a healthy bottle-fed infant by the time it is four months old takes the full amount of food—7 to 8 ozs. five times daily—and that from this time till the tenth month at least, even although it is steadily increasing in weight, the same size of feed is sufficient. In fact, at times one finds that at eight and nine months the child tends to take less than more.

In accompanying chart (Fig. 6) is represented graphically the daily amount of milk in calories per kilo. body weight and the increase in weight in a very healthy bottle-fed child (H. C.) contrasted with the normal weight curve and the Rubner and Heubner scale of caloric requirements per kilo. body weight of the average healthy child. The correspondence is seen to be very close. There is no doubt about the relative food requirements falling with age; in fact, during the third month the child seemed to be thriving with a relatively small intake; the child, however, increased in weight relatively quicker when the amount of food during the fourth month was brought up to the theoretical values.

During recent years an attempt has been made to estimate more accurately the nutritional requirements of the infant. The food when utilised by the body is split into simpler constituents with the production of heat, and by placing the individual in a closed and specially constructed chamber it is possible to estimate the amount of heat produced. This method of estimating the body's requirements is called direct calorimetry, and although it has been done not only in animals but also in man under a variety of conditions, it has only seldom been carried out in the infant. From these studies it has been estimated how much heat or energy is produced by an individual while at rest or while doing different types of work. As various foodstuffs have definite caloric or energy-producing values the amount of any one or any combination of foodstuffs required to supply the amount of energy estimated in the above manner can be calculated.

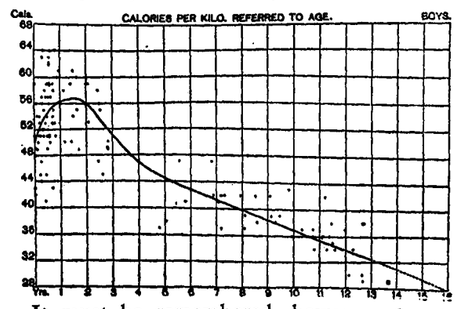
On the other hand, according to the law of the indestructability of matter the energy may be determined indirectly by estimating the amount of the simpler constituents, or at least some of them, into which the foodstuffs are broken up in their utilisation for the production of heat. Fats and carbohydrates by means of the O inhaled are finally converted into CO_2 and H_2O, and it is possible to conclude from the amount of CO_2 exhaled, or perhaps better from the amount of O_2 inhaled, the quantity of these substances which have been combusted. The protein is split into urea, ammonia, etc., and excreted in the urine so that from the quantity of its most important element, *viz.*, nitrogen, the quantity of protein metabolised can be arrived at. Such investigations have now been carried out in a large number of infants, older children and adults, and have provided us with the energy needs for basal conditons, *i.e.*, those necessary for permitting of the vital functions at complete rest. Exercise of any kind increases the requirements considerably and it may be here stated that for ordinary purposes of life double the basal rate is required.

Considering the reputation of the workers in this field and not having made personal observations on the subject, I hesitate to raise any question of the validity of the results. But when we realise the far-reaching conclusions which have been come to as a result of this type of investigation it is essential that we consider it carefully.

It is computed by the supporters of this type of work that an infant requires 100 calories per kilo. body weight during the whole of the first year; yet if one strictly follows the published composite curves constructed from all the observations the caloric requirements should be at birth 100 calories and at one year 120 calories per kilo. body weight (Fig. 7).

FIG. 7.

Basal heat production of boys per kilo. of body weight per 24 hours referred to age. Point inclosed in square signifies puberty established. (Benedict and Talbot.)



It must be remembered, however, that by this means of study the total metabolism cannot be measured but only the basal rate, and, at least in the case of the infant, the metabolism for short periods only, *e.g.*, half an hour. And further, as the infant will not remain quiet if hungry, the metabolism during the post-absorptive period is not studied, as in the adult, but during the height of digestion which itself influences tissue activity. Even under these conditions it is difficult to keep the child at complete rest and any movement increases considerably the heat loss and thus vitiates the results. It is the custom, too, to formulate the laws on conclusions drawn from composite observations made on many children at different ages though these do not agree as a rule with those made on the one child at different ages, which admittedly should be the ideal method of carrying out the investigation. In the majority of the cases in which extended observations have been made on one child the tendency is for the caloric requirements per kilo. body weight to remain steady or to fall (Figs. 8 and 9)

FIG. 8.

Chart showing basal energy requirements in calories per kilo. body weight, as estimated on different occasions in a child during the first year of life. (Benedict and Talbot.)

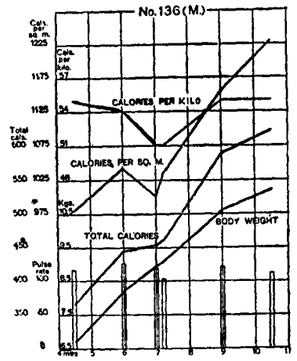
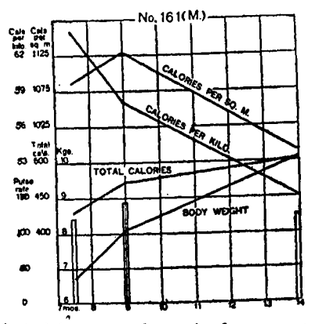


FIG. 9.

Chart showing basal energy requirements in calories per kilo. body weight, as estimated on different occasions in a child during the first year of life. (Benedict and Talbot.)



whereas in the curves made from massing the observations in all the children studied according to age there is a definite rise in the caloric requirements per kilo. body weight from birth to the age of almost two years (Fig. 7).

Talbot made an attempt to estimate the total metabolism in two children aged three and six months during a period of 24 hours. The children were removed from the chamber to be fed, which occupied altogether about two hours, but otherwise they remained in the calorimeter during the 24 hours. Taking into consideration the periods outside the calorimeter, and the amount lost in the excreta and necessary for growth, the caloric requirements for the younger child were found to be 110 per kilo. per day and for the older child 96 per kilo. per day.

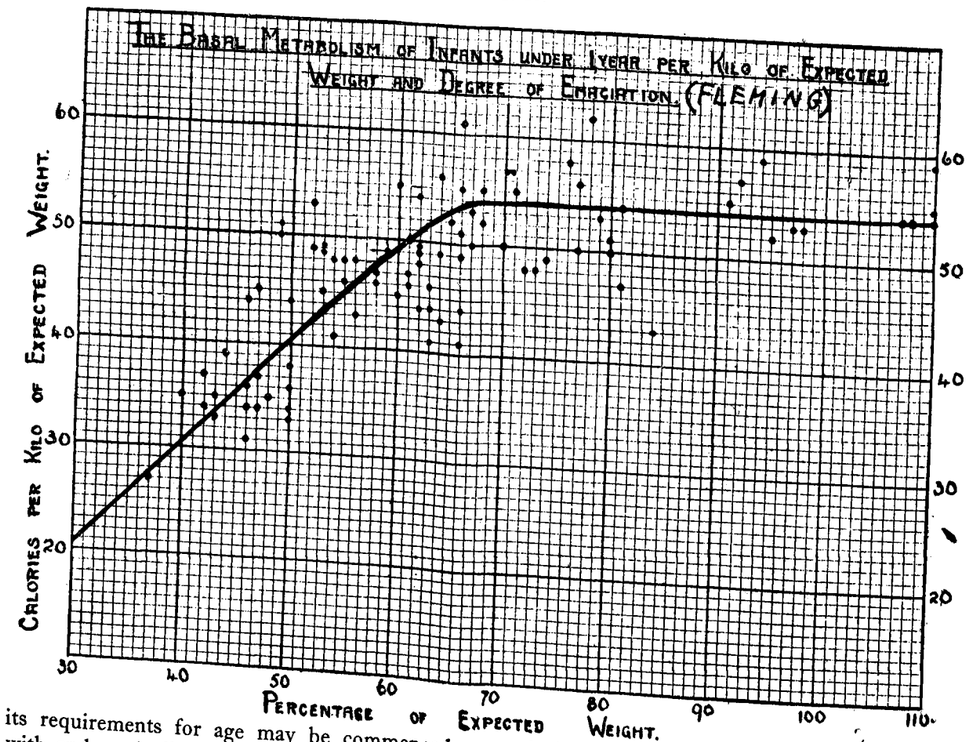
Much more work, it seems to me, is necessary along these lines before we can accept the findings as the correct answer to our question, and in the meantime I am inclined to take the observations dealing with the individual child as the more reliable and, in accordance with the dicta of Rubner and Heubner, conclude that the caloric requirements per kilo. tend to fall with age.

So far I have only been considering the normal infant. Do the same rules apply to the overnourished or undernourished infant? That is, should two children of six months, one of which is only half the normal weight and one of, say, 50 per cent. more than the average weight, be supplied with the same or different amounts of food? This has always been a knotty question and has received very different answers.

I think it was Rosenstern, while working with Finkelstein, who first noticed that infants recuperating from under-nutrition did not improve if they were fed according to what they weighed, and that it was only when they were given amounts corresponding to the weight they should be for their age, *i.e.*, their expected weight, that they commenced to increase in weight. Fleming, working in my department, attempted to give greater precision to this matter by determining by means of indirect calorimetry the heat output of infants in different nutritional states. He found that until a child had lost 30 per cent. of its weight there was no diminution in heat output, but that when the loss of weight exceeded that proportion the heat output per kilo. of expected weight did diminish.

Fig. 10 shows the heat output under basal conditions in Fleming's cases, plotted according to their percentage of expected weight, and goes to support Rosenstern's contention that a child should be fed, at least until emaciation is severe, according to what it ought to weigh, or to put it more simply, according to its age. In the greatly emaciated infant a little less than

FIG. 10.



its requirements for age may be commenced with and gradually, as nutrition improves, the normal amounts approached. Most of us who attempt to estimate the food intake in calories must have noticed that undernourished infants often require, not the reputed 100 or less calories per kilo. per day, but 150 or more before increase in weight results. The probable explanation of these facts is that in the emaciating infant, fat, a metabolically inactive substance, is chiefly lost, and that proportionately more is required for growth if the child is to recover its normal weight.

From the above considerations we are, I think, entitled to deduce that a child requires sufficient food to produce 300-400 calories per day during the first two months of life, enough for 400 to 500 calories per day during the second two months, from 500 to 600 calories from four to six months, and from six months onwards an amount of nourishment representing 700 calories per day. Expressing these figures in terms of milk, each ounce of which has roughly a caloric value of 20, a normal child should have

during 1st two months, 15-20 ozs. of milk per day.

during 2nd two months, 20-25 ozs. of milk per day.

during 3rd two months, 25-30 ozs. of milk per day.

during six to nine months, 30-35 ozs. of milk per day.

Since sugar is frequently added to the feed it is useful to remember that 1 drachm (1 teaspoonful) has roughly the same energy value as one ounce of milk.

The above figures enable us easily to decide whether or not an individual infant is receiving a sufficiency of nourishment. As Lusk says: "The so-called scientific feeding of infants is unworthy of the name unless the caloric requirement is carefully considered. From lack of this knowledge babies are frequently systematically starved."

In conclusion, permit me to formulate two aphorisms which I think synopsise the important points that I have attempted to bring before you:

(1) Never omit to examine the motions in any nutritional disease of infancy.

(2) Never conclude that an infant is suffering from disease or being fed on an unsuitable diet until you are sure it has received its requisite amount of food.

Ut Ita Dicam.

(Being Comments, apropos and otherwise, on Sundry Matters.)

The Glorified Showman—

The medical officer of health as such, it seems to me, plays many more parts than he might not unnaturally as a mortal expect to be called upon to play. As a youngster in the service I can well remember how in certain quarters resentment was aroused because someone or other described medical officers of health as "glorified plumbers," rather contemptuously suggesting that this was the sole character the officer had to sustain. As a matter of fact, even at that time he appeared in a multitude of parts and might with equal justice have been described as a "glorified mortuary keeper" or a "glorified dustman" or a "glorified parson" or a "glorified consultant physician." Recently some of his activities appear to suggest other glorifications that might be conferred upon him, and just at the moment I should not be in the least surprised to hear somebody refer to him as a "glorified showman." This I gather from the number of programmes of events to be staged during National Health Week in particular areas and the frequency with which an exhibition appears as the central feature. That many medical officers of health really do deserve the title "glorified showman," and that they are glorified and have a definite *flair* for showmanship of a type appropriate to their main calling, I judge from the staging of exhibitions I have seen and from the work and the methods employed in relation to the preliminaries. As a propaganda and educational item there can, of course, be no question as to the value of the exhibition, and it is not astonishing or inappropriate that it should be used for the purpose during National Health Week. What is really astonishing is the craftsmanlike way in which the mere medical officer of health—the man who was to be put into his classification by the affixing of the label "glorified plumber"—has set about the building up of an exhibition that, although made out of material not in itself attractive, has not only proved successful as a show but has achieved its main object and broadcast knowledge on health and health matters generally. Rather wonderful, I think, but even more wonderful that it should have been more or less as a matter of course that the medical officer of health should, because he was that, be qualified to organise a health exhibition; should be, in fact, of necessity a qualified glorified showman. Because a man sets up as a specialist in surgery or nervous diseases or on the ear, nose, throat or eye, it is not expected of him that he should be qualified to organise an exhibition dealing with his speciality. In fact, he is not expected to be qualified to do anything but the business he purports to follow. He is not entitled to be called a "glorified" anything. Only members of the public health service, it appears, are deserving of glorification, and I suggest that, instead of letting it get us down when we are called a "glorified" this or that or even a showman, we should regard it as a compliment and an encouragement to go forth and discover fresh fields in which to glory.

—And Stoker Too.

That one of these may be that of the stoker is suggested by duties recently suggested as proper for our performance in relation to smoke abatement. The fact that groups of medical officers of health, most recently one from the metropolitan area, should be invited to investigate methods of carbonisation of coal and the production of a particular type of smokeless fuel did not appear in the least strange to anybody. That the officers should have accepted the invitation of the Low Temperature Carbonisation Company to see and study the process did not appear strange either. Most extraordinary of all it did not seem strange to those who represented the Company that the medical officers of health exhibited a real interest in all that was shown them and sought for information with regard to the intricacies of a subject that by the wildest stretch of imagination could not be regarded as one for persons whose basic training was in medical science. Because they were medical officers of health they were expected to be glorified chemists and engineers — mining, civil and operative—and not one of them but lived up to the parts. Not one of them either but did it in the same way as he lives up to the parts of glorified plumber, butcher, baker, scavenger, showman and what not—because his job is the safeguarding of the health of the people and this implies a wide knowledge of all the conditions, environmental and other, of the people; such a knowledge as will enable him

to discover how such conditions may operate and how harmful operation may be prevented, modified or guarded against. Study in this case was made and knowledge of the processes eagerly sought because of the claim that through them there might be produced a material that would go a long way towards providing a remedy for pollution of the air by smoke, a removal from the air of substances harmful to breathe and obstructive to the most beneficient of the sun's rays.

The Search for Smokelessness.

Amongst those who made the investigation the impression was definite that the carbonised product of the coal—not only waste and valueless as a fuel to begin with but actually an embarrassment—and the processes to which it was submitted, were capable, as well as doing what they required of the fuel, *viz.*, burning without giving off smoke, of producing the heat that the domestic and other user required in the appliances to which he was accustomed, that he preferred and that he knew best how to use. In this country these last are the great things. In public health work, as in other matters, it would be so pleasant and nice and easy if only we could shatter things to bits and remould them nearer to the heart's desire. Unfortunately, in relation particularly to domestic heating, it is not possible to go into all the homes and pull out the firegrates and knock down the chimney pots and block up the flues, even though appliances and arrangements in the form of electric and gas heaters alternative to these could be put in their place. The heat user prefers his fireplace and chimney and with great ease can find fuel in the shape of coal for use in connection with them. The concomitants of dirt and smoke he accepts as necessary evils. The search of necessity must be for a fuel in substitution for the coal; that, if possible, looks like coal and burns in the same place and in the same way as coal but without the dirt and the smoke of coal.

Barnsley at the End.

From what was seen on the works of the Low Temperature Carbonisation Company the search looks as if it might have ended at Barnsley. The substance produced—coalite, so called—claims to do and demonstrably does what is required. Unfortunately, that is not all, however. There remain two difficulties, one comparatively easy and the other less easy to overcome. First, there is the matter of supplies. At present they are small in amount and are produced in few places. This is a question for solution by others than the medical officer of health, though its solution will be materially assisted when the other difficulty in which he is essentially concerned is solved, and the confirmed coal user and smoke producer has been converted to the use of smokeless fuel. Only, this result can be produced by education and example. The health service is the education service in this as in a multitude of matters, and it will have to devise and to put into operation methods of teaching. The medical officer of health will have to appear in yet another character—the "glorified stoker." Such visits as that arranged by the Low Temperature Carbonisation Company for the London officers will help him to qualify as such, and the fact that he is provided with knowledge acquired at first hand with regard to the materials, their properties, uses and behaviour, which he will undoubtedly feel called upon to recommend is certain to be of advantage when he begins to educate. The visitors to Barnsley expressed gratitude to their hosts for a number of things; the chief reason for their gratitude, however, was that they had engaged themselves in an enterprise that appeared capable of assisting the health service to render service in the interests of the public health. P.

A COURSE of Post-Graduate Lectures on Nutrition, for Health Visitors, Nurses, Midwives, Superintendents of Infant Welfare Centres, etc., will be given in the Lecture Hall, The Infants' Hospital, Vincent Square, Westminster, S.W.1, on Mondays, from 6.30 to 7.30 p.m., from October 8th to December 10th, 1928. Syllabus and full details are obtainable from Miss Halford, O.B.E., Hon. Secretary, National Association for the Prevention of Infant Mortality, 117, Piccadilly, London, W.1.

A COURSE of Elementary Lectures on Infant Care, especially intended for Crèche Nurses and Probationers, will be given in the Lecture Hall, Carnegie House, 117, Piccadilly, London, W.1, on Thursdays, from 7.30 to 8.30 p.m., from October 11th to December 13th, 1928. The lecturer is Dr. Prudence Gaffikin, Medical Officer to the East Islington Child Welfare Centre, and full details of the course may be obtained from Miss Maddock, Secretary of the National Society of Day Nurseries, 117, Piccadilly, W.1.

Some Problems in Maternity and Child Welfare Work.

By ELWIN H. T. NASH, M.R.C.S., L.R.C.P., D.P.H., Medical Officer of Health and School Medical Officer, Heston and Isleworth.

Dr. Nash has devoted much attention to maternity and child welfare work, and in this, his Presidential Address to the Maternity and Child Welfare Group—one of the most active within the Society—he mentions many of the problems still to be surmounted, and offers suggestions for overcoming them.

IN discussing the present position from the point of view of administration of maternity and child welfare it is well to look back and see the development of the work from its inception.

Maternity and child welfare work—like a good many others—was first pushed in this country by enthusiastic voluntary workers, and ultimately carried on by municipal effort, and now the majority of the clinics are municipal, the whole of the funds being supplied from the rates. There are, however, still a very large number of centres in the bigger towns, particularly London, on a voluntary basis, receiving grants from municipal funds, but controlled entirely by voluntary workers. Some of these have done, and are still doing excellent work, although reports from some of the medical officers at such centres do not indicate that their work has the freedom that it has under municipal control. It is probably owing to the predominance of the voluntary worker in the beginning that the voluntary worker exists to such a large extent as a necessary adjunct to the successful carrying on of the infant welfare clinic, thus reducing the expense of staff which would otherwise fall on the local authority.

Maternity and child welfare work is peculiar in that it is inspected entirely by a female staff, and still further peculiar in that it is—as far as I am aware—the only branch of municipal medical work which is inspected by non-medical officers. This would appear to lend colour to the idea that maternity and child welfare work is a peculiar prerogative of the female sex. This, in my opinion, is a mistake and a serious mistake. It does not necessarily follow that a single woman, because she is a woman, is more capable of dealing with or more interested in the child than a single man, still less than the married man. There are medical officers of both sexes who have that invaluable quality of a natural aptitude for dealing with a child, which is accompanied by a natural affection for children. There are also members of both sexes who are quite incapable of coming down to the child's level, and personally I feel very strongly that it is a great mistake to postulate—as practically all the voluntary centres that I know do—that a woman is the only person who can efficiently work a maternity and child welfare clinic. The position of the maternity and child welfare officer is peculiar in that it is the only branch of municipal health work which is largely staffed with part-time female officers, and in so far as the part-time officer is enabled to do other work in addition to a number of clinics, paid at so much per session, she is able to earn a proportionately much larger income than a whole-time officer.

There is another peculiarity about the maternity and child welfare work in the position it holds with regard to the future of whole-time officers of the male sex. In the early days of public health work, when medical inspection of school children commenced, experience in that direction was regarded as a very large asset and counted as a considerable stepping-stone towards promotion to the higher administrative posts. Nowadays a clinical knowledge of tuberculosis, for some unknown reason, appears to be considered the most important item as exemplified by more recent appointments to the whole-time senior administrative posts. For what reason I am entirely at a loss to understand, as if there is one service to my mind which is more important to the country at the present time and which shows better value for money spent it is maternity and child welfare work; and yet, things being equal in other respects, the tuberculosis officer gets the pull almost every time. If the value of results counts for anything the tuberculosis service certainly has not the first claim as its members admit that its results are discouraging. There is no one

who has experience of bacteriology in a public health department who does not know that they are not getting to the root of the trouble. It is common knowledge to all who do the work how great a number of specimens sent in for the first time are swarming with tubercle bacilli. As a public health administrator there is no question in my mind of the comparative importance of the two kinds of work.

There is another idea which seems fixed in so many people's minds, both municipal and apparently State, that the single women who constitute a large proportion of the maternity and child welfare officers of the present day are specially qualified by reason of their sex to deal with ante-natal work and to deal with the mothers and the problems which arise in married life. Whilst not expressing any political opinion as to the employment of married women, there is surely no branch of work in which the employment of married women—as compared with the single women—is of such enormous advantage.

There is no denying the fact that married life is to a large extent a closed book to the unmarried, as closed as freemasonry to those who do not belong to the craft, and the fact that the officer is still single means that she has not yet experienced that most wonderful thing which is the basis of all married life—the mutual love of a man and woman. The unmarried woman cannot enter into and discuss the details of married life in the same way as a married woman or married man can. They are much in the position of Tomlinson, as described by Kipling, who, after he had vainly attempted to gain admission to Hell, and having been refused, applied at the gates of Heaven, and was there dismissed with utter scorn on the ground of inadequate knowledge, with the parting words: "And the God that you took from a printed book be with you, Tomlinson.": their knowledge is incomplete. At present in many of the larger districts the work is cut up into special departments with a tendency to appoint an officer to do school work and an officer to do maternity and child welfare work, and in the discussions which have taken place recently there is that drawback which so often arises, viz., that the individuals discussing the subject will only discuss it in terms of the office they hold and not in the larger sense of the country at large. In large centres like London, Birmingham and Manchester things are quite different from the smaller areas existing, and areas which are arising, which form the great majority of administrative units. Wisely under the advice of the Ministry of Health the union of districts is being brought about to create whole-time single unit areas. There is a tendency when these grow, and extra assistance is required, as far as one can see, in the first place to get the extra assistance required for maternity and child welfare work on a part-time basis. There is also a tendency in some of the larger towns for some of these part-time maternity and child welfare officers to attempt to specialise entirely in infant feeding. Whilst specialisation is alright up to a certain point there is, I think, infinite harm both to the cause and to the individual in making that specialisation too narrow.

There is a great danger to my mind in specialising in work in which a large number of the cases seen require practically no medical treatment or advice, as in child welfare work and school medical inspection. In ordinary specialisation at a hospital the cases which present themselves for treatment and observation are in every case departures from the normal and, from that point of view, full of interest. Further, if you take the people who are specialising in children's work, whose names in their various districts carry the weight of authority, you will find that all of them have the wider interests of a children's hospital with all the manifestations of children's disease and its treatment, or of some other hospital. The narrow specialisation such as is offered by infant welfare work and similar kinds of work tends to produce in course of time a slackness of mind and an automatism which is not found where the interests are wider. As far as infant welfare work is concerned, to those devoting themselves to that class of work there would appear to be comparatively little future.

Coming now to the more important question of the clinic, one of the administrative difficulties is the number of patients that should be seen by the medical officer, my own feeling being that about twenty is the number which gives the best result. Speaking to a medical officer of a clinic some while ago I received the following reply: "After twenty my enthusiasm dies rapidly." My own experience coincides entirely with that statement. Large numbers tend to spoil the work by diminishing the time which should be given to parents, and the parents in turn feel that if the work is of such little importance that it has to be scrambled through, they are not going to pay the same attention to the advice given as if it appears to be of such importance to the local authority that adequate premises and staff are provided and sufficient time is allowed for carrying out the work. It is difficult to assess the average attendances which should produce an average of about twenty to be seen by the medical officer, and it would be interesting to find what are the opinions of the various officers carrying out the work with regard to that. There is another administrative difficulty which varies in different districts; this is as to whom shall the attendance at the clinics be limited. In some districts a wage limit is apparently fixed with the idea that it is only the very poor who want advice with regard to bringing up their children. As far as my experience goes, ignorance with regard to the upbringing of children is not the prerogative of any class from the highest to the lowest. There is a very definite difficulty at present in many districts around London with regard to the influx of a new population whose finances would on the surface appear to be such that they can easily afford medical attention by their private doctor. A large proportion of these are buying their houses under assisted schemes and have little or no margin, and even if there is a margin, that margin is rapidly diminished to vanishing point when there is any continued sickness, which means substantial doctor's bills. It is those of us who are actually doing maternity and child welfare work and who know the conditions under which the people live, who realise that the majority of them cannot pay for much medical attention. What usually happens, then, is that if they are refused at the clinic the child's little ailments are allowed to go without skilled attention or advice. Such advice as is given is generally of the wrong kind, particularly if given by either of the mothers-in-law, and it is not until the child has widely departed from the normal and is really ill that they feel that they must spend the necessary amount on medical advice. I am now getting into my clinic a class which I never had before, partly I think owing to financial circumstances, partly I find due to the realisation that they get advice as a rule in the maternity and child welfare clinic which is not available elsewhere.

Having been in general practice for eight years before coming into public health, I can speak from experience with respect to the general practitioner. It is not the fault of the older ones that they received no teaching whatever with regard to infant welfare work and infant feeding. The relative importance which was attached to this large subject has to be gauged by the fact that it is only within quite recent years that a single question on child welfare and infant feeding or even pediatrics as such was considered necessary in the qualifying examination of the medical student. There is, as a result, amongst many of the older practitioners a want of appreciation as to what is being done and can be done in an infant welfare clinic. In some cases there is definite hostility, which I think is a pity, but I think that there may be grounds for some of this in the way that some clinics undertake treatment. Some general practitioners feel that work is being taken out of their hands, and the sphere of usefulness of the general practitioner is being narrowed by the work carried out in the municipal clinics. I, personally, should say that instead of that, the clinics both maternity and infant welfare and school are responsible for sending to the the general practitioner cases which he would never get otherwise. In order to keep the goodwill of the practitioners of my own district, I do not undertake any treatment whatever except that strictly limited to dietetic corrections, and the simplest possible matters bordering on them, and this I believe is the general policy.

Another difficulty that clinics have to face is a want of consideration on the part of physicians in charge of some of the infant welfare departments of the larger hospitals for the maternity and child welfare officer working in the clinics. Many of these medical officers are persons of wide experience in this particular branch of work, and it is galling to a degree to send a case to a hospital for some reason other than dietetic, when the child is being kept on a certain kind of diet for some satisfactory reason, to have the child sent round to the hospital infant welfare department where the physician in charge orders an entirely different method of feeding, and later the medical officer at the clinic gets a letter from the hospital authorities to the effect that the child has been placed under the control of Dr. X, who has ordered the

child such and such a diet and would the medical officer at the clinic see that it is provided. The medical officer in return for such want of consideration will take very good care that no patient is ever advised to attend that hospital again.

There is, unfortunately, a want of co-ordination between maternity and child welfare work as carried on by the municipal authorities and the voluntary hospitals on the one hand and the poor law authorities on the other. In the big towns there is the difficulty that the children's hospitals are so far from the homes of the people, and in the smaller towns so far from the home in the country areas, and here again there is the extraordinary want of understanding amongst some of the hospital physicians and amongst the junior officers as to the financial capabilities of the patients who come to them. It is not uncommon, as every medical officer either to a centre or a school clinic in the greater London area will bear out, for a patient who has been to a hospital to return with the message that Dr. X wants them to go twice a week. We have sent them up for advice; much of the treatment, if not all, could be carried out in connection with the clinic, and what does twice a week mean to these unfortunate parents? From the outside ring of London or even in our provincial towns, coming in means a substantial expense. Train fares from the outer ring of London mean 1/6 if the child goes free, if not, another 9d. In order to get to the hospital for the afternoon out-patients, it means leaving before 11 in the morning, getting away about 3.30 to 4 in the afternoon and home about 5.30 p.m. or later. As often as not a baby has to be taken if the toddler is the patient; this all means a payment of about 2/3 plus the cost of any food, and a mother dead beat by the end of the day. Invariably when I ask a mother why she has not attended the hospital again, the reply is: "It's no use, doctor, I simply can't afford it." At times I find a mother going short in order to get the money for the fares. One of my most decent little mothers during a conversation said: "You know, doctor, before the war I made a point of saving 3d. every week." How much is conveyed in that; insolvency plus 3d. equals solvency?

There must be provided, by some means or other, greater facilities for sending cases for further treatment and advice in the neighbourhood of the clinics. For instance, in London there is a definite shortage of children's hospitals in the outer ring. I say children's hospitals advisedly because, speaking from my own experience in hospital work I am convinced that the best children's work is done in a hospital devoted entirely to children. There is, if one may say so, a higher standard of knowledge and a different atmosphere of understanding of the child both by the medical staff and nurses, in hospitals devoted entirely to children, in contrast to the hospitals where the children's section is only a small proportion of the work.

A problem which is often being brought up is the question of the financial status of people who should be supplied with the dried milks and such like things at the clinics at the reduced prices at which the clinics are able to sell them as compared with the prices charged in the shops. Certain proprietors of infant foods have not been above complaining to the Government departments that their sales are seriously prejudiced by the supply of dried milks and other things at costs below which their products are retailed in the shops. We are pestered by the representatives of this and that particular article, who claim for their preparation qualities possessed by no other. Every public conveyance flaunts the claims of some patent food. It is accompanied by alluring pictures of some comely maid who is administering to the ailing, or illustrations of some child who would have done equally well on some other food or even on its own mother's milk. Personally, I am very loath to utilise widely advertised articles of diet. It would be a great improvement if, by some means or other, local authorities would combine to manufacture standard milks for use in their clinics.

How many people realise what it means to feed a child on these preparations at the prices which are charged for them? A short time ago a new mother came in who had been put on one of these preparations by her general practitioner, and had only come to the clinic because she said she simply could not afford to carry on any longer. She was now getting into the fourth tin a week, and the cost would then be 10/- per week. If people would only think for a minute that that represents the greater part of the house rent for the entire family, it would give them some sense of proportion when dealing with these things. Only comparatively recently at a clinic in the greater London area a mother came in and asked the

medical officer for a certain widely advertised article of infant food, and was told that they did not supply it. After she had left the traveller for that particular article of food asked to see the medical officer, and demanded to know why their food was not stocked; the whole thing obviously being a put-up job.

Then there is the question of milk supply. We who use large quantities of dried milk are railed at by the clean milk purist on the grounds that we make a supply of dirty milk easier by not encouraging the demand for clean wet milk. I think I am right in saying that the general experience is not such as to encourage the supply of wet milk for infant feeding. The poorer mothers cannot afford the higher priced grade "A" or certified milk, and even if the milk is pasteurised there is no question as to the superiority of the dried milk from a safety point of view. Personally, I am unrepentant. It is the rarest thing for me to use wet milk if I have to feed artificially.

Another difficulty is that of getting in touch with the ante-natal cases. The reasons are, I think, partly that the women are not yet educated up to attending the ante-natal clinic, and further I am convinced that the presence of municipal midwives is a very definite bar to their attendance, due to the fact that the midwives of the district have a feeling—and in some cases not without cause—that if their patients attend the ante-natal clinic they are likely to have pressed upon them the value of the municipal midwife's attentions, and thus lose their patients. I believe that where there is difficulty with adequate midwifery services the best results are obtained by subsidising competent midwives so that they can make a living rather than attempting to appoint a municipal midwife.

Difficulty also arises where there is a municipal maternity home as to the class of patient who shall be admitted. It should be, in my opinion, a fundamental point that no patient should be admitted who has not attended an ante-natal clinic or can produce a certificate from her medical practitioner that she has been examined at least twice within the last four months, thus ensuring that ante-natal supervision which means so much towards the warding off of difficulties later on.

Then again there is the difficulty of admitting the emergencies that have arisen during confinment outside. My own opinion is that these cases should be resolutely refused, and should be sent elsewhere, as it is not right that a mother who goes into the municipal maternity home postulating a safe confinement should be exposed to the risk of infection brought in by someone who has not taken the same precaution as she has to ensure a satisfactory confinement.

Another difficulty is the staff necessary to run satisfactorily a well-attended clinic. The maternity and child welfare work is the only branch of public health activity where voluntary workers are advocated as members of the staff. The Ministry assess the necessary health visitors at 1 to every 300 births. There must, however, be wide variations in the demand owing to the differences in the residential character of the area employing them. The voluntary worker can be and very often is an invaluable adjunct to the clinic, provided that they are content to do the work allotted to them without attempting to interfere with the professional side of the work. Voluntary workers may be divided into two classes of work. The leisured class and those who do not belong to the leisured class. There are those who really understand the responsibilities attached to the work. There are others, however, who do not, and who allow their social calls to interfere with the responsibilities they have assumed. There are still many of these people who do not really understand the conditions under which the poor live. Within the last month a case was brought to my knowledge by one of the voluntary workers in a very poor district, where the well-meaning voluntary committee running the centre, of which she was a member, suggested that a demonstration on washing and bathing the baby should be given to the mothers on a Friday, and either 3d. or 6d. be charged for admission. Things began to get quite uncomfortable, when the member who visited the poor and really understood their needs pointed out the futility of the suggestion, first on the ground of the fee for admission and secondly on the ground that Friday was pay day, and that until Friday evening there was no money in the house. It was then suggested that the demonstration should take place on a Monday, and things got more uncomfortable when the same member, with a knowledge of conditions, pointed out that Monday was washing day. With the non-leisured class I have been singularly fortunate in those who have volunteered for service in my various clinics, and I record with deep gratitude their

devoted services week in, week out, and in some cases year after year.

With respect to the poor law, there is also want of close co-ordination. For instance, recently a mother was admitted to the local hospital with eclampsia the day after her confinement. The father made an application for assistance in the matter of food for the children next day. He was in great difficulties; one neighbour had taken both children during the day, but having her hands so full she was only able to take one at night, the other being taken by another neighbour. I pointed out that in the children's interests there was only one thing to do, and that was to get them admitted at once to the local poor law institution. This he attempted to do, but was met with the reply that it was impossible to admit the children unless he went in too. The man at the time was out of work, but surely there is something lacking in our machinery which refused to do what is necessary for the children without compelling the husband to enter the workhouse. There should also, I think, be closer co-ordination between the poor law and the maternity and child welfare centres, so that if it is recognised that the centres are the places where special care can be taken of children, parents in receipt of poor law relief could be referred to the clinics, and an arrangement made whereby the cost of the food for their children was paid by the guardians.

There is another difficulty which is constantly cropping up, namely, the giving of standard advice by means of leaflets. This has been put before this Group for consideration and urged by certain other societies interested in children's work. My own feeling is that it would be a grievous mistake to standardise advice when so many are getting the same results by using different methods. There is much more likelihood of advice being followed if it is given by a medical officer than if a pamphlet is simply handed over and the mother is told to follow the directions on the printed leaf.

What of the future? Is maternity and child welfare work to stay as it is at present—a water-tight division in the child's life, or is it to become part of a unified whole, dealing with the child from the cradle till the time it is taken over by the authorities dealing with the Insurance Acts?

The importance which was attached to school medical work in years gone by has now passed to the pre-school child who is under the care of the maternity and child welfare centres, and we are more and more realising that the age-group which has to be concentrated on is the one which is now missing the necessary medical supervision very largely, namely the child from 2 to 5. Sir George Newman is constantly referring to the percentage of entrants into our schools with defects which might have been remedied some considerable time before commencing school. It is difficult at present to say how that age-group can be dealt with except on the lines of persuasion. It will be, I think, for some time mainly by the activities of tactful health visitors that this age-group will come under medical supervision, but in order to do our duty by them we must have all the necessary facilities for dealing with minor ailments—ear troubles, eye troubles and such like, in addition to the facilities which we now possess for obtaining dental treatment. Having got those it is illogical to expect an entirely separate machinery to be dealing with children below 5 and over 5, possibly from the same house, suffering from the defects which the clinics are able to deal with. My own feeling is that, speaking of the country generally, the best results are going to be obtained not by too great specialisation, but by the unification of maternity and child welfare work with the other public health services, both as regards the medical personnel and the nursing personnel. As an illustration an able health visitor, who had experienced both classes of work in her own district, said to me quite recently: "When I was going into a house whilst doing both kinds of work, I knew all the family, went as a friend of the family and had much greater ease in getting things remedied than I have now when I go in simply as a school nurse and am a complete stranger to a large number of the family." In most of the country areas the medical officers will be carrying out all the duties of the school medical service and maternity and child welfare work in their own allotted area. There should be this closer co-ordination referred to with the local hospitals on the one hand, who are in a position to give the skilled attention or advice required, and the poor law institution on the other, and we may possibly see in the revision of the poor law services some definite advances in that direction.

With regard to the staff in the clinics there will probably be for many years to come a supply of helpers which we find at present so necessary to eke out the professional assistance. There is some compelling force about the infant which draws into the clinics a sufficient number of helpers who are not in the least attracted towards work amongst adults or even older children. I think, too, as we find persons from a higher social and financial status making use of the State-supplied schools there will be, if the maternity clinics keep up the necessary standard of work, a definite inclination on the part of some of these people to utilise the services of the clinics staffed by the officers of the local authority. Nor do I see quite how it is going to be logical to exclude these people so long as they are at liberty to make free use of the State-supplied schools. There will probably, therefore, be some move on the part of the general practitioner to establish some sort of boundary line in the same way as has been established in the Insurance Acts, but it is not likely, in my opinion, to carry anything like the same weight as it might do so long as the clinics are carried on as the majority are at present. As I pointed out before, they do not take work from the general practitioners, but actually put work into their hands, as in the majority of clinics, as soon as ever a child can be called ill, it is sent post haste to its own medical adviser or to the poor law or hospital as the case may be.

The Private Practitioner and the Public Health.

By S. FOX LINTON, M.Sc., M.D., D.P.H., Medical Officer of Health, Scarborough.

The recognition of the importance of the relation between the private practitioner of medicine and public health is general, and the suggestions of Dr. Fox Linton, contained in his Presidential Address to the Yorkshire Branch, on February 24th, 1928, as to how it may be ensured and strengthened, are worthy of serious consideration.

LET us consider a problem which is assuming greater and greater prominence as the importance of personal hygiene comes to be more and more recognised as equal to that of environmental hygiene. By what means can private practitioners best be enabled to take their proper share in the preventive medicine of the future, associating themselves more closely with official preventive agencies and carrying into the homes of their patients the ideal of prevention rather than of cure?

Nowhere yet has a complete scheme been devised for basing the whole fabric of personal and domestic hygiene on its proper foundation—the medical practitioner, but some attempts have been made.

In Australia, for example, some initial steps have been taken with the object of including the general practitioner as a working element in the public health system. Since 1921, the Commonwealth Director-General of Health has made a practice of attending the bi-annual meetings of the British Medical Association in Australia, on each occasion taking the opportunity to have an unofficial talk with representatives of the Association. This has resulted in a much closer association between the official departments and the controlling body of the medical profession, and a keener consideration by the profession of its individual responsibility in matters of public health administration and possible reform. The British Medical Association in Australia has accordingly drawn up a statement for the consideration of the whole profession of which the following is a short outline:—

After emphasising the desirability of linking up the general practitioner into active participation in the administrative scheme, it suggests that his preventive work, in addition to notification of births, still-births, miscarriages, deaths, infectious diseases and cases of mineral and organic (alcoholic, etc.) poisoning, should include the ordering of prescribed methods of disinfection in infectious cases, the taking of swabs and other specimens for the detection of carriers, the examination of school children in particular districts (*i.e.*, in country schools), and other duties as prescribed from time to time by regulations or as requested by the health officer. The practitioner is to receive fees for all such work.

The Director-General of the Commonwealth, giving evidence before a Royal Commission

on National Health Insurance, made the following remarks on these proposals :—

All experience shews that modern preventive medicine is ignoring the general medical practitioner to its own disadvantage, and that it is now essential for the success of preventive medicine that all practising physicians should become actively engaged in the official campaign against the occurrence of disease and death. It is, however, necessary that (1) the practitioner shall not be expected to undertake any duties which are not on the lines of his daily medical work ; (2) the practitioner shall be adequately paid for all work done ; (3) the practitioner shall be prepared to accept freely both advice and direction from trained public health officials on matters outside the range of his own experience or within the range of official necessities ; (4) the practitioner sha'l be prepared to accept discipline in professional matters relating to public health from an official body of his professional colleagues in place of the police-court discipline now provided by various statutes.

There is one phase of the relationship between the medical practitioner and any administrative organisation which requires consideration. It is an important item in the unwritten code of medical etiquette that a diagnosis declared to a patient by the doctor shall not be questioned in the presence of the patient and shall not be lightly altered even by a senior consultant. While the presumption of infallibility may in the past have been an important adjunct to the doctor's treatment, the general state of public enlightenment renders this now unnecessary, and the attitude of the profession in relation to the sanctity of the original diagnosis as a matter of ethics might well be revised. Another related matter is the practice of some doctors of giving the patient a wide margin of benefits in the issuing of medical certificates for official purposes. It is very desirable that medical certificates of sickness or disability should be more reliable than they now are in many cases.

The proposals mentioned, while they are in the right direction, yet do not carry us very far, and we may almost say that on the whole we have gone as far in this country. The question which demands an answer is—On what lines can further progress now be made ?

I put the following suggestions forward as being worth consideration :—

1.—It seems to me that we suffer from poor contact between the medical profession and the Minister of Health. The British Medical Association occasionally approaches the Minister through its Insurance Acts Committee or otherwise, and I believe our Society communicates with him now and then. But there is no body representative of the profession as a whole which can meet the Minister in a purely advisory capacity to confer with him and put before him its views on matters concerning public health, national health insurance, hospital policy, and so on. Such a body should be representative of all branches of the profession—consultant, general practitioner, panel practitioner, public health, teaching, dental, etc. It would not necessarily be purely medical in its composition. Engineers and hospital governing bodies, for example, might be represented on it, but here I am concerned with its medical side only.

Such a body as I have indicated forms part of the health administrative arrangements in many other countries.

In Japan there is a Central Board of Health which frames advice in response to inquiries made by the administrative departments, and may also put forward its views without being consulted. There is also a Board for the Investigation of National Hygiene occupied in considering new measures which may be required by the unsatisfactory state of the public health.

In Holland the Ministry is advised by a Public Health Council.

In Austria the Imperial Public Health Law provides for the establishment of a Central Board of Health, whose duty it is to assist the administration as an advisory and expert organisation.

In Germany, auxiliary to the Reich Health Office, is the Reich Health Council which gives advice on request to the authorities of the several states.

In Hungary, to advise the Ministry on all special questions, there is a non-executive National Public Health Council representing every branch of medicine.

In Australia the establishment of a Federal Health Council was proposed two or three years ago and is now, I believe, an accomplished fact. Referring to the proposal, the Medical Journal of Australia remarked in 1926 : " It is true that the Federal Health Council is to be an advisory body, but advisory bodies can assume very important functions in the moulding of policies."

In our own country an Advisory Council is attached to the Ministry of Transport. Why not then to the Ministry of Health ?

2.—Regular periodical examinations of their patients is a preventive measure which might well be undertaken by general practitioners. The following extracts will serve to shew the public health value of such examinations :—

As an instance of private enterprise on a small scale, undertaken, not with the idea of improving public health, but for purely financial gain, which nevertheless led to such improvement, we may cite the case of a certain life assurance company which established a " Life Extension Institution " to which any person insured by the company could present himself periodically for medical examination and general advice. Records shew that in two years an expected mortality of 303 was reduced to an actual mortality of 267. This meant a saving to the company of 166,000 dollars on the policies involved. The cost of setting up and working the system was 40,000 dollars, leaving a net profit of 126,000 dollars.—" Health Problems of the Empire " (Balfour and Scott).

The other extract is from an article entitled " Lengthening of Human Life in Retrospect and Prospect," in the " American Journal of Public Health," for January, 1927, the author being the Professor of Economics in Yale University. He says :—

We founded the Life Extension Institute through which this ideal of periodic medical examinations has been made real. The chief objective was to harness up the profit-making motive of the life insurance companies with the task of lengthening human life. After six years' experience during which the Metropolitan Life Insurance Company used the service, its statistical department, under Dr. Dublin, cast up accounts. The results were so astonishing that the actuarial department refused to believe them, until forced to do so by going over the records for themselves. The three departments then united in a report shewing that, as a consequence of expending 60,000 dollars on medically examining 6,000 people within six years, the Metropolitan had gained, through premiums of people whose lives were extended, 120,000 dollars. In other words, this life insurance company had made 100 per cent. on its investment. This research was carried forward to cover a total period of nine years, and shewed an average reduction of 18 per cent. in the death-rate of the policy holders affected and, among a group of impaired lives, a reduction of 50 per cent. Thus was demonstrated the power of individual hygiene even when it was, as we know, only very imperfectly applied.

Insurance companies in this country will no doubt institute a similar service for their clients. The provision of such a service in the National Health Insurance scheme would be of incalculable benefit to the health of the nation. This suggestion is to my mind the most important of all, because it is immediately practicable and also because its adoption would at a stroke bring the ideal of prevention once and for all into the foreground of the relationship between millions of patients and their doctors.

3.—Improvement in post-graduate facilities would enable private practitioners to take a course or courses in preventive medicine designed for their requirements. A private practitioner who is going to be medical officer of health to his own patients ought to qualify himself in some such way. He might on completion of such a course be granted a certificate covering the particular subjects he had taken, a sort of minor D.P.H., in fact. Practitioners possessing a certificate, and no others, would be entitled to receive fees from a local authority for work in which they had qualified.

4.—National Health Insurance Committees should organise lectures by panel practitioners to their patients on personal and domestic hygiene, and the prevention of sickness. Some insurance committees already do this, but it should be much more generally done and there is room for improvement in the kind of lectures given. People are ready to be taught elementary physiology, but soon tire of repeated exhortations to keep their windows and bowels open.

5.—Private practitioners might undertake immunisation work among their patients, the local authority perhaps being responsible for the fee when the patient could not pay. For example, Schick testing and immunisation against diphtheria might be carried out by practitioners who had qualified themselves in that respect. Moreover, the help of general practitioners should be enlisted in the work of vaccination against small-pox. If all practitioners were put in the position of the public vaccinator and entitled to receive lymph and fees from the authorities, we should have many more people vaccinated.

6.—I can see no reason why general practitioners qualified to do so should not take part in the conducting of maternity and infant welfare clinics, a service which is certainly on the lines of their daily medical work. The best method of arranging this co-operation would be a matter for consideration, but such difficulties as there are do not seem to me to be very great. Why not a roster of practitioners specially qualified for this work, taking daily clinics, the accommodation being provided by the local authority or perhaps by the hospital out-patient department ?

These few tentative suggestions may be impracticable in part, or not immediately practicable, but they are, at any rate, worthy of consideration, if only for this reason, that the medical officer of health, whatever staff he may have, cannot possibly cultivate the whole field of personal and domestic hygiene ; he merely scatters seed in its borders. The doctor, who knows his patients in their homes and sees the wrong habits there which lead to poor health and disease, is alone in a position to urge with the necessary authority the particular correction needed in each case.

The Society.

Reports, Proceedings and Announcements.

NOTICE.

Maternity and Child Welfare Group.—A meeting of this Group will be held at the house of the Society on Friday, October 19th, 1928, at 8 p.m. Agenda: (1) Election of a Vice-President in place of Professor Louise McIlroy (elected President); (2) plans for winter programme; (3) address by Professor F. T. G. Hobday, C.M.G., F.R.C.V.S., F.R.S.E., Principal of the Royal Veterinary College. Provisional title: "Milk Production; a Comparative Study." A number of distinguished speakers will be asked to follow Professor Hobday. Members of other Groups are heartily invited to attend this meeting.—*Margaret Emslie, M.B., Ch.B., Group Hon. Secretary,* 18, *Weymouth Street, London, W.*1.

THE NEECH PRIZE.

The annual Neech Prize for the best paper read before a Branch or Group of the Society of Medical Officers of Health has been awarded for the Session 1926-27 to Dr. J. A. H. Brincker, a senior medical officer of the London County Council. Dr. Brincker's paper on "The Case for Diphtheria Immunisation" was read before the Metropolitan Branch of the Society and published in PUBLIC HEALTH, August, 1927, p. 348. The assessors for the award were Dr. E. H. Snell (Acting President), Professor H. R. Kenwood, Dr. G. F. Buchan and Dr. Charles Porter.

Entries for the session 1927-28 should be forwarded to the Executive Secretary in accordance with the full conditions published on page 9 of the Roll of Members issued on October 1st, 1928.

THE WHEATLEY MEMORIAL.

Last month we announced (PUBLIC HEALTH, September, 1928, p. 383) the proposal to perpetuate in a worthy manner the memory of James Wheatley whose untimely death soon after his election as President of the Society of Medical Officers of Health is still mourned by a host of friends. Owing to the holiday season many of those who will wish to subscribe have not yet forwarded their cheques, but the following amounts have already been received:—

	£	s.	d.
Sir George Newman	5	5	0
Dr. A. D. Symons	5	5	0
Dr. T. R. Elliott	5	5	0
Dr. A. E. White	3	3	0
Dr. B. Astley Weston	3	3	0
Dr. J. Sim Wallace	3	3	0
The Editor of *The Medical Officer* ...	3	3	0
Dr. W. D. Carruthers	2	2	0
Dr. J. Middleton Martin	2	2	0
Dr. H. Gordon Smith	2	2	0
Dr. P. G. Horsburgh	2	2	0
Dr. Wilson Evans	2	2	0
Dr. J. R. Kaye	2	2	0
Dr. M. Gepp	2	2	0
Dr. A. C. Watson...	2	2	0
Dr. W. Taylor	2	2	0
Dr. T. S. Stirling	2	2	0
Dr. G. Lissant Cox	2	2	0
Dr. Gerard Taylor	2	2	0
Professor H. Kerr	1	1	0
Dr. J. T. Macnab	1	1	0
Dr. Thos. Orr	1	1	0
Dr. Charles Sanders		10	0

Dr. Wheatley's friends are anxious that the fund should be completed as soon as possible so intending contributors are urged not to delay in sending their subscriptions. Cheques should be forwarded to Dr. A. D. Symons, M.O.H., 74, Wyle Cop, Shrewsbury, or to the Executive Secretary, Society of Medical Officers of Health, 1, Upper Montague Street, Russell Square, W.C.1.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on Friday, September 28th, 1928. The Acting-President (Dr. E. H. Snell) was in the chair and there were present: Professors A. Bostock Hill, H. Kerr and W. W. Jameson, Drs. Lyster, Baker, E. Ward, Annis, Gibbons Ward, Jolly, Chalmers, Howard-Jones, Cates, Paterson, Stella Churchill, Pringle, Stirk, Milligan, Barlow, Porter, Allan, Brackenbury, J. J. Buchan, Fenton, and Lieut.-Col. G. S. Parkinson.

The minutes of the last meeting having been approved and signed, messages of apology for absence were received from Lieut.-Col. F. E. Fremantle, M.P., Professor H. R. Kenwood, Drs. G. F. Buchan, W. A. Muir, Charles Sanders, T. P. Puddicombe, A. A. Mussen, Cyril Banks and G. H. Pearce.

Correspondence.—(1) From the Private Practice Committee of the B.M.A. thanking the Society for effective assistance rendered in collecting information from members of the Public Health Service. (2) From the B.M.A. asking for comments on the necessity and value of case records required in connection with the clinics of public health departments. It was agreed that as some such records differed in various areas, and as others were in accordance with the requirements of the Ministry of Health, it was impossible to express any general opinion, but that the Society would gladly submit observations on any specific record sheets submitted by the B.M.A. (3) From the Medical Research Council acknowledging the suggestion of the Society that the possible effect of noises on health was a suitable subject for investigation and pointing out that the Council have for some time had before them the question of finding means and opportunities for investigating the effects of noise on health. The Council further state that they are already promoting an investigation in this subject in relation to factory conditions, the work being done under the direction of the Industrial Fatigue Research Board and with the advice of the Council's Committee on the Physiology of Hearing. (4) From the Federation of Cremation Authorities in Great Britain asking for a conference in reference to fees payable for Confirmatory Certificate (Form C) and other hindrances to the more general adoption of cremation. It was agreed to accept this invitation and to nominate Professor A. Bostock Hill and Dr. James Fenton as representatives of the Society. (5) From the National Association for the Prevention of Infant Mortality asking for approval of a questionnaire addressed to medical officers of health regarding the provision of public mortuaries. The Council agreed that the Public Health Service should supply any information sought by the National Association in this connection. (6) From the B.M.A., notifying the re-election of Drs. Brackenbury and Paterson as representatives of the Association on the Council of the Society.

Health Officials and Superannuation.—The Executive Secretary reported communications from the Sanitary Inspectors' Association, the Women Sanitary Inspectors' and Health Visitors' Association, and the College of Nursing in reference to the Report of the Departmental Committee on the Superannuation of Local Government Employees. These bodies urge that the special circumstances of the Public Health Service do not receive adequate recognition in the report, and that representations should be made on the subject to the Ministry of Health. It was further suggested that the Society of Medical Officers of Health might organise a deputation to submit the case for all branches of the Public Health Service in reference to superannuation. *Agreed* that the President-Elect and Dr. Joseph Cates, as representing the Society, should meet the other bodies concerned and report on any course of action considered advisable.

The Scale of Salaries.—Drs. Snell and Buchan reported on the conferences held in October and May last, between representatives of the B.M.A. and of the Society in regard to proposed modifications of the Scale of Salaries. The report set out recommendations agreed by the Conference, but afterwards rejected by the Council of the B.M.A. After some discussion it was agreed to refer the report to the Salaries Committee.

B.M.A. Representative Meeting.—Prof. H. Kerr submitted a report signed by himself, Dr. Eustace Hill, Dr. R. M. F. Picken and Dr. E. Ward, as representatives of the Public Health Service at the annual Representative Meeting of the B.M.A. Dr. Kerr and his colleagues were thanked for their interesting account of the proceedings, which will be published in an early issue of PUBLIC HEALTH.

Nuisances by Noise.—The Council considered suggestions (a) That they should make representations to the Ministry of Health advising that Nuisances by Noise should be added to other Nuisances covered by the Public Health Act, 1875, and (b) That owners of stationary engines should be required to adopt adequate silencing devices to the satisfaction of the Local Authority. In view of the fact that enquiries in this connection are at present under consideration it was agreed to advise no immediate action by the Society.

Secretarial Assistance.—On the recommendation of the Officers of the Society, it was decided that the Executive Secretary be granted an allowance of £200 per annum for the salary of a part-time Deputy and Assistant.

Representation of the Society.—The following were elected to represent the Society on

Committees of the British Medical Association:—*Public Health Committee,* Drs. Naylor Barlow and Lyster; *Insurance Acts Committee,* Dr. J. Fenton; *Committee re Poor Law Reform,* Drs. Howard-Jones and Buchan; *Maternity and Child Welfare Sub-Committee,* Drs. Barlow and Cates; *Parliamentary Sub-Committee,* Dr. Snell; *Joint Conference re Salaries,* Drs. G. F. Buchan, Eustace Hill, E. H. Snell, R. A. Lyster, E. Ward, A. F. Cameron, C. Porter, Naylor Barlow, J. Cates and J. Howard-Jones; *Sub-Committee on Health of Merchant Seamen,* Dr. Howard-Jones.

Other representatives appointed were Dr. G. F. Buchan, to the Child Guidance Council, Dr. H. R. Kidner, to the Central Association for Mental Welfare, and Dr. J. C. N. Harris, to represent the Society at the Centenary Celebration of the Cairo Faculty of Medicine.

The Training and Supply of Midwives.—The following Committee was appointed to approve the draft of evidence to be submitted on behalf on the Society before the Departmental Committee on the Training and Supply of Midwives, *viz.*—Drs. Cates, Barlow, Lyster, Snell, Stella Churchill, Howard-Jones and Colston Williams.

Conditions of Service of Health Visitors.—Resolutions from the Home Counties' Branch, and from the Women Sanitary Inspectors' and Health Visitors' Association urging that the time has now arrived for the improvement and standardisation of conditions of service of Health Visitors, and suggesting that the Minister of Health be asked to appoint a Committee to hear representations and to formulate suitable scales of salary and other conditions of service, were referred for consideration by the Officers of the Society.

Elections to Council.—The following were elected members of Council for the Session 1928-29 under No. 19 (d) of the Society's Articles of Association, *viz*:—Dr. Eustace Hill, Dr. J. J. Buchan, Professor W. W. Jameson, Dr. J. Cates, Dr. A. A. Mussen, Professor H. R. Kenwood and Dr. R. M. F. Picken.

Lieut.-Col. F. E. Fremantle, M.P., and Professor Sir Humphry Rolleston, Bart., K.C.B., M.D., were elected to Council under Article 19 (f).

Annual Report of Council.—The Annual Report of the Council was adopted as follows:

REPORT OF THE COUNCIL, SESSION 1927-1928.

Your Council report:—

(1) That one hundred and twenty-nine candidates have been elected as Fellows or Associates of the Society during the Session, 1927-28. Within the same period seventy resignations were received from members who are retiring from active work, or leaving the Public Health Service for other branches of medical practice. Several members were removed from the Roll after repeated notices that their subscription payments were more than two years overdue, and in one case membership was cancelled for failure to support the policy of the Society;

(2) that the Society have to deplore the loss by death of their President, Dr. James Wheatley. Although he knew his condition to be serious early in the Session, and was not able to be present at the Annual Dinner in November, Dr. Wheatley afterwards attended meetings and committees until within a few weeks of his death, which occurred on March 3rd. As a member of the Council for many years he had rendered valuable services to the Society, and his untimely death was a cause of sorrow to the whole Public Health Service;

(3) that the Society has also sustained the loss of two Past-Presidents, Dr. H. E. Armstrong (1889-1891) and Dr. W. J. Howarth (1921-1922), both of whom had taken a conspicuous part in the work of the Council. Other Fellows who died during the session were Dr. Henry Handford and Dr. S. C. Lawrence, well remembered as Branch Presidents and members of Council; Drs. F. E. Atkinson (Settle), W. Perry Briggs (Aspatria), T. S. Brodie (Wishaw), L. T. F. Bryett (Shoreditch), J. D. Carroll (Cork), W. N. Clemmey (Bootle), Andrew Gilmour (Wimbledon), J. E. Gordon, O.B.E. (Salisbury), A. E. Jerman (Erith), A. C. Miller (Fort William), F. W. B. Phillips (Bedford), P. E. Randall (Bromley), J. L. Rankine (Longtown), F. Stephenson (Prestwich), A. S. Underhill (Tipton), H. W. Williams (Holmfirth), A. D. Yule (Arbroath), C. F. Sutcliffe (South Shields), and Major-General Sir William Macpherson, a valued member of the Services Group.

(4) that allowing for these losses the membership of the Society, with a total of 1,941 Fellows and Associates, shows a net increase of 14 as compared with 48 and 63 respectively, in the two preceding sessions;

(5) that there are still many assistant medical officers who should be urged by their colleagues to join the Society, and thus assist in the advancement of the whole Public Health Service;

(6) that Dr. Wheatley delivered his presidential address on "Relative Values in Public Health Work" at the annual meeting of the Society on October 21st, 1927. For the ordinary meetings of the Session, the President arranged the following series of symposia:—

"Health Aspects of the Factories Bill." J. J. Buchan, M.D., D.P.H., Lt.-Col. F. E. Fremantle, O.B.E., M.P.

"Health Aspects of the Poor Law Reform Proposals." R. Veitch Clark, M.A., M.B., B.Sc., D.P.H., Leonard H. West, LL.D., Chairman, Buckinghamshire County Council, A. H. G. Burton, M.D., D.P.H., C. E.S. Fleming, M.R.C.S., L.R.C.P.

"Recent Advances in the Knowledge of Food." Prof. R. H. A. Plimmer, D.Sc., M. J. Rowlands, M.D.

"Causes of the Decline in Tuberculosis Mortality." Sir Robert W. Philip, M.D., LL.D., F.R.C.P.Ed., Professor of Tuberculosis, Edinburgh University, W. M. Willoughby, M.D., D.P.H., E. L. Collis, M.A., M.D., M.R.C.P., Mansell Talbot Professor of Preventive Medicine in the University of Wales. Major Greenwood, F.R.C.P., M.R.C.S., Professor of Epidemiology and Vital Statistics, University of London.

The last-named discussion was held at Bath, where nearly eighty members of the Society were entertained at luncheon by the Mayor. The thanks of the Society are due to Dr. J. F. Blackett for the very successful arrangements made for this provincial meeting;

(7) that eight meetings of the Council were held during the session, and committees of the Council met on seventeen occasions. The proceedings of the Council have been duly recorded in PUBLIC HEALTH, for the information of members;

(8) that they have had official communications with the Ministry of Health, the Board of Education, the Ministry of Agriculture and Fisheries, the Home Office, the Board of Inland Revenue, the War Office, the Admiralty, the Air Ministry, and other Government Departments on numerous matters affecting public health administration and officials;

(9) that they have been in communication with a number of representative bodies concerning principles and details of Public Health Administration, including the League of Nations, the American Public Health Association, the General Medical Council, the British Medical Association, the Smoke Abatement League, the Association of Public Vaccinators, the British Dental Association, the Royal Sanitary Institute, the National Association of Local Government Officers, the Association of Municipal Corporations, the Institute of Municipal and County Engineers, the British Dairy Farmers' Association, the National Union of Teachers, the British Social Hygiene Council, the National League for Health and Infant Welfare, the Incorporated Midwives Institute, the National Association for the Prevention of Infant Mortality, the College of Nursing, the Central Midwives Board, the Sanitary Inspectors' Association, the National Baby Week Council, the College of Pestology, the Early Closing Association, the Central Association for Mental Welfare, the New Health Society, the National Clean Milk Society, the Health and Cleanliness Council, the Association of Headmistresses of Boarding Schools, and the Queen Victoria Jubilee Institute of Nurses;

(10) that representatives of the Society have been nominated to serve on the Council and Committees of the British Medical Association, the Central Midwives Board, the National Milk Publicity Council, the Central Council for Infant and Child Welfare, the Central Association for Mental Welfare, the National Clean Milk Society, the Industrial Health Education Society, the Board of the London School of Hygiene and Tropical Medicine, and numerous other bodies dealing with matters affecting Public Health administration;

(11) that by request of the Ministry of Health, and on behalf of the Health Organisation of the League of Nations, a committee of the Society organised an International Continuation Course in Public Health, which was held at the house of the Society during six weeks commencing November 3rd, 1927. The course was attended by 24 participants from the health departments of 16 different nations in Europe and America, and from the British Dominions. The lecturers included many of the leaders of Preventive Medicine from at home and abroad. Both the Ministry of Health and the Health Organisation of the League of Nations have since expressed complete satisfaction with the arrangements made for the course. Two members of the Society, Drs. E. Colston Williams and A. A. Mussen, on the nomination of the Society, have been elected by the Ministry of Health as

participants in the Interchange to be held in Italy during the present autumn;

(12) that, as for several years past, your Council have arranged study courses in health administration for foreign Health Officers sent to this country by the International Health Board of the Rockefeller Foundation, and a number of these visitors have been attached to health departments during the past session;

(13) that at the May meeting of Council, Dr. J. Howard-Jones submitted the report of a special committee appointed to consider representations of the Navy, Army and Air Force Hygiene Group in reference to the Hygiene of Crew Spaces in Merchant Ships. The report was adopted by your Council, and copies were forwarded to the Ministry of Health, the Board of Trade, and to bodies representing Shipowners and Seamen. Your Council trust that this report may eventually secure for seamen a betterment in housing conditions afloat comparable to the improved accommodation provided during recent decades for the working classes ashore;

(14) that the Central Council for Health Education, consisting of twelve members of the Society, and the nominated representatives of bodies representing Local Authorities is now fully organised and has already afforded Local Authorities valuable assistance in the promotion of health education work;

(15) that the Committee on the Remuneration of Medical Officers of Local Authorities has continued to watch the operation of the Scale of Salaries, and to advise members in reference to the terms of their appointments, tenure, office and travelling expenses, and superannuation. Certain proposals for the improvement of the Scale were adopted by your Council on March 16th, 1928 (see PUBLIC HEALTH, April, 1928), and afterwards were the subject of a conference with representatives of the British Medical Association, but the Council of the Association did not accept the recommendations of the conference. In the opinion of your Council, amendments of the Scale on the lines recommended to the B.M.A. are necessary in the reasonable interests of the Public Health Service, and they will seek an early opportunity for further discussion of the proposals with representatives of the Association;

(16) that the annual exchange of Officers and the re-election of the Council involves the retirement of Lord Dawson, Dr. Charles Sanders, Dr. F. J. Allan and Dr. C. W. Paget Moffatt.

We recommend that the thanks of the Society should be conveyed to these gentlemen for their services as members of the Council;

(17) that the grateful thanks of the Society are due to Dr. Ernest Hugh Snell for his services as Acting President of the Society during the past Session. In the early days of Dr. Wheatley's illness he welcomed the Minister of Health, the President of the Board of Education and other distinguished guests at the Annual Dinner of the Society, and later he discharged the full duties of the presidential office. The Society is greatly indebted to Dr. Snell for his willing acceptance of these responsibilities for a second year, for his sound judgment in dealing with the affairs of the Society and for his regular attendance at meetings involving many journeys to London.

(18) that the Council desires once again to put on record its high appreciation of the unremitting zeal of Mr. G. S. Elliston in advancing the interests of the Society. Working under considerable difficulties in the way of limited assistance the Executive Secretary has shewn what can be done by untiring assiduity; and the great success that has been met with in the study courses arranged for foreign Health Officers has been solely due to his great organising abilities.

The Council then adjourned.

BRANCH AND GROUP ELECTIONS:

Session 1928-29.

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Vice-Presidents ... Dr. F. E. Scrase.
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Dr. E. H. Snell.
Dr. W. L. M. Goldie, O.B.E.
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Hon. Treasurer	... G. Thomson, Esq., L.D.S.
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Hon. Secretary	... W. L. Breese, Esq., L.D.S.

THE METROPOLITAN BRANCH.

President: Dr. J. B. Howell, M.O.H., Hammersmith.
Hon. Secretary: Dr. James Fenton, M.O.H., Kensington.

Visit to Low Temperature Carbonisation Plant.—In view of the outcry against atmospheric pollution and the prominent position occupied by smoke abatement in the present-day public health programme, special interest attached to the visit, arranged by the Branch, on September 19th, 1928, of some thirty metropolitan medical officers of health to the works of Low Temperature Carbonisation, Limited, at Barugh, near Barnsley, as guests of the Directors of the Company. The party travelled by special saloon to Sheffield, thence proceeding by motor-coach to the works, where they witnessed the conversion of coal slack into a radiant smokeless fuel (coalite) which, after extraction of various by-products, is left with a proportion of volatile matter to enable the material to be ignited as in the case of an ordinary coal fire and to give a certain amount of flame. After a most interesting and convincing demonstration the members returned to Sheffield, where, following tea at the Grand Hotel, an opportunity was taken of conveying to the Company an expression of appreciation and thanks for the courtesy and hospitality accorded to the party.

Amongst those who spoke on behalf of the Branch were Dr. J. B. Howell (President), Dr. Charles Porter, and Colonel W. Butler, London County Council representative on the Greater London Joint Smoke Abatement Committee. Low Temperature Carbonisation, Limited, were represented by Lieut.-Col. W. A. Bristow, M.I.E.E., M.I.A.E., Managing Director, and Mr. C. H. Parker, J.P., Director, who expressed the pleasure it had afforded them in conducting the members over the plant and demonstrating the process. Colonel Bristow explained that the Barugh works were merely the beginning of a great movement in the production of radiant smokeless fuel; arrangements had been made for the process to be operated near Doncaster, and within a comparatively short time the Company would have in London a plant capable of producing daily 1,000 tons of solid smokeless fuel, 20,000 gallons of oil, 4½ million cubic feet of gas, and 3,500 gallons of benzol. The members returned to London with the conviction that they had seen a process full of practical possibilities and promise so far as concerned the solution of the domestic and industrial smoke problem.

The Literature of Preventive Medicine.

AN INTRODUCTION TO PRACTICAL BACTERIOLOGY. By T. J. MACKIE, M.D., D.P.H., Irvine Professor of Bacteriology, University of Edinburgh, and J. E. MCCARTNEY, M.D., D.Sc., Director of Research and Pathological Services, Metropolitan Asylums Board, London. Edinburgh: E. and S. Livingstone, 1928. Second Edition. pp. 390. Price 10s. 6d. net.

Though the first edition of this book was published so recently as 1925, already in 1928, when the authors set about preparing for a new edition they found it necessary to carry out a complete revision of the original text. In the years that had passed there had been much advance in many directions that called for reference—improved methods and new technique in relation to the cultivation of micro-organisms; additions to the knowledge of the biology of organisms and, in particular, the phenomena of immunity, and so on. The work involved must have been considerable, and has been so ably done as to establish Professor Mackie's and Dr. McCartney's book more firmly than ever as a reliable and readable introduction to practical bacteriology.

A TEXTBOOK OF BACTERIOLOGY AND ITS APPLICATIONS. By CURTIS M. HILLIARD. London: Ginn and Co., Ltd., 1928. pp. 329. Price 12s. 6d. net.

Professor of Biology and Health in Simmons College, Boston, Mass., the author of this work was moved to write it because with very few exceptions the textbooks on bacteriology deal chiefly with the medical aspects of the science, and he desired to present within a limited compass the fundamental concepts of bacteriology and its most important practical aspects, suitable primarily for the student in household economics who has a semester to give to the study of the subject.

Though he may have endeavoured to get away from the medical aspects of the subject, the professor has not succeeded very well, for quite a good deal of the matter has a medical taint. Mostly this matter is distinctly elementary and descriptive and of the sort that the well-informed lay person likes to hear and read and talk about. The book is in general well and pleasantly written, and in more or less popular language the reader is told a great many things that he (or she) properly should know and may find interesting and quite possibly useful. One of the most intriguing parts of the book is the title page, and one will never cease to wonder over the whys and hows of a professorship of "Biology and Health," although it is just possible that if for "Health," "Hygiene" had been written (though, of course, since it is Boston, they would never do that) the position might have been somewhat more clear.

TUBERCULOUS INTOXICATIONS. A Clinical Study. By JOSEPH HOLLÓS, M.D., Pathologist, St. Vincent's Hospital, Staten Island, New York. Edinburgh: E. and S. Livingstone, 1928. Price 10s. 6d. net.

The author's theme is the treatment of tuberculosis by Karl Spengler's I.K., which is said to be as successful as that of syphilis by Salvarsan. The book contains 14 chapters with 130 pages and an account of 59 cases. It is suggested that the symptoms of tuberculosis are due to disturbance of endocrine glands and of the sympathetic nervous system, but a host of common disorders have been diagnosed as tuberculosis by the author and treated by I.K.—menstrual disturbance, for instance; diarrhœa, diabetes, psoriasis, rheumatism, epilepsy, neurasthenia and mental derangements. Attention is usefully drawn to some symptoms such as the occasional temporary dyspnœa which may occur in phthisical subjects and is not sufficiently recognised; but this is counterbalanced by the impression left on turning the last page that the author regards any and every symptom in almost every patient as due to tuberculosis and the sufferer as a legitimate subject for anti-tuberculosis therapy.

The drug is applied by inunction or injection and is said to cause in some cases an "antitoxic" effect, neutralising a tuberculosis toxæmia, and in others a "lytic" effect, when a focal reaction is noted. But Karl Spengler's results have not been confirmed by other observers, and it must be said that I.K. rests on a very slender scientific basis. The effects in the hands of various authorities, including the

originator, have been observed and have led to the conclusion that its composition varies. In the majority of cases it has no more effect than the injection of carbolised normal saline, but other preparations cause a reaction similar to tuberculin; its therapeutic value appears shadowy.

THE PRINCIPLES AND PRACTICE OF THE DILUTION METHOD OF SEWAGE DISPOSAL. By W. E. ADENEY, F.R.C.Sc.I., D.Sc., Fellow and a former Vice-President of the Institute of Chemistry of Great Britain and Ireland. Cambridge University Press, 1928. pp. 161. Price 12s. 6d. net.

In this volume Dr. Adeney gives an account of various investigations relating to the dilution method of sewage disposal. The natural purifying agencies of a river can frequently be made use of in the treatment of sewage without damage to the fish and vegetable life of the stream, provided the necessary precautions are exercised by the local authorities concerned. It is, however, important to correlate the standards recommended by the Royal Commission on Sewage Disposal with the area, depth and quality of the water of the stream into which it is proposed to discharge a given sewage. The book contains the record of a great deal of useful experimental work and is a valuable scientific contribution to the study of a very difficult problem.

In the Annual Reports.

THE PREVENTION OF TUBERCULOSIS.—Personally I am of opinion that the work of our Maternity and Child Welfare and School Medical staff is of very much more value in checking early tuberculosis than our direct tuberculosis schemes.—*Dr. G. A. Dawson, Darlington.*

AFTER-CARE OF THE TUBERCULOUS.—Failure seems to pursue the efforts of a Tuberculosis Care Committee—failure to find employment for the ex-sanatorium patient—failure to improve the housing conditions of the incipient case and the ex-sanatorium case—failure to achieve their aims.—*Dr. C. W. Hutt, Holborn.*

ANTE-NATAL CLINICS AND THE MIDWIFE.—While attendances at the ante-natal clinic continue to increase satisfactorily, it is astounding that so few women are referred to the clinic by the midwives in the district. The importance of ante-natal supervision is being preached every day throughout the country, but evidently the midwife has not yet realised it, although she might reasonably be expected to have been one of the first to do so.—*Dr. A. Turner, Finchley.*

PREVENTIVE MEDICINE AND OPHTHALMIA NEONATORUM.—Another pertinent example of the value of preventive medicine is to be found in the measures taken to combat ophthalmia neonatorum. This disease used to be one of the most frequent causes of blindness. Since free supplies of silver salts were issued to the midwives at the end of 1920, 180 cases have been notified in South Shields, and there has not been a single case of blindness in any of the patients. This represents a very great saving to the community in years to come.—*Dr. W. Campbell Lyons, South Shields.*

THE MONEY VALUE OF HEALTH.—A price cannot be put on health. Health, to those who have lost it, is valued at a sum which is limited only by their capacity to pay. From time to time statisticians have placed a money value on human lives, and sanitarians have shown how the national capital has been increased by the success of their life-saving efforts. Obviously, such calculations must depend on the economic circumstances of the time. A life is only a monetary asset if there is reasonable prospect of its producing more wealth than it consumes throughout its duration. In times of heavy and prolonged unemployment many new members of the community are probably destined to be a financial burden rather than a gain. Modern social sense will not countenance a modified attitude toward the health or survival of these lives because of their lower economic value, and it would be unfair to support the case for public health expenditure by arguments which we do not admit when their application does not suit our purpose.—*Dr. Ralph M. F. Picken, Cardiff.*

DR. S. NOY SCOTT, a member of the West of England Branch of the Society, has resigned his appointment as medical officer of health for the rural district of Plympton St. Mary, South Devon. Dr. Scott, who has relinquished office largely on account of health considerations, was held in high esteem in the area which he served so zealously for thirty-five years, and many expressions of regret followed the announcement of his resignation.

WE record with regret the death, at Settle, Yorkshire, of Dr. Francis Edward Atkinson, who served for forty-eight years as medical officer of health to the combined sanitary authorities of Craven. A member of the Yorkshire Branch of the Society, Dr. Atkinson was the oldest medical officer in the county, and his district extended from Silsden to Sedbergh, an area sixty miles long and forty miles broad. He was held in the highest esteem by all classes of the community.

PUBLIC HEALTH

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Editorial.

The New Session and the New President.

AT the opening meeting of the session 1928-29, on October 19th, Dr. J. Howard-Jones, Medical Officer of Health of Newport, Mon., was installed as President of the Society and joined the long and lengthening list of distinguished members of the Health Service of this country whom their colleagues have delighted to honour. To the task, no easy one, set for the President, Dr. Howard-Jones brings a wealth of experience as a medical officer of health and the fruits of an apprenticeship served as President of the Welsh Branch and of the Services Group, to both of which he is attached and for both of which he has worked well and heartily. Coming to the Presidential Chair, Dr. Howard-Jones finds waiting him the good will, regard and esteem of all members of the Society. These he has earned for, diverse as his interests have been, not only in his work and more particularly in that side of it relating to hygiene in the mercantile marine, but also in relation to military hygiene, he has always found time to devote to the affairs of the Society. The knowledge acquired as a result of this devotion will stand him in good stead during this year of his Presidency, and will encourage the hope entertained by all the members that under him the Society will continue to advance in importance and to add to its prestige.

The programme for the meetings of the Society prepared by Dr. Howard-Jones contains promise of much useful and interesting

work. It is noted that during the year no meeting is to be held in a provincial centre. Probably this omission was unavoidable; nevertheless it must be regarded as a matter for great regret having regard to the real and great value and numerous advantages attaching to such meetings. Conceivably the subjects for discussion, definitely interesting in themselves, may be sufficiently so to attract members to the headquarters of the Society. This may be hoped just as it is hoped in all sincerity and heartiness that the year of office of the new President will be a happy and successful one. That it is the will and wish of all those who sit and serve under him that it should be so, and not one but will do all that can be done to ensure it, he may truly believe.

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The Past Session.

THAT the session that ended with the annual meeting and the installation of the new President was associated with tragedy it is unnecessary to offer any reminder. By the death of Dr. James Wheatley in the middle of his year of office the Society lost one who had identified himself very closely with its work, who had marked and rejoiced in its progress and helped to make it over a long number of years. Dr. Wheatley's election was absolutely unanimous. He was placed in the Chair because everybody liked him, admired him and believed in him, and no one dreamed that he would vacate it save in the ordinary course to make way for his successor. In saying good-bye to the retiring President it is usual to find opportunity for giving him the " well done " into his own ear. Never before in the history of the Society have the members been robbed by death of their President and been compelled to express their gratitude in obituary form. It is all the more bitter an experience that this necessity should have arisen in the case of James Wheatley who, even in the short time that he did occupy the Chair, showed that he was well fitted to fill it and would have deserved all the praise and every expression of gratitude that might be offered. In the midst of the welcome given to the new President there must have been in every mind a thought of his predecessor and a regret that he was not present to share in that welcome and to receive the thanks that were his due.

In the place of Dr. Wheatley, however, there was one particularly deserving of gratitude, and there could be no question of the genuineness of the tributes paid to Dr. Snell who so willingly and ungrudgingly undertook the duties of President on a number of occasions prior to the death of Dr. Wheatley and for the whole of the period between that event and the end of the session. During his own year of office Dr. Snell had put in an immense amount of hard work, taking his office seriously and devoting himself wholeheartedly to it. For these reasons he deserved the praise that had been given him and the rest that he had earned. It was all the more generous on his part, therefore, to re-assume the burden that he had hoped, no doubt, he had laid down for ever. That he did take it up once more, willingly, and did the work with no less of enthusiasm than in the previous term is a matter upon which the Society has reason for self-congratulation. Great as these feelings of satisfaction must be they must not be allowed to overshadow these other feelings of gratitude towards Dr. Snell. The Society is, indeed, deeply grateful and all the more grateful since one of the effects of the added period of service given by Dr. Snell must be to bind all the closer to us a man of vast experience, a tried and proved worker, and a counsellor whose advice and influence will be of value and benefit to the Society as a whole.

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Ante-Natal Care.

THOUGH the title he gave to his Presidential Address was " The Rôle of the General Practitioner and Specialist in Preventive Medicine," it was noticeable that Dr. Howard-Jones devoted much of his time to a discussion of maternal mortality and the methods of combating the conditions associated therewith. That he should have done so is in no sense surprising, since at the moment there is no greater source of anxiety to the Service as a whole; no subject that more urgently calls for exploration with a view to the discovery of methods of prevention. In the view of Dr. Howard-Jones the urgent necessity in regard to this matter is increased attention to the expectant mother and a fuller appreciation of the need for and application of ante-natal care. With this view all are in agreement as they must be in the main with the further opinion that it should be more definitely the duty and aim

of the medical practitioner and those engaged in midwifery practice to see that it is given. In suggesting that ante-natal work is not easy and the practitioner has not been thoroughly well trained in the methods of carrying it out, Dr. Howard-Jones expresses a view frequently and most commonly enunciated by specialists in obstetric work and very generally accepted by the Public Health Service as part of the difficulty to be encountered in dealing with the problem. Properly regarded it cannot be considered as constituting a very serious obstacle. At any rate, it is not insuperable even if the ignorance of the general practitioner is so abysmal as the specialists in the subject (like the specialists in every other branch of medicine) allege it to be. As a fact, even now the average practitioner is sufficiently well informed and —given the opportunity—capable of doing quite a good deal in the way of helping to meet the problem both practically and by means of education. Very largely in the case of the practitioner, as in the case also of the Public Health Service, the trouble lies in the absence of opportunity. For quite a considerable period in many if not all areas in which maternity and child welfare schemes are in operation by means of ante-natal clinics and otherwise, attempts have been made to obtain definite touch with expectant mothers. Few of those who have made such attempts have felt that the response to the efforts expended has been much more than merely encouraging. Into the reasons why the expectant mother has failed to respond it is unnecessary to enter. In order to secure touch a system of notification of pregnancy has frequently been suggested and after wide and full discussion has generally been abandoned as not feasible at the moment. Into the reasons for so determining it is, again, not necessary to enter. It is interesting to note, however, that at last there has been discovered a body, the borough council of Holborn, to wit, to whom the reasons and the arguments against notification of pregnancy do not appear sufficiently strong to constitute an insuperable barrier. Feeling so, this body, backed, if not urged, by Dr. Hutt, their medical officer of health, determined, in the American phrase, to take a chance, and after securing the approval of the Ministry of Health, applied the system of notification to pregnancy. This was done a year ago, and though it may be wise to await a report on the working of the scheme during that period, it seems not unjustifiable to believe that it was found to be perfectly smooth and successful. The fact that the working has been noiseless suggests success, but should it prove otherwise there is no reason why sincere congratulations should not be offered to Dr. Hutt and his council on their enterprise in putting to the test a scheme so much talked of and so long untried because of fear of consequences. If, as is not improbable, it proves to have been successful, the congratulations will be all the more sincere, and not the smallest of the compliments to the initiators will be that they will have a host of imitators.

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Public Health Administration in Northern Ireland.

THE recent prolonged negotiations for the appointment of a medical officer of health for Belfast have turned the attention of many to the problems of local government in that city and in Northern Ireland generally. To such, the Report of the Departmental Commission on Local Government Administration in Northern Ireland * will prove of interest. Public health administration in those parts apparently leaves much to be desired, but opinions seem to differ as to whether efficiency can best be obtained by centralisation of public health services on a county basis, or by strengthening the powers of district councils. Services at present, even those already under the county councils, lack co-ordination, there being little liaison between the different committees and services dealing with the various branches of public medical work. Uniformity of administration is at present impossible, since so many local authorities are responsible for carrying out the duties, not all of them being diligent in the performance. Then again, some of the Acts being adoptive, and local authorities having had the choice as to whether legislation should be put in force or not, different laws are in force in different places. Examples are given in the report of difficulties resulting from such a state of affairs.

The undesirability of the appointment of part-time officers by the local authorities of

* Cmd. 73, H.M. Stationery Office, 1927. pp. 242. Price 2s. 6d. net.

small areas is clearly indicated by the Commission, and the reasons given carry weight. The Commission is satisfied that re-organisation is necessary in order to secure more efficient co-ordination, uniform administration and a more highly specialised staff of officials, with equitably adjusted areas of charge. The Commission arrives at the conclusion that local public health authorities should be, for the present at least, the bodies entrusted with the primary administration of public health services. In order to guard against slackness of local administration it is suggested that a general supervisory authority over the entire county area be vested in the county authority. The latter should act in an advisory and educational capacity through its staff of experts, and should have the power of enforcing action on local authorities who are remiss. The scheme is elaborated in some detail in the publication.

To local government administration in Belfast special consideration is given, but much of this portion of the report lacks interest to readers of this journal. It is desirable, however, to quote a little of that part which deals with the powers and duties of the town clerk of Belfast. "The town clerk, as the chief executive officer of the corporation, should exercise a real supervision over all the principal officials. Where officials are attached as advisers to any particular committee, it should be his duty, if he considers that officials have given wrong advice, impolitic advice, or advice which ought not to have been given, or refrained from giving advice which ought to have been given, to report to the general purposes committee, and have the matter inquired into . . . The town clerk, as chief executive officer, should also be responsible for the discipline, etc., of all officials of the corporation." Those who aspire to serve the Belfast corporation might make a note of it, not forgetting the "etc."

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The Health Bulletin of Victoria.

ALREADY on more than one occasion reference has been made to the Quarterly Health Bulletin of the State Health Department of Victoria, and it has been explained that in its intention it differs from the run of publications of this kind inasmuch as its object is to provide information for councillors, medical officers of health, and health inspectors. As evidence of its usefulness in the directions indicated, quotations have been made from various numbers from the type of article published, and the view has been expressed that this attempt of the Victoria State Board to keep those who should know in line with local activities and progress generally was one worthy of imitation. The latest issue received here is that for the April-June quarter, and it is particularly noteworthy in that the chief of its contents, headed "Toxin-Antitoxin Immunisation," provides a summary of the report of the commission set up to enquire into the fatalities at Bundaberg, Queensland. In this country, of necessity, we have been compelled to be satisfied with rather condensed summaries. Being comparatively near to the scene it is obvious that those interested in the immunisation procedure would be likely to be more affected by the happenings, and it is probably for this reason that the summary offered by the Bulletin is much more full than that in general circulated here. The reasons that led the commission to conclude that the fatalities were due to the injection of living staphylococci following accidental contamination of the mixture at the time the first immunising doses were administered, or at some time between the first and second, are very clearly given and, in general, the summarising is extremely well done. That it will prove of value to the health service of Victoria cannot be doubted. To many elsewhere it might conceivably prove very useful also, and it is not improbable that applications for copies of the issue of the Bulletin containing it will be very numerous.

Amongst other contents of this number may be mentioned an interesting and simply written note on blood pressure, in which much useful information is given in simple language and many useful hints on health and life management. Notes on typhoid carriers and the testing of milk for sediment are also given and, being extremely practical, should prove of interest and value. The outstanding contribution, however, is that on toxin-antitoxin immunisation apropos the Bundaberg affair, and in congratulating the Victoria State Board of Health on this number of its Health Bulletin it is of this that special mention should be made.

The General Medical Council Elections.

THE appearance of a flood of literature and appeals—on blotting paper in certain cases—to vote for various individuals who desire to enter the General Medical Council for reform or other purposes serves as a reminder that here and there and now and then the suggestion has been offered that it might be advantageous if there was a strengthening of the representation of public health and preventive medicine on that body. That such a suggestion should have been made is not at all surprising, having regard to the growing importance of prevention and the increased recognition of that importance, even by medical bodies whose primary interest is curative medicine and primary concern the interests of the practitioners of that branch. The thing really surprising is that the suggestion has not yet gone beyond the stage of suggestion and no active steps have been taken with a view to ensuring representation. From the appearance of some of the appeals for support, though they tend to stress rather the claims of the general practitioner, it is probable that the authors believe that, if elected, they will be able to secure advantages for the profession in general. That any individuals sent forward in the interests of the branch represented by the Society would aim at securing such advantages, and would seek to further any efforts that might be made to ensure benefit to the health of the people through the profession, is undoubted and should serve as sufficient reason for the Society devoting some time and thought to the possibility of securing representation, and to determining as to the best methods and procedure to adopt with that object in view.

* * * * *

Dinner to Transatlantic Tuberculosis Workers.

ON October 16th, 1928, a hundred representative British tuberculosis workers entertained, under the auspices of the Joint Tuberculosis Council, some fifty Canadian, American, and Overseas colleagues to dinner at Verrey's Restaurant, Regent Street, London. Sir Henry Gauvain occupied the chair. Among the hosts were Sir George Newman; Dr. Watt, of the Scottish Ministry of Health; Sir Robert Philip, and Sir Oscar Warburg, London County Council, as well as representatives of the medical press and from sanatoria and other branches of the tuberculosis service. Most of the guests were Canadians, now on a scholarship tour in Europe arranged by the Sun Life Assurance Company of Canada, the President and Secretary of the Company also being present.

In order to assist the entertainment the Secretary provided a private list of the special attainments and tastes of each host and guest.

In answer to a loyal message from the Chairman, His Majesty the King addressed a telegram of welcome and encouragement to the party.

The health of "Our Guests" was proposed by Sir Henry Gauvain in a happy speech in which he narrated some lessons he had learnt when he crossed the Atlantic in 1926, and expressed the hope that our own great insurance companies would sooner or later follow the example of the Sun Life and provide scholarships for members of our tuberculosis service. Sir Henry was followed by Sir Robert Philip, Sir Oscar Warburg, Dr. Lissant Cox, Dr. C. O. Hawthorne, Dr. Marcus Paterson, Dr. Kelynack, Dr. Jane Walker, and Professor Lyle Cummins, all of whom welcomed our visitors in well-chosen words.

In reply, Dr. Wodehouse, the Secretary of the Canadian Tuberculosis Association, emphasised the importance attached in Canada to co-operation with the general practitioner and pointed out the beneficent effect of such a tour as this on tuberculosis work in Canada. For the American members, Dr. Stuart Pritchard responded, and welcomed the co-operation of English-speaking people in this and all matters.

Dr. Dobbie, of Ontario, in proposing "Our Hosts," hoped that before long his fellow guests would be able to repay the hospitality they were enjoying here. Sir George Newman and Dr. Ernest Ward, who as Hon. Secretary had been responsible for the organisation of the dinner, replied. The toast of the Canadian Sun Life Assurance Company was proposed by Dr. Elliott, President of the Canadian Tuberculosis Association, and replied to by Mr. T. B. Macaulay, President of the Company.

DR. CYRIL BANKS, at present medical officer of health for Halifax, has been appointed medical officer of health for Nottingham, on the retirement of Dr. Philip Boobbyer.

The Rôle of the General Practitioner and Specialist in Preventive Medicine.

Being the Presidential Address of DR. J. HOWARD-JONES, *Medical Officer of Health, County Borough and Port of Newport, Mon., President of the Session, at his Installation on October 19th,* 1928.

THE first duty of a new President is to deliver a Presidential Address. It affords him an opportunity of giving publicity to matters which are exercising his mind and which in his opinion demand consideration in the interests of the national health, and I have therefore decided to draw your attention to the above subject.

In the early Victorian period Simon estimated that the deaths, which then numbered 125,000 per annum, were one-third more than they would be if the then existing knowledge of the chief causes of disease were reasonably applied.

Our knowledge of disease has advanced since then and Sir Arthur Newsholme has pointed out that during 1911-1915 a much greater reduction in the death rate than a third had already been achieved.

In spite of an enormous increase in the population and rapid urbanisation of the people, the total death rates and infant mortality rates have been halved in 60 years.

Child mortality has been reduced to a third of what it was 80 years ago, whilst the expectation of life is 17 years longer than it was for a child born 80 years ago.

Public Health efforts in those days were practically confined to the removal of the more obvious causes of sickness and death, but we have now reached the stage when we have in addition to routine work to devote our attention to the individual and to apply the laws of Physiology for the prevention of disease.

To achieve this object every individual will have to realise his share and responsibilities in preserving his own health and the health of those under his care.

The Public Health Service consists of a relatively small percentage of those engaged in the practice of medicine in this country.

I think we must agree with Sir Arthur Newsholme that complete success will not be achieved "until means are discovered for training and enlisting every medical practitioner as a Medical Officer of Health in the circle of his private or public practice, and of securing his services not only in the early and prompt detection of disease, but also in the systematic supervision during health of the families under his care and in advising them as to habits or methods of life which are inimical to health."

The evidence given by the British Medical Association before the recent Royal Commission on National Health Insurance contained the statement that "The alleviation or cure of morbid conditions when once they have arisen is, relatively to other matters, a minor part in the campaign for Public Health."

The participation of the general practitioner in Preventive Medicine is a subject which is not only seriously exercising the minds of public health officials, but is being advocated from all quarters and in most countries.

The Massachusetts Commissioner of Health, Dr. Kelley, in reviewing Public Health work in America*, stated that the public interest in this subject is acute, and the public faith in its possibilities is unshaken. The onsweeping rush of the medical tide into the channels of preventive medicine as contrasted with clinical medicine is already tearing from their moorings many centuries-old time-hallowed conceptions of the scope of private medical practice. This problem, how fairly and justly to determine the proper balance of interrelationship between the practice of clinical medicine and the practice of public preventive medicine is perhaps the most serious, the most insistent of all the public duties now facing the graduates of Schools of Medicine.

In an appeal to the Medical Profession of South Africa to become more actively and directly an organisation for the building of a healthy nation, Dr. Culver, Assistant Health Commissioner for the Union of South Africa, said: "The doctor already holds a very important position in the national organisation. He comes into intimate contact with the family life of the nation and he has, therefore, ample opportunities for guidance in

* Boston Medical Journal, November 22nd, 1923.

the improvement and conservation of the general health . . . By giving more attention to prevention he will, if one reads the times aright, be anticipating the inevitable. Curative advice will become overshadowed by preventive advice. An enlightened public will be more willing to pay for prevention and therefore get the better bargain, as it has so long maintained in aphorism."

Dr. Eustace Hill, in his Presidential Address to this Society, quoted Dr. Addison's statement that if Society had had available in some practical form during the last 50 years the guidance of the medical profession in the prevention of disease, a much larger advance towards national fitness would have been made.

Dr. Emerson, Commissioner of Health, New York State, says, "It may be accepted as axiomatic that Public Health work can progress only so far and as fast as the family physician is prepared to go."

Personally I should like to see back in our midst the old-type family doctor who kept a careful watch over the families under his care, but armed with the most modern preventive weapons for defending those under his charge from attack by disease.

The October number of PUBLIC HEALTH contains a summary of Dr. Fox Linton's Presidential Address to the Yorkshire Branch, in which he deals with the same subject, and offers many valuable recommendations.

I am, therefore, omitting references to certain aspects of the subject and will deal in the course of this address more especially with those problems which are outside the routine work of the Medical Officer of Health.

Among the foremost of these which intimately concerns the medical profession generally is Maternal Mortality. We are all deeply concerned that maternal mortality in this country has been practically stationary for nearly 20 years, in spite of the gradual substitution of the old untrained midwives by partially trained ones, and the provision of medical help in cases of emergency before, during, and after child-birth. Unfortunately this latter arrangement is based on the treatment of symptoms and not on the prevention of disease. In many towns it leads to unnecessary instrumental interference which is now recognised to be prejudicial to mother and infant.

It is full time, therefore, that the whole subject should be reconsidered.

The Maternity Benefit under the National Insurance Acts amounts, I understand, to £1,500,000 per annum, and there are no conditions laid down as to the manner in which the recipients should spend the money. We are generally of opinion that Maternity Benefit should be co-ordinated with the Maternity and Child Welfare Service.

The more recent records of some of the most enlightened Midwifery Departments of our great hospitals afford bright and most encouraging evidence of the value of the adoption of the principles of Preventive Medicine into the practice of midwifery.

Professor Browne, Professor of Midwifery, University of London, has kindly furnished me with the figures for the last five years' work at the Maternity Department, University College Hospital.

There were 7,657 district cases with ten maternal deaths (1·3 per 1,000). There were 1,005 indoor cases, which included 55 Cæsarean Sections, and 230 induced labours for contracted pelvis, with 9 deaths, which gives a death rate of 2·2 per 1,000 in 8,662 cases.

In the *Lancet*, June 9th, 1928, Dr. James Young stated "that in the extern practice of the Edinburgh Maternity Hospital there had been 5,000 successive spontaneous normal deliveries, with two deaths. There had been 888 cases in the extern practice of the Birmingham General Hospital, with no deaths, whilst there had been 47,593 deliveries in the unselected practice of the East London Maternity Hospital, with five deaths from sepsis, or one in 9,500. The total maternal mortality in 9,000 cases was ·67 per 1,000." In Dr. Young's opinion, trauma, due to instrumentation, was probably the main cause of the present septic death rate, and he stated that "improved education of the public, midwife and medical student and the assistance of the Central and Local Authorities are all necessary for the creation and working of a satisfactory machine."

The records of the Louise Margaret Hospital, Aldershot, for the years 1920-25 are as follows:—There were 2,000 confinements, including cases presenting all manner of complications—mostly recognised ante-natally—with two deaths, one from Pulmonary Embolism and one from advanced Mitral Disease. Forceps were used in seven per cent. of the cases, mostly primiparæ.

During 1927, in the practice of the midwives

of the Queen Victoria Jubilee Institute there had been 53,502 deliveries and six deaths in normal, spontaneous births, or one in 8,900.* "On including in this record all the deaths which could directly or indirectly be attributed to sepsis, the maximal figure, including normal and abnormal cases, was seen to be less than ·5 per 1,000."

When we bear in mind that the maternal mortality in 1926 was 5·14 and the sepsis rate 1·6 per 1,000 live births, and that the maternal deaths between 1911 and 1926, inclusive, amounted to 66,421 in England and Wales, the work of the Institutions referred to above affords us every encouragement to endeavour strenuously for further improvement in our midwifery service.

The busy medical practitioner is sorely tempted to hurry on a delivery at the urgent appeal of the patient or friend and to economise his time. There is an old saying that the proper time to apply the forceps is when breakfast time is approaching.

In the Scottish report on Puerperal Fever it was stated that the experience of the Public Health Hospitals in Glasgow showed that forceps had been applied too soon and the witnessess represented that such premature and abortive attempts at delivery gravely prejudice the patient's recovery. In the report is recommended the removal to hospital of those cases which do not offer a reasonable prospect of suitable delivery at home, and the co-operation of competent nurses, and the development of ante-natal care, in order to reduce the number of forceps cases.

In the same report it was stated by a witness that in a report on 292 cases of puerperal fever, delivery by forceps had been made in 78 of the cases within 12 hours of the beginning of labour:—

in 15 within 4 hours of the beginning of labour,
in 29 do. 8 do. do. do. and
in 34 do. 12 do. do. do.

Dr. Alex Bourne (Journal Royal Sanitary Institute, 1928, page 1967) states that the most important antecedents to Puerperal Sepsis are:—

(1) Injury to the tissues during labour.
(2) Excessive manipulative assistance, especially if combined with hæmorrhage and exhaustion.
(3) Pre-natal presence of hæmolytic streptococci in the birth canal and possibly lowered resistance after labour.
(4) Susceptibility of (25 per cent.) women to streptococcal infection.

* *Lancet*, June 9th, 1928.

The proposals of the British Medical Association and others to the Royal Commission on National Health Insurance state there should be provision for the attendance of a doctor and midwife at every confinement, and that while the midwife would usually conduct the normal delivery, the doctor would be responsible for ante-natal examination and supervision, attendance at confinement if difficulty arose, and during the puerperal period as the case required, with consultant and specialist services for difficult cases and provision of Institutional treatment by Local Authorities under the Maternity and Child Welfare Scheme.

Such a scheme would ensure a definite place in our Maternity Service for the medical practitioner, and I am thoroughly convinced that this should form a definite part of a well-organised Maternity Scheme, as it is obviously desirable that, if at all possible, the medical attendant who supervises ante-natal care of a patient should continue in charge until she is restored to normal condition.

"Our witnesses are unanimous in their evidence that the most important avenue to the prevention of maternal mortality and morbidity is through ante-natal care." (*Royal Commission Report.*)

Training Schools.—The organisation of a systematic study of the woman during pregnancy is itself a recent development at the Medical Training Schools. As an element in the training of the medical student and the pupil midwife, ante-natal work has hitherto been entirely fortuitous and has not been systematised and compulsory.

Individual general practitioners throughout the country have acquired for themselves the necessary knowledge and have devised admirable systems of ante-natal care for the women under their charge.

Fœtal and Neo-Natal Mortality.—Professor Cassidy, of the Rotunda Hospital, states that "When considering the question of fœtal deaths few, if any, obstetricians of experience will deny the statement that most of the cases coming under this category are preventable if suitable treatment were adopted early enough."

It is, therefore, important to consider how these deaths can be prevented. In her report on the Protection of Motherhood, Dr. Janet Campbell shows that the great majority of these still-births and neo-natal deaths are directly associated with some pathological condition of the mother, and that action taken to prevent maternal morbidity would indirectly lead to the saving of much infant life.

Repeated attention has been drawn to the excessive fœtal deaths in breech and occipito-posterior cases, and that timely diagnosis and treatment of these presentations would undoubtedly reduce the fœtal and neo-natal deaths from "tentorial" tears.

Lack of ante-natal observation in contracted pelvis leads to a deplorable percentage of fœtal deaths from instrumentation and craniotomy; and it may be said that a high fœtal and neo-natal death rate also follows the neglect of ante-partum hæmorrhage and early toxæmias.

Professor McIlroy states "that post-mortem examination of 161 still-births at the Royal Free Hospital showed that the causes of death were as follows:—

Forceps Delivery	...	26 per cent.
Hæmorrhage	...	16·2 per cent.
Asphyxia and Shock	...	14·8 per cent.
Breech Presentation	...	10·0 per cent.
Venereal Disease	...	7·4 per cent.

"and that in all the forceps cases examined post-mortem intra-cranial lacerations or hæmorrhage had occurred."

The results of early treatment of pregnant women suffering from Venereal Disease are highly satisfactory to medical practitioner and patient.

The report of the Medical Officer of Health of Glasgow for 1926 contains a reference to 11 infected expectant mothers treated early and adequately with the result that all the children were born alive and free from infection, whereas when the diagnosis came too late or treatment was refused, the pregnancies resulted in six stillbirths, two abortions and one infected live child.

The public must be educated in reference to the advantages of Preventive Midwifery over the present popular but largely unnecessary delivery by instruments—with its greater danger of sepsis and trauma to mother and infant.

The young practitioner who attempts to carry out in practice the most modern principles is undoubtedly handicapped under present conditions, as the public prefer the doctor who will deliver the patient as quickly as possible. As Professor Johnson has stated, "The pendulum has swung too far in the direction of instrumental interference, and we must try to bring it back to the greater safety of the middle line."

Medical Training in Midwifery.—It has been repeatedly stated in official reports that the teaching of obstetrics and gynæcology at most of, if not all, the medical schools in Great Britain left much to be desired. Improvements have been instituted since 1922, but even now, according to Dr. Janet Campbell, the training in obstetrics compares unfavourably with the training in, say, general surgery, although a good knowledge of midwifery is essential to the future doctor, while he may seldom practise major surgery.

The new curriculum in midwifery does include a certain amount of training in ante-natal care. In view of the fact that the deaths from premature birth and diseases of early infancy in England and Wales exceed 25,000 per annum this provision is not "premature."

I recently enquired of a rising young London obstetrician as to the importance attached to ante-natal care in the Midwifery Text Books, and he informed me that the majority made a desultory mention of ante-natal care—but that two or three of the most recent books dealt with the subject in a thorough and systematic manner.

We have too long accepted the principle that medicine and surgery in practice are wholly pathological.

Midwifery is primarily physiological, and if carried out on preventive principles the pathological aspect of the work will be reduced to a minimum.

Some of the teachers of midwifery are undoubtedly doing great service in this direction by emphasising the importance of ante-natal supervision and that midwifery must be conducted on physiological lines.

Dr. Johnson, of Edinburgh, sums up the "Preventive" duties of the obstetrician as follows*:—

(1) To watch over the health of the expectant mother, and, as far as may be possible, of the unborn child during the period of utero-gestation.
(2) To foresee conditions calculated to create difficulty or danger in childbirth, and to take steps either to remove them, if possible, or to arrange for the birth to take place in circumstances in which the best obstetric skill may be available.

* B.M.J., 7th July, 1928, Page 6.

(3) To conduct the delivery so that both mother and child are exposed to a minimum of risk and injury.
(4) To restore the mother to her ordinary vocation in life with health and vigour as far as possible unimpaired.
(5) To foster her capacity to nurse her child.
(6) To see to it that the mother's reproductive organs return to a healthy normal condition fit for further normal functioning.
(7) To watch over the health of the infant and thus begin the ante-natal care of the succeeding generation.

Professor McIlroy draws attention to the fact that " Ante-natal work is not easy. It requires a wide knowledge of general medicine and obstetrics, with sound judgment and experience. Many practitioners avoid taking it up because it involves special training and the remuneration in private practice is inadequate. Many patients think that the confinement fee should cover months of medical work."

The women of England have decided to reduce the birth-rate on a large scale.

It has been suggested that if the husband had to take alternate duty with his wife there would never be more than three children in a family, but—according to present ideas—that number is a comparatively large one.

From the parents' point of view the necessity for skilled ante-natal and natal care is, therefore, assuming serious importance. There will be an increased proportion of first births and these require greater supervision.

Midwifery in industrial practices is generally underpaid.

If we are to secure ante-natal and post-natal care then the question of remuneration will have to be seriously re-considered; not only that, but the public will have to be educated as regards the necessity for paying for Preventive Midwifery and the State and Local Authorities will have to revise their present policies.

Poor Law Service.—The Poor Law Service in this country includes, I understand, the whole or part-time service of 4,000 medical practitioners.

This medical service was never based on preventive principles. It has never attacked the problem of prevention. The early sanitary reformers deprecated the establishment of a separate body for dealing with medical treatment of the poor; but up to the present time the medical work has not been co-ordinated with Preventive Medicine—to the great disadvantage of the Public Health.

Opportunities will soon be available for remedying this state of affairs, and the success in that direction will depend upon the spirit in which our Central and Local Authorities will undertake the necessary reforms.

Between Poor Law medical relief, Maternity and Child Welfare work, School Medical Services, Mental Hospitals, Mental Deficiency Services, Pensions Medical work, Public Health Services, and the National Insurance Act Medical Services, we have a partial State Medical Service. Some of these are—but the more costly are not—based on the ideals of Preventive Medicine.

National Insurance Act.—According to the preamble it was to " provide for insurance against loss of health and for the prevention and cure of disease." Prevention was given " priority " in place over " cure," but we cannot deny the statement often made that the National Insurance Act continued the old-established idea of medical treatment by a visit and a bottle of medicine for a third of the population. Preventive Medicine would have made far greater progress towards producing the healthy nation if the Act had been based on a truer conception of the respective values of treatment and prevention, and the 14,000 panel practitioners would have been relieved of a great amount of monotonous work by the inclusion of preventive work among their patients. Over-application of the value of the bottle of medicine by the patient is one of the chief stumbling blocks to progress.

The great fault in the present system is that medical advice is only obtained after disease has actually attacked the patient. As pointed out later on, and in Dr. Linton's address, the great American insurance companies are finding out by actual experiment that it pays to supervise the health of their policy-holders.

The revision and improvement of our National Insurance Acts have been considered by separate Consultative Councils in England, Scotland and Wales, and by a Royal Commission, but they have hardly touched the fringe of the fabric of prevention in their reports.

Sir Andrew Duncan and Professor Gray, in their special report as members of the Commission, state: " It is significant and worthy

of parenthetical observation that recent years have been characterised by (1) a falling birth-rate; (2) an increased disablement benefit; (3) an increase in the frequency of prescriptions—also that the entrance by which a not inconsiderable part of illness finds its way into the community is not even discussed."

Under the Insurance Act the Government is providing a large proportion of the money allocated for medical benefits for medical treatment. The government can, therefore, if it thinks fit, alter the form of medical benefits to be provided for insured persons, but as pointed out by our late President (whose untimely death we much deplore) in his Presidential Address last year, " It is natural that measures for the relief of suffering and measures for the restoration to health of individuals should excite more enthusiasm than more general and more abstract measures for improvement of health or prevention of disease, with the result that money can be obtained more easily for relief and treatment than it can for general prevention."

Sir George Newman, in his 1923 report, describes the opportunities of the Panel Doctor in the following terms: " The Insurance Doctor is, then, in a favourable position to make an early diagnosis, and early diagnosis means early treatment—treatment at a time when there is most hope, and which includes the *prevention* as well as the cure of disease. Many of his patients are young and the Insurance Doctor, going as he does freely into the homes of his patients, and knowing their home conditions, is well able to advise on the healthy ordering of the home, the formation of healthy personal habits, hygienic diets, suitable occupations and other measures tending to ' keep the doctor away.' It is on such activities rather than the prescribing of innumerable bottles of medicine that we must base our hopes for further progress towards the realisation of our health ideals."

This service cannot be secured under the present Act. The medical practitioner cannot be expected to give the necessary time as his payment is based on entirely different principles. Fees will have to be increased and the size of the " panels " reduced to enable the general practitioner to practice Preventive Medicine among his patients. Further, we as a medical profession have up to the present been trained in pathological principles, and this introduces the question of the revision of the medical curriculum which has been suggested for many years, and has been referred to in previous Presidential Addresses, particularly by Dr. Lyster.

In his Annual Report to the Local Government Board, in 1917-18, Sir Arthur Newsholme recommended " the reconstruction of the training of each medical student . . . The past conception by the public of the relation of medical men to the community—apart from the special case of Medical Officers of Health—was mistaken . . . His training has been conducted on the assumption that his chief rôle should be on present lines . . . The teaching of medicine should be much more largely physiological and hygienic in character than at present . . . Were this done, the ideal condition, in which each medical practitioner becomes a Medical Officer of Health in the range of his own practice, would approach realisation."

This defect has been recognised by the General Medical Council and the most valuable recommendations have been made by Sir George Newman in his report to the Ministry of Health, which has been followed by the adoption in principle of the substitution of Physiological for Pathological standards of teaching. Those teachers in our Medical Schools who are impregnated with the old Pathological principles will probably not help us much in this direction; consequently it will take many years before much real progress will be made; and I understand that post-graduate courses which will enable practitioners to prepare themselves for a more active participation in this pre-clinical or preventive medical work are not available in this country. Unless something is done in this direction the work will remain in the hands of physicians and the general public will not participate in the benefits to be derived from the great advances which have been made in physiology, bio-chemistry, dietetics, etc., by those engaged in research work.

Education of the Public.—Public opinion is ripe for instruction in matters pertaining to the care of health. Health propaganda is becoming increasingly popular. Welfare and preventive work in connection with our industries is becoming firmly established. We are being besieged by various Societies to undertake or assist in all kinds of propaganda work.

In fact, there is a plethora of societies engaged in such work, and attempts at co-ordinating their efforts seem to lead to a rapid

increase in their numbers. The congresses organised to popularise public health work are so numerous that Local Authorities are becoming restive in the matter.

Much of the propaganda work is undertaken by men who have had no medical training, by gymnasts, hydropaths, vegetarians and other specialists in dietetics. Much of the work is of the nature of stunts and a great deal of it consists of thinly veiled advertisements for some proprietary food or drugs. There is, therefore, a danger of reaction on the part of the public unless this work is carried out by disinterested propagandists trained in the laws of Preventive Medicine, and this can only be done by the enlightened medical practitioner.

The most effective educational work is individual instruction given at the psychological moment and not class teaching, and this can best be given by the private or "family doctor."

His opportunities for service are great undoubtedly, not only in guiding the patients in the path of health; but also in assisting to carry out the present activities of Public Health Authorities.

For instance, let us take the case of Tuberculosis. Undoubtedly the general practitioner can render the Tuberculosis Officer great assistance in the control of Tuberculosis by careful supervision over the health of his patients, the detection of early symptoms of disease, notification or prompt reference of the patient to the Tuberculosis Officer and by ensuring the periodic examination of contacts. Much of our sanatorium accommodation is occupied by unsuitable cases owing to the fact that a large proportion of the cases are well advanced before they are referred to the Tuberculosis Officer. This is partly due to the lack of appreciation of the value of early treatment on the part of patients.

In many districts a considerable percentage of Tuberculosis cases die un-notified.

One cannot help feeling that this state of affairs is largely due to faulty training in our Medical Schools.

There is a vast amount of work to be done in the education of the public as to the true value of drugs in the cure of disease.

The Association of Insurance Committees and others interested in the finances of the Insurance Acts are seriously concerned about the large increase in the cost of drugs and the number of prescriptions required by insured persons. The total is between 40 and 50 million prescriptions per annum.

The weight of the medicine dispensed in bottles in England and Wales in twelve months is at least 8,411 tons, and other items weigh at least 2,103 tons, a total of over 10,500 tons of medicaments dispensed among about 12½ million insured people yearly.

In a paper at the Royal Sanitary Institute Congress at Plymouth this year, Mr. Marshall, Hon. Secretary of the Scottish Insurance Committees, stated that "to some extent the prescribing of drugs is not due to the expectation of any therapeutic effect but rather to the satisfaction by the doctor of a public demand. In many areas there is a confident belief that each consultation with a doctor is only effective if a prescription is written. Probably the patient resents advice as to diet and temperate living and demands that every complaint, however trivial, should be treated with a bottle."

The above description of the work of the general practitioner implies that there is a great amount of deadly monotony in his daily duties, and many have complained to me of the deadening effect of the routine work of prescribing for the average out-patient.

This picture is a marked contrast to the description of the duties of the good physician as given by Lord Dawson. He says:—"In him should be realised the correlation of preventive and curative medicine. He should concern himself with measures for the maintenance of health as well as the curing of disease. He must be brought into the position of a rightful leader and skilled adviser in all that appertains to the social service and welfare of his district. In matters of health he should be the father of his people."

We owe a special tribute to the specialist for his valuable services in advancing our knowledge of the principles of Preventive Medicine. Many of them are strenuously preaching the doctrines of prevention and the great importance of attending immediately to the early signs of disease.

There is, however, ample scope for further and persistent effort in this direction, although there is a marked improvement in the standard of living, for it is quite evident from the excessive mortality from rheumatic affections, heart diseases, diseases of the alimentary tract, renal diseases, arterio-sclerosis, alcoholism, venereal diseases and other preventable diseases that much remains to be done to prevent disease, incapacity and premature deaths.

We owe much to those engaged in research work in Physiology, Bio-Chemistry, the Physics of Light and Heat, Bacteriology, Dietetics, Tropical Diseases, Industrial Hygiene and other subjects for extending our knowledge of the principles of Preventive Medicine.

The services of specialists are being increasingly utilised in our Clinics, and they now include: Gynæcologists and Obstetricians, Orthopædic Surgeons, Nose and Throat Specialists, Ophthalmic Surgeons, Dentists, Radiologists, and Venereal Diseases and Tuberculosis Specialists, and soon, I trust, the Mental Specialists will be utilised in the prevention and treatment of Mental Diseases.

With their intimate knowledge of their special subjects and of the causes of such diseases they have great opportunities of teaching the public the principles of Preventive Medicine.

Periodical Medical Inspection.—This principle has long been established in the Navy and Army, and has been extended to the civil population by the periodical inspection of school children, and later by the supervision of infants from birth—so that we have provided facilities for periodical medical examinations for the younger members of the community. Provision is also gradually being made for the medical supervision of the expectant and nursing mother. The extension of the principle of periodical medical examination to the general community for the preservation of health and the early detection of disease will naturally follow.

It is recognised by some of the leading American Insurance Companies that this is a paying proposition, or in other words, that it is cheaper to maintain health than to cure sickness. There is a growing realisation of the importance of health propaganda work among our British Insurance Companies, and they are prepared to spend considerable sums of money on this work. The general public are also beginning to appreciate medical supervision—or as the Americans call it—"pre-clinical advice."

Dr. Donald B. Armstrong, Assistant Secretary, Metropolitan Life Insurance Co., New York, in a paper read before the American Medical Association, June, 1928, referred to the enormous amount of propaganda work carried out by the Society, advocating the public "to see your doctor," and mentioned that 400,000 policy holders in that Society have been given "periodic examination" and have been referred to private medical men for advice and treatment. If such a scheme is adopted in this country it will increase the work of the medical profession for a few years at least or until the time approaches when "we shall die of a ripe old age carried to excess" as the result of the achievements of Preventive Medicine.

THE Women Sanitary Inspectors' and Health Visitors' Association has arranged a winter school for health visitors and school nurses, to be held at Bedford College, Regent's Park, London, N.W.1, from December 27th to January 7th next. The course is planned as a "refresher" or post-certificate course to enable those who attend it to become acquainted, by means of lectures and observation visits, with the most recent developments in preventive medicine and social science. Full information may be obtained from the Secretary of the Association at 92, Victoria Street, London, S.W.1.

A CONFERENCE on the subject of "Health Education in Rural Districts" has been convened by the National Federation of Women's Institutes. It will be held at the College of Nursing, 1a, Henrietta Street, Cavendish Square, London, W.1, on Wednesday, November 14th, 1928, the morning session commencing at 11.15. The chair will be taken by Lady Dorothy Meynell, Chairman of the General Education Sub-Committee of the National Federation, and amongst those who will take part are Sir George Newman, K.C.B., and Dr. W. G. Savage, Medical Officer of Health, Somersetshire County Council.

THE University of London announce a course of three lectures on "Smoke Pollution of the Air and Public Health," to be given at University College, Gower Street, W.C.1, by Dr. John S. Owens, B.A., A.M.I.C.E., F.R.G.S., at 5.30 p.m. on November 2nd, 9th, and 14th, 1928. Admission to the lectures is free, without ticket.

Ut Ita Dicam.

(Being Comments, apropos and otherwise, on Sundry Matters.)

Central Council for Health Education and the Health Associations.

Apart from the annual meeting of the Society—and, by the way, what an excellent press the President made for it with his Address—the outstanding event of the past month, to my mind, was the conference of Health Associations held under the auspices of the Central Council for Health Education at the house of the Society on Thursday, October 18th. In all about thirty societies appointed representatives, and at the meeting nearly every person appointed attended, amongst them Dr. Cox and Dr. Brackenbury, present on behalf of the British Medical Association, Sir Robert Philip, representing the National Association for the Prevention of Tuberculosis, Dr. Eric Pritchard, from the National Baby Week Council, Miss Halford, the Health and Cleanliness Council, Mr. Tustin, the National Milk Publicity Council, Mr. Turner, the People's League of Health, and numbers of others well known on account of their activities and the assistance given in connection with the educational side of our work. A most remarkable gathering, and at first sight an astonishing one to find in such a situation, but one that before it ended had registered itself a success from every point of view and even a triumph, not only for itself as a conference, but for the Central Council. Indeed, so far as this body is concerned it may be claimed for it that if it had done nothing else but bring about such a meeting it had entirely justified its existence.

A Successful Meeting.

Prepared to be perfectly frank, I confess that I was ready to find the Conference proving itself a most trying ordeal. In the Central Council we all of us see a body aiming at a co-ordination of the multitude of organisations —leagues, councils and so forth—whose object is health education and propaganda, in order that their energies and efforts may be effectively used by the authorities whose duty it is to ensure health education of the people. In my own mind I was perfectly clear with regard to that; and clear also that all that was desired, so far as the organisations were concerned, was to see that they were fully, properly and appropriately used, guided and advised and backed, if need be, but otherwise left alone, to arrange and manage their own affairs in their own way and without interference. The difficulty I foresaw was in inducing the societies, the councils and the leagues to believe that. I pictured the conference as a meeting of persons full of suspicion and distrust of the motives of the Council, and my relief was intense on finding myself in an atmosphere charged with friendliness and enthusiasm and belief in the necessity for a Council and in its *bonâ fides*. So discovering, I was enabled to enjoy what the conference so amply provided, and that was an opportunity of listening to people who knew what the needs were in particular directions and of receiving many new views and impressions and indications of new lines of work for the Central Council. From a number of the speakers I learned how high was the regard in which the medical officer of health was held. It was iterated and reiterated that to be of any value whatever any health educational work done in any area by any health body must be done in co-operation with and under the ægis of the local medical officer of health. This, of course, I knew and believed; but it was something to find the view confirmed, so to speak, from the other side. It was something, too, to hear "stunts" so definitely and whole-heartedly condemned. As a fact, there was nothing we were all so unanimous about as the condemnation of "stunts," except perhaps on the need for a bigger supply of people who could speak attractively and effectively and the extraordinary amount of harm that could be done by the bad and unconvincing speaker.

Work for the Central Council.

These are only a few of the points touched upon, the amount of ground actually covered being such that practically nothing of moment —from the part to be played by approved societies to the advisability or inadvisability of celebrating a national health week or merely holding health weeks in localities—failed to receive consideration. One matter of extreme importance that would have claimed more attention had time permitted was raised by a representative of the Central Association for Mental Welfare, who voiced the opinion

that much more than was necessary was done in relation to *physical* health and much less than its importance deserved in respect of *mental* health. This view obtained very definite and general support and it seems not improbable that amongst the many matters to which the Central Council will give consideration as a result of the conference, none will be more carefully dealt with than the suggestion that when occasion offers, on a call from an area for assistance in choosing a subject and finding a lecturer, the claims of mental hygiene should be put forward. Of the success of the conference, as indicated, there can be no doubt whatever. Of its kind it was unique, but since it was unanimously determined that it should be repeated next year, because it proved so interesting, this is a characteristic it will lose. And it would be a tremendous pity, so interesting, valuable and stimulating did it prove, if it were not repeated and an opportunity offered of showing the Central Council more firmly established and providing further justification for the belief expressed in it by so many of those who spoke.

A Howler or Two.

Like most people who do much in the way of correcting examination papers, I continually determine that I must make a collection of howlers. As continually I forget that I have so determined or find that the task of reading the answers to the questions is sufficient of evil without the extra trouble of copying them. Occasionally, however, one happens upon a gem that it seems a pity to leave to sparkle unseen in whatever limbo receives the books and paper used by candidates. Of such are the following collected at an examination in a provincial centre for candidates for the Health Visitor's certificate. The answer in most cases indicates what the question was, and the only explanation of the reply that in most cases can be offered is that the writers believed that if they did not write something they would be guilty of extreme rudeness. To escape such a charge one permitted herself to declare, *inter alia*, that "the neo-natal death-rate means the number of deaths from infectious diseases in children," while another gave it as her opinion that "the causes of intra-natal death-rate are imperfect fertility of one or both parents."

Defining "Habit."

In this examination it is not uncommon to find signs that law as a subject has been something of a stumbling-block to many of the candidates. In my own experience, however, few have succeeded so well in grasping what it was all about as she who, in summarising its provisions, explained that "after the Registration of Nursing Homes Act comes into operation Lock Hospitals will cease to exist. They are undesirable nursing homes." As a contrast to answers of this type there may be noted a definition of "habit" that was offered by a candidate. This suggests that she who gave it, wherever she got it, after she has succeeded in obtaining a post and has spent some time making the kind of talk in which a health visitor is competent to indulge may come to the conclusion that she has mistaken her vocation. Perhaps, probably indeed, I am wrong; but anyway, here is the definition: "A habit is a mental, moral, or physical acquirement produced by long practice, either by suggestion or imitation or instruction and may be for the ultimate good or evil of the child in question."

P.

DR. J. J. MACDONELL has been appointed deputy medical officer of health for the metropolitan borough of Wandsworth in succession to Dr. A. W. Forrest, who was recently appointed medical officer of health for Leyton.

DR. SHIRLEY W. WYNNE, who has been connected with the New York City Health Department for nearly twenty-one years, has been appointed City Health Commissioner to succeed Dr. Louis I. Harris, who recently resigned to become associated with a dairy products company. Dr. Wynne is a well qualified vital statistician, having served for a number of years as assistant to Dr. Guilfoy, director of that bureau. Subsequently he was appointed head of the bureau of hospitals of the health department, where he made a remarkable record in the reorganisation of the administration of these city institutions, placing them on a much more efficient basis. During Dr. Harris' administration Dr. Wynne served as deputy commissioner.

The Control of Diphtheria in Crowded Institutions.

By SURGEON-COMMANDER SHELDON F. DUDLEY, O.B.E., M.D., M.R.C.P., D.P.H., D.T.M., R.N., Professor of Pathology and Lecturer in Tropical Diseases, Royal Naval College, Greenwich.

Any pronouncement by Surgeon-Commander Dudley on any subject having relation to epidemiology and immunology is welcome, and in this paper, read at a meeting of the Naval, Military and Royal Air Force Hygiene Group on May 3rd, 1928, he offers guidance on a problem with which medical officers of health are not infrequently faced.

DIPHTHERIA can be defined as an inflammation of the throat caused by the toxins of a specific bacillus which I shall call virulent K.L.B.* because this is the name by which it is best known outside the laboratory. There is an atoxic variety of this organism commonly called the avirulent diphtheria bacillus or K.L.B. Although virulent bacilli can give rise to avirulent, yet according to most authorities the reverse change never occurs, and for practical purposes we can take this dictum as true, and therefore, avirulent diphtheria bacilli cannot cause symptoms.

Many people are immune to diphtheria because they possess natural diphtheria antitoxin in their blood; these people are distinguished from those who have no, or very little, antitoxin in their blood by means of the Schick reaction, which, I may remind you, consists of injecting a small dose of diphtheria toxin into the skin. If a red patch subsequently develops at the site of the injection the test is positive, which means the subject may be susceptible to diphtheria, but not invariably so, because some Schick positive reactors are relatively immune. On the other hand, if no redness appears the subject has enough diphtheria antitoxin in his blood to neutralise the injected toxin; he is a Schick negative reactor and completely immune to typical membranous diphtheria.

It is convenient to divide the sore throats which are caused by the diphtheria bacillus into three groups:—

First, there are the typical diphtheritic throats which show a characteristic membranous exudation the appearance of which is pathognomic, and hence the only instrument necessary for diagnosis is eyesight. In this group the result of a throat swab and Schick test are almost invariably positive, but as the results, even if negative, do not affect the diagnosis or treatment both tests can be dispensed with.

Next there is a large group of patients, the appearance of whose lesions cannot be called typical, but in which either the throat, or the general condition of the case, does suggest diphtheria. Such patients are especially common in crowded institutions, and the less experienced the physician, the greater are the number of cases that he will place in this group. Such cases, if at all ill, must be treated immediately as diphtheria without waiting for the result of a throat swab. If in such a doubtful case the laboratory reports "K.L.B. present," the diagnosis of diphtheria is strengthened and becomes almost a certainty if the organism is subsequently found to be virulent. On the other hand, should the report be negative, the diagnosis of diphtheria becomes more uncertain, because in the vast majority of clinical diphtheria cases K.L.B. is easily demonstrated in the primary throat culture. When K.L.B. are reported present, but avirulent, the patient they came from is probably not suffering from diphtheria. This, however, is not invariably the rule, because virulent and avirulent strains of K.L.B. are found in the same throat more frequently than has hitherto been realised, and since there is no constant difference in the appearance of virulent and avirulent colonies of K.L.B. in a mixed culture, chance determines which variety the bacteriologist will select to test for toxigenicity.

The third group of sore throats are those which, although they clinically do not even suggest diphtheria, yet do contain K.L.B. The question arises, are these K.L.B. responsible for the throat lesion or merely harmless commensals inhabiting a host whose condition is entirely due to some other parasite? In other words is the throat lesion an ordinary tonsilitis or catarrhal condition in a carrier of diphtheria bacilli? Should the bacilli be avirulent, according to the usually accepted belief, they cannot cause a sore throat, and therefore, such a case is not one of diphtheria, but if the K.L.B. are found to be virulent, we are not much further forward in diagnosis than we were before. However, under these circumstances a knowledge of the patient's Schick reaction will solve the diagnosis. For practical purposes a Schick negative reaction excludes diphtheria; on the other hand, Schick positive carriers of virulent bacilli are so rare that some authorities doubt their existence. Therefore, a virulent diphtheria bacillus, in conjunction with a sore throat and positive Schick test, implies a diagnosis of diphtheria. Objection may be taken to the foregoing remarks on the ground that the combination of a sore throat which is not diphtheria with a "positive K.L.B." laboratory report must be so uncommon as not to be worth troubling about; but in crowded establishments this is far from the truth as the following figures clearly show. 15 per cent. of the swabs from over a thousand non-membranous sore throats grew K.L.B., while during the same period 7 per cent. of some 4,000 apparently healthy boys were proved to be carriers of diphtheria bacilli. If we allow that carriers are as likely to suffer from non-diphtheritic throats as other boys, then 7 per cent. or about half of the non-membranous sore throats which contained K.L.B. were not true diphtheria cases, but merely secondary infections in carriers.

In some instances the virulence tests and Schick reactions relating to doubtful diphtheria cases were known, and they confirmed the deduction that about half were mild cases of diphtheria in partially immune Schick positive reactors, the remainder being secondary infections in Schick negative carriers. This class of case which harbours K.L.B., but has no other resemblance to diphtheria, though interesting epidemiologically, is unimportant clinically. They seldom require antitoxin, and it is really only tempting providence to swab their throats. The use of the throat swab in the diagnosis of diphtheria is therefore somewhat limited. In typical cases it is unnecessary. In doubtful cases, unless combined with a virulence test and Schick reaction, a positive result is often difficult to interpret in such environments as Greenwich School.

The custom of waiting for the result of the bacteriologist's report before exhibiting antitoxin is, of course, criminal assuming that the patient is obviously ill, and there is the slightest suspicion that he may be suffering from diphtheria. Antitoxin can only prevent toxin doing damage; it cannot cure a poisoned nerve or muscle fibre, and therefore irreparable harm may result during the twenty-four hours or more that must elapse before the result of a throat swab is known.

Again, although experienced workers rarely fail to find K.L.B. in throat swabs from genuine cases of diphtheria, yet failures for some reason do sometimes occur, even with swabs taken from the throats of "text-book" cases. For example, some years ago I was asked to see a man (not in the Royal Navy) who had been sick for a week with a sore throat, while his medical attendant (a foreigner) had been trying, but failing, to grow K.L.B. The patient was very ill indeed, and typical diphtheritic membrane had spread all over his fauces, soft palate, and pharynx. I gave him 80,000 units of antitoxin (half of it intravenously) within half-an-hour of first seeing him. Subsequently I isolated virulent diphtheria bacilli from his throat. The patient ultimately recovered, but not before he got paralysis of the palate, a squint, and paresis of the lower limbs—a splendid example of "how not to do it." Again recently, when I was medical officer of H.M.S. *Dunedin*, two typical cases of diphtheria reported sick while the ship was in a New Zealand harbour. I at once gave them each 20,000 units of antitoxin, and then sent up their throat swabs to the local laboratory; the reports for both patients were negative. The men recovered and then, as one does when the case is no longer before one's eyes, I began to question my own clinical diagnosis, but a few weeks later two similar cases turned up both of which gave swabs in which another bacteriologist was able to find K.L.B.

* K.L.B. (*Klebs-Loeffler bacillus*) was retained as an abbreviation for the diphtheria bacillus because this paper was written for the general practitioner rather than the specialist. Unfortunately, K.L.B. has become rather a vague term. On a laboratory report it generally means that a bacillus was seen, in the stained smears from a mixed primary culture, which had the morphological and staining characters of the parasite which causes diphtheria. When K.L.B. is used in this sense a better abbreviation is M.D. When the adjective "virulent" or "avirulent" is used to qualify K.L.B. it should mean that the organism has been properly isolated and identified as the specific parasite known as *Corynebacterium diphtheriæ* (or *bacillus diphtheriæ*) of which there are two varieties; the one producing toxin, the other being atoxic, the abbreviations for which may be conveniently written T.C.D. and A.C.D.—S.F.D.

There is another point about the primary cultures from diphtheria infections that is not as generally realised as it should be. A culture, which may appear negative after 24 hours' growth, can show K.L.B. as the predominant organism after another day's incubation. Although this lag in growth is not common in primary cultures of diphtheria bacilli from cases, it is frequently seen in throat cultures from carriers. Ordinarily I only examine the experimental cultures, taken from healthy boys, after 48 hours' growth; but in reference to this question of lag a special series of 358 throat swabs were examined. At 24 hours this sample produced 26 strains of K.L.B. Re-examined at 48 hours, nine further positive cultures were found, *i.e.*, the discovered carrier rate had increased from 7·3 to 9·5 per cent. For this reason all swabs ordered by a medical man, other than oneself, if negative after 24 hours' incubation, must be re-examined at 48 hours. The K.L.B. found in carriers and convalescents must always be tested for virulence otherwise many harmless carriers will be unnecessarily detained. The ratio of virulent to avirulent bacilli varies enormously at different times, even in the same environment. In 1924, a series of cultures of diphtheria bacilli from carriers were 80 per cent. virulent. At the end of 1927, 46 consecutive isolated cultures of K.L.B. from sore throat cases as well as carriers included only two that were toxigenic, *i.e.*, 4 per cent. were virulent in 1927, in contrast to 80 in 1924. I admit this is the lowest proportion of virulent bacilli that I have ever seen in any consecutive series of K.L.B. cultures; but it means that if these boys had been segregated or notified as diphtheria on the unqualified report "K.L.B. present" 44 boys would have been unnecessarily isolated, and since many of the 1927 series were from ordinary sore throats, the notification of clinical diphtheria would have been falsely increased. All of which is a striking illustration of the necessity of the virulence test. Moreover, virulence tests must be repeated because in quite a fair proportion of cases the virulent diphtheria bacillus after a variable period of contact with its host will change into, or be replaced by, the harmless variety. Should, however, the Schick test of a carrier be found positive a virulence test may be omitted and the carrier released, because although carriers of virulent diphtheria bacilli with Schick positive reactions do exist, yet they are so rare that for practical purposes they may be neglected, on the grounds that since the Schick test is positive the bacillus, though not tested, cannot be toxigenic or otherwise its host must have had symptoms.

However, in crowded institutions, once diphtheria has got a grip, two reasons render hopeless the attempt to eradicate infection by mass swabbing with a view to the isolation of carriers. The first is the intermittency of the carrier state which makes it impossible to say when any carrier or convalescent is free from infection. Sometime ago I swabbed a selection of chronic carriers every day. The notes of one will suffice to explain the difficulties caused by intermittency. A naval officer who had contracted a virulent K.L.B. carrier infection was swabbed on 45 consecutive days; 21 results were positive and 24 negative. The positive and negative findings were entirely irregular. They might alternate for a few days, then a run of half a dozen negative might be followed by a single positive result, or by a run of positives. It is amusing to note that if only the routine three negative weekly swabs, which are the usual price of freedom, had been required of this officer, he would have escaped. As it was, his septic tonsils were enucleated, after which 14 consecutive daily swabs were negative, and he was sent to duty. The strain of K.L.B. from this case, which remained virulent throughout the period of observation, also illustrates very well the phenomenon of lag, because in more than half of the primary cultures K.L.B. were not evident till after 48 hours' growth. McCartney and Harvey[1] have just recently published some observations on intermittency, lag, and loss of virulence in K.L.B. cultures from carriers. My own work thoroughly confirms their results. The other reason why mass swabbing is so hopeless is that the vast majority of symptomless infections with K.L.B., in an institution such as Greenwich School, only last a short time. The carrier infection spreads like an epidemic wave over the school so that boys who one finds negative to-day will as likely as not be positive to-morrow and *vice versa*. For instance, one sample of 100 boys produced 19 carriers at their first swabbing; six weeks later the same boys produced twelve carriers, but only one of these had been found on the first occasion. A fortnight later six carriers were found, but three of these had been discovered at one or other of the former swabbings.

This series of examinations proved that at least 32 different boys had harboured K.L.B. within a period of two months. If such a rate of infection was maintained, 100 per cent. would be infected as discoverable carriers of K.L.B. within six months. As a matter of fact, I believe a few boys are completely immune to carrier infection, but that others become re-infected over and over again during their three years at school. I should think, however, that during the last seven years at least 75 per cent. of the boys who passed through Greenwich School must at some time or other have been infected with either virulent or avirulent diphtheria bacilli.

When all the fallacies and difficulties are taken into account, the impossibility of trying to eradicate diphtheria bacilli from an environment such as Greenwich Naval School by swabbing and isolating carriers becomes apparent. I doubt if it could be done even if a bacteriologist and suite of apartments were allocated to each boy. This *reductio ad absurdum* made me decide that it was not worth while to segregate those carriers found during unofficial experimental investigations. Last term (January-April, 1928) 32 virulent cultures of K.L.B. were actually isolated from healthy boys. There, of course, must have been many more virulent carriers which were not discovered. Therefore, although there were probably more than 100 distributors of virulent K.L.B. free in the school, yet only one doubtful case of diphtheria was seen, which is the smallest number recorded during any of the last 20 school terms.

Diphtheria carrier hunting became popular as a supposed preventive measure before it was realised that the carrier was not a pathological curiosity. It was presumed that a single mass swabbing would reveal one or two germ distributors whose isolation would remove all the sources of the diphtherial infection. Even to-day few people realise that ofttimes in dense populations it is more often the diphtheria patient or symptomatic infection, rather than the carrier, or symptomless infection, that is the pathological curiosity.

During the last three years at Greenwich School a simple deduction from the known carrier rates shows that there must have been some 20 carriers of virulent bacilli to every clinical case of diphtheria, and since in this period over 150 symptomatic infections were notified as diphtheria, there must have been about 3,000 invisible and undiscovered infections with virulent K.L.B. during the same three years. Notice I said virulent diphtheria bacilli; the avirulent variety is not included in this number. Even if it were possible to discover all carriers directly they became infected, few institutions would have the necessary accommodation, or money, to segregate and treat them.

The diphtheria throat swab, when used without discretion and a full knowledge of its limitations, has been in many ways a curse. It must have been the indirect cause of many deaths when antitoxin has been withheld from a serious case of diphtheria until the receipt of the laboratory report, or because the report was "negative K.L.B." On the other hand, the customary report of "K.L.B. positive," without a virulence test, or a knowledge of the patient's Schick reaction, must have unavoidably forced a wrong diagnosis of diphtheria on to many non-specific throats, and thus falsified the notification returns. Again, two or three negative throat swabs is a most unreliable standard of freedom from infection, which can only give a sense of false security. I have found many diphtheria convalescents to be still harbouring K.L.B. after returning from fever hospitals, where the custom of swabbing before discharge was practised. After what has gone before everyone will see that this remark means no reflection on the fever hospital's technique. I doubt if 30 or 40 "negative swabs" is any certain criterion that the carrier is permanently free of K.L.B. In many environments swabbing and isolating carriers as a preventive measure is often a mere waste of time which would be better employed in doing something useful. Incidentally, it is quite conceivable that the removal of the carriers from a crowded institution may ultimately do more harm than good, but that is much too long a story to go into now. I do not mean by this tirade against indiscriminate swabbing that the bacteriological examination of the throat has not got its uses in the control of diphtheria, but that the results of every throat swab must be correlated with all other available data, and especially with the environmental conditions.

If carrier hunting offers little hope of lowering the diphtheria morbidity of crowded establishments, can we do anything by increasing the space between the inhabitants during their hours of sleep? This method, as we all know, was introduced by Glover, with spectacular success, in the control of epidemic meningitis. Although 2 feet 6 inches between the sides of

adjacent beds was sufficient to prevent the spread of symptomatic meningococcic infections among soldiers, yet 3 feet seems to be no barrier to the spread of diphtheria among English boys of the 12-16 age group. Bed isolation treatment indicates that 9 feet is necessary to prevent cross infections of diphtheria in children. Even if considerably less distance were found to suffice for adults, giving more than 3 feet between beds is an impracticable procedure in the services and even should increased spacing be found possible in peace time, it would be bound to break down on mobilisation, with probably disastrous effects. In the Navy at sea it is impossible to allow more than 22 inches between hammock hooks, which means that the sides of adjacent hammocks almost touch each other. I doubt, even if it were practicable, whether it would be advisable to give too much space in training establishments because it is here the raw recruit is transformed into a seasoned man by contact with, and adaptation to, the micro-organism he meets in his new environment. If, therefore, the boys under training were protected from all contact with infection, it would only mean that, when they went to sea they would succumb more easily to zymotic disease, and in this way the morbidity would be transferred from the training establishments to sea-going ships where infectious disease is still harder to treat and control. Under present conditions the incidence of diphtheria is often 50 times greater in the training establishment than at sea : one would scarcely care to see the relative morbidities reversed.

So far the discussion has been in rather a pessimistic vein, but nowadays there is a safe and efficient method of controlling diphtheria which suffers from none of the disadvantages of those which have just been criticised ; this is active-immunisation. We can put our confidence in this method because with it we only imitate a natural process. Perhaps imitate is the wrong word ; hasten the natural process would better express the truth. Under natural conditions in dense populations where diphtheria is rife the whole community is slowly acquiring immunity. At times not so slowly, because at Greenwich, during one period of about four months, over a third of the Schick positive reactors became immune Schick negative reactors without showing symptoms of diphtheria. Active immunisation against diphtheria has now progressed far beyond the experimental stage and has proved itself to be a certain method of eradicating symptomatic diphtheria, when employed on a large enough scale. One example will suffice to show what can be done. Sears[2] reports that in the American township of St. Auburn, diphtheria was epidemic and in 1920, the mortality was 48 deaths per 100,000 of the population. In 1921 anti-diphtheria inoculation was started ; by 1924, 85 per cent. of the children had been immunised, and during 1925 and 1926, and up to the date of the publication of this report there has not been a death from diphtheria in St. Auburn City.

The possessor of a negative Schick reaction is probably incapable of getting typical diphtheria ; and even if, in course of time, the reaction relapses to positive the subject is sensitised and remains immune to ordinary exposures to infection. Glenny's[3] work and (as yet unpublished) observations of my own indicate that certain Schick positive reactors possess a high resistance to symptomatic diphtheria.

Active immunisation against diphtheria produces a solid and lasting immunity, and therefore cannot be compared with anti-typhoid vaccination, which is only followed by a temporary and uncertain rise of the resistance to infection.

For some reason there seems to be a disinclination on the part of certain English authorities to encourage active immunisation for diphtheria. I was conscious of this atmosphere of doubt myself when Surgeon-Captain May, the school medical officer, proposed we should immunise the Greenwich boys. Therefore, though the work is still in progress, a few words about our experience with diphtheria prophylaxis may encourage others. Some authority recently said he thought that many British parents and guardians would object to their children being inoculated. At Greenwich the parents and guardians were circularised at a time when, as a result of the Australian disaster, the Schick test and diphtheria prophylaxis was the subject of much adverse criticism in the popular Press. Dr. May sent out 1,004 letters and only received seven refusals, which is a good demonstration that although a noisy minority may make it appear that there is great opposition to some public health measure, yet the average man in the street generally has enough common sense to leave these matters to the health authorities. However, those disasters which have occasionally been reported from abroad such as the tragic calamity in Australia where eleven children died after the administration

of toxin-antitoxin mixture, are admittedly disquieting. The cause of the disasters were almost undoubtedly due to the dissociation of toxin in improperly stored mixtures, or to an overdose of diphtheria toxin due to some error in the preparation of the prophylactic.* Also, since the older immunising preparations contain horse serum, the bogey of anaphylaxis has been raised, in the event of having to administer antitoxin to an inoculated individual. Such disasters and human anaphylactic stock (should it exist) can be rendered impossible by the use of a prophylactic containing neither toxin or horse serum. At Greenwich we used a prophylactic which contained toxoid only, and is probably just as good as, if not a better immuniser than, the older toxin-antitoxin mixtures.

The reactions following the injection of this prophylactic are negligible. In some twelve instances out of over 400 inoculations there was a local reaction about the size of half-a-crown, consisting of redness and slight œdema, and only three boys had a transient temperature of over 100 deg. F. No boys complained voluntarily of feeling ill. None of the few local reactions seen at Greenwich were severe as one normally expects to get after an injection of T.A.B. vaccine. These remarks apply to the age group 12-16 ; reactions might be more frequent and severe among adult sailors or soldiers.

The time which has to be expended in the actual technique of active immunisation is not excessive. For instance, a community of a 1,000 individuals, 400 of which had positive Schick reactions, would require about 4,000 injections ; this number includes all the Schick tests and their controls, and the re-tests and extra inoculations which may be required for refractory Schick positive reactors. With a good organisation, a team of two medical officers and three assistants, once they had mastered the drill, should be able to get through 150 intradermic, or immunising, injections per hour ; that is, 30 hours' work in all. This estimate is based on the time spent by Surgeon-Commander Parker and myself in giving the actual injections that would be required in ordinary routine preventive work.

*Reports of the Australian disaster have since come to hand and shew that the cause was sepsis from an infected bottle of prophylactic. This cannot happen in England where it is illegal to supply such products without the addition of an antiseptic.—S.F.D.

Financially, active immunisation is a sound investment. The cost of Schick toxin and diphtheria prophylactic material, if bought commercially, for a sample of 1,000 men with 40 per cent. positive reactors, would be about £60. Forbes[4] estimates that a case of diphtheria costs about £30. Therefore, if the morbidity from diphtheria in an institution is over 2 per 1,000 per annum the money spent in preventing it will be saved within a year. This calculation only applies to the services where no extra medical help, with the accompanying fees, is necessary.

At Greenwich School during the last seven years some 330 cases have been notified as diphtheria and sent to fever hospitals. If it had been possible (which it was not) to have immunised the school before 1920, an estimate based on the average number of Schick positive reactors which are found among the new entries, indicates that it would have cost about £20 a year to immunise them, and assuming, as I fully believe it would, that diphtheria would have been completely eradicated by this procedure, about £10,000 would have been saved the school at a cost of £150. I need say nothing about the serious ill-health and delay in education diphtheria causes, which it is expecially important to try and prevent in such establishments as Greenwich Royal Naval School, since it occurs at a time which seriously affects the boys' future careers.

It is, of course, too soon to expect any result from the immunisation at Greenwich, because the only serious disadvantage of anti-diphtheria inoculation is that solid Schick negative immunity generally takes three to nine months to develop. However, the rate at which the Schick reactions become negative in any environment depends on how far the natural process of auto-vaccination has proceeded. In Greenwich, owing to the large amount of diphtheria which had been present before immunisation had begun, it was anticipated that there would be a quicker reaction to active immunisation than was common amongst the general population. This anticipation has proved, so far, to be correct as about 70 per cent. of the positive Schick reactors changed to negative within six weeks of their first dose of prophylactic toxoid.

Though I think the absence of diphtheria this last term was due in the main to other causes, it is quite conceivable that the immunisation had some beneficient influence. Before I can explain why this may have been so, it

is essential to introduce the concept of herd immunity. Herd immunity is a phrase used to express the resistance of a community, or herd, as a whole to the spread of infection as distinct from the separate resistances of the members who make up the herd. The amount of disease in a community is a function of the herd immunity, the type of infecting parasite, and the character of the environment.

Although it may take months for a Schick positive reaction to become negative, yet positive reactors may acquire a high resistance to diphtheria long before the amount of diphtheria anti-toxin in their blood is sufficient to inhibit completely a positive Schick reaction. Therefore, at Greenwich the herd immunity to diphtheria started to rise gradually as soon as the first batch of positive Schick reactors received their first prophylactic inoculation.

The new boys at the school, who account for a large proportion of the diphtheria cases at Greenwich, are always segregated for three or four weeks before mixing with the old boys. Last term the new boys received their first dose during this period of segregation. Their herd immunity to diphtheria was therefore rising at the time they came in contact with the many virulent carriers already resident in the school. The susceptible old boys also got their first inoculation early in the term. As mentioned before, one case of symptomatic infection did occur early in the term, which implies that before immunisation was commenced there was some tendency, if only a slight one, to the spread of symptomatic diphtheria. Therefore, it is not inconceivable that any factors favourable to the spread of diphtheria were swamped by the rising tide of herd immunity.

A rough measure of the degree of herd immunity to diphtheria is the ratio of the negative to positive Schick reactors in a population. At the Royal Naval School during the term in question, this index of herd immunity increased from 2·5 to over 10. It is interesting to note that, although the conditions in this school were unfavourable for the spread of symptomatic infection with K.L.B., yet the environment was exceptionally suitable for the dissemination of symptomless infection with both the virulent and avirulent variety of the diphtheria bacillus, because between February and April, 1928, K.L.B. were found in the throat cultures from over 200 apparently healthy boys. However, a year or two must needs pass before it is certain that active immunisation will completely obliterate a diphtheria morbidity of 5 per cent. per annum. Although prophesy in things medical is about the easiest way of ruining a reputation, yet I feel confident that within six months diphtheria will have practically vanished from the Royal Naval School. Of course, a sporadic case or two may at times be seen among the new entries before they become immune, or in that exceptional type of Schick positive reactor who seems to resist all attempts to make his reaction negative.

Finally, I would like to mention a point which, though based largely on theory, may be of great practical importance. I think diphtheria incidence could be reduced to a negligible figure, and ultimately abolished altogether from an institution, by immunising the new comers only, and segregating them from the older inhabitants for a few weeks afterwards. The incidence of all infectious diseases falls most heavily on the recruits to a community who in turn cause an increase in symptomatic infection among more senior inhabitants. The confining of prophylactic inoculations to the new additions only, would avoid a large initial outlay in time and expenditure and might indirectly protect the whole community.

I must express my gratitude to Dr. R. A. O'Brien, of the Wellcome Research Laboratories, for supplying the prophylactic preparations used at Greenwich, and also for much valuable advice, and thank my colleagues, Surgeon-Captain P. May and Surgeon-Commander H. M. Parker, without whose enthusiastic co-operation the investigations at Greenwich could not have been done.

REFERENCES.

[1] McCartney, J. E. and Harvey, W. C. Trans. Royal Soc. Med., 1928. xxi., 845.
[2] Sears, F. W. Am. Jour. Dis. Child., 1926. xxxii., 718.
[3] Glenny, A. T. Jour. of Hyg., 1925. xxiv., 301.
[4] Forbes, J. G. Med. Res. Council Spec. Rep. Series 1927. 20.

THE Rt. Hon. Earl Fitzwilliam, K.C.V.O., C.B.E., D.S.O., has consented to act as President of the 40th Congress and Health Exhibition of the Royal Sanitary Institute, to be held at Sheffield from July 13th to 20th, 1929.

The Society.

Reports, Proceedings and Announcements.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on Friday, October 19th, 1928. Dr. E. H. Snell (Acting President) was in the chair and there were present Lieut.-Col. F. E. Fremantle, M.P., Profs. W. W. Jameson and H. Kerr, Drs. Lyster, Wilshaw, Fenton, E. Ward, Stirk, Puddicombe, Evans, Wood, Veitch Clark, Picken, Paterson, Jolly, Gibbons Ward, Linton, Tapper, Muir, Pearce, J. J. Buchan, Naylor Barlow and Lieut.-Col. G. S. Parkinson.

The minutes of the last meeting having been approved and signed, apologies for absence were received from Prof. A. Bostock Hill, Sir Humphry Rolleston, Drs. G. F. Buchan, Mussen, Porter, Eustace Hill, Brackenbury, Annis, Banks, Chalmers, and Stella Churchill.

Membership of Council. — The Acting President extended a welcome to Drs. R. M. F. Picken and F. T. H. Wood on their first attendance as members of Council. Notification was received from the Yorkshire Branch that Dr. W. Bertram Hill has been elected one of their representatives in place of Dr. Cyril Banks, who has resigned on leaving the county for his new appointment at Nottingham.

Superannuation.—Dr. Cates reported that in company with Dr. J. Fenton, he had conferred with representatives of the Sanitary Inspectors' Association, the Women Sanitary Inspectors' and Health Visitors' Association, and the College of Nursing, as directed by Council (September 28th) in reference to the Departmental Committee Report on the Superannuation of Local Government Employees. The views expressed by these representatives indicated that, as in the case of medical officers, the special claims of other health officials in regard to superannuation were not given adequate recognition in the Report. He (Dr. Cates) and his colleague Dr. Fenton were satisfied that all branches of the Public Health Service are less favourably placed in respect to Superannuation than other Local Government officials, and that the Report should not be allowed to pass without definite representations to the Ministry of Health. A sub-committee consisting of Dr. Fenton, Mr. Kershaw (Sanitary Inspectors' Association), Miss Sayle (W.S.I. & H.V.A.), and Miss Viney (College of Nursing) would meet on November 8th to adopt a report on the various circumstances affecting the superannuation of health officials, and the Council of the Society might then be asked to arrange for a deputation to submit the facts to the Ministry of Health.

Training of Midwives. — The Council authorised the committee appointed September 28th, 1928, to approve a draft of evidence based on the Special Report adopted in 1923 (PUBLIC HEALTH, September, 1923, p. 343), and on subsequent resolutions of the Council, for submission to the Departmental Committee on the Training and Supply of Midwives.

Conditions of Service of Health Visitors.— Resolutions were considered from the Home Counties Branch and from the Women Sanitary Inspectors' Association, asking the Society to support an application to the Ministry of Health for an inquiry into the salaries and terms of appointment of Health Visitors. The committee of officers of the Society reported that at the present time the shortage of trained candidates for such posts is operating to prevent the acceptance of inadequate salaries. It was agreed, therefore, that the law of supply and demand might be left for the time being to bring about a better level of remuneration for these posts and that representations to the Ministry should be deferred until conditions were more favourable for recommendations to Local Authorities in this connection.

Combined County and District Appointments.—A representation was received from the Non-County Group, as follows:—

> That this Group is strongly of the opinion that the type of appointment at present existing in some Counties where the Medical Officer of Health of a small Sanitary Authority holds an Assistantship under the County Council, is not in the best interests of the Public Health Service for the following reasons:—
>
> 1. There is no security of tenure.
> 2. That the character of the appointment is not such as would attract the best men.

After some discussion it was agreed that consideration of these combined appointments should be deferred until the re-adjustment of areas under the Local Government Reform Scheme indicated the future lines of health administration.

The Neech Prize.—The President, the Editor, Professor H. R. Kenwood and Dr. G. F. Buchan were elected assessors for the Neech Prize, 1927-28.

Report of the Hon. Editor.—Dr. Charles Porter, Editor of PUBLIC HEALTH, submitted the following report:—

The circumstances in connection with the editing of the journal do not appear to call for very much in the way of a report; so far as outstanding events were concerned, in fact, there was nothing. Every effort was made to ensure that the journal should be in the hands of readers at the earliest date possible after the end of each month, and except when Society and Council meetings were held late in a month, publication was not in general delayed. It may be that the wish is father to the thought, but the indications appear to be that with the steady growth in the recognition of the importance of the Society itself there is a growth in the importance attached to the official organ of the Society. The increase in the number of communications addressed to the Editor, and the fact that some of these are from readers overseas, rather suggest this. Largely it is because of this feeling that certain liberties have been taken so far as regards the number of pages per issue of the journal. For the session the contents occupied on an average 34 pages, the smallest number being 32 and the largest 48. The total number for the session was 408, as against 368 and 404 in the two preceding years. Speaking generally, the quality of the contributions was high, some indeed being so outstandingly important as to attract attention even outside the circle of the Fellowship of the Society. As regards numbers of contributions, there was again no falling off, and it was largely in order to make provision for these that the size of the journal was increased from time to time. My thanks as Editor are due not only to those who contributed papers but also to the many who, by providing other writings, not only lightened my labours but added to the prestige which by rights the official organ of so important a Society as ours should possess.

It was agreed that Dr. Porter be cordially thanked for his report, and for his editorial services.

Report of the Hon. Treasurer.—Dr. Cates, in submitting the Reserve Account and Balance Sheet for the year ended September 30th, 1928, said his statement would be regarded as the most satisfactory he had been able to make during his term of office as Hon. Treasurer. The actual excess of income over expenditure, *viz.*, £523 17s. 11d., would enable them at last to create a reserve account against the depreciation of their investments consequent on the War. He had, therefore, allocated a sum of £250 for that purpose. The Council would realise that although the year's accounts showed a substantial margin, any increased expenditure should not be encouraged until the debt of £1,623 still remaining on the Society's loan had been paid off. In four years the debt had been reduced by over £600, and given prompt payment of subscriptions it should be possible from this time forward to reduce considerably the charges in connection with the fluctuating overdraft at the Bank. In conclusion Dr. Cates said that cautious expenditure during the next few years would enable the Society to face with confidence the problem of finding a new home when it became necessary to vacate the present headquarters.

Acknowledging thanks expressed for his report, Dr. Cates promised to convey to his successor (Dr. G. F. Buchan) various suggestions offered by members of Council. These included the proposal that the Society's Brokers should be asked to report on any advisable exchange of investments, and that in future years the Balance Sheet and Revenue Account should show the comparable figures in relation to the previous year. It was also agreed that the usual payment for use of the Society's house should be required of any organisation other than a Group of the Society.

The Wheatley Memorial.—On behalf of the North-Western Branch, Dr. Wood asked if arrangements could be made so that some feature of the Wheatley Memorial at Shrewsbury could be definitely associated with the Public Health Service, otherwise members of the Society would feel little interested in a purely local commemoration of a distinguished colleague. The Executive Secretary explained that there was a general understanding that the Council should give no official recognition to memorial funds, as the selection of those deserving special commemoration might sometimes give rise to differences of opinion. In the present case those who were organising the Wheatley Memorial were anxious to give members of the Society the opportunity of sharing in the Shrewsbury scheme and he was authorised to say that some definite feature of the memorial should be inscribed as the gift of the Public Health Service. It was agreed that an announcement to this effect should be published in PUBLIC HEALTH and the professional journals for the information of those who would wish to support the scheme.

The Acting President.—The meeting closed with a cordial vote of thanks to Dr. E. H. Snell for his services as chairman of Council during the illness of Dr. Wheatley, and afterwards as Acting President of the Society.

ANNUAL GENERAL MEETING.

The annual general meeting was held at the house of the Society on Friday, October 19th, 1928. Dr. E. H. Snell (Acting President) was in the chair and there was a large attendance.

Apologies for absence and greetings to the President-Elect were received from Dr. Eustace Hill, Dr. E. H. T. Nash, Dr. Charles Porter, Dr. H. B. Brackenbury, Prof. A. Bostock Hill, Sir Humphry Rolleston, Dr. A. A. Mussen, Dr. G. F. Buchan, Dr. E. G. Annis, Dr. Cyril Banks, Dr. A. K. Chalmers, and Dr. Stella Churchill.

The minutes of the last annual general meeting having been approved and signed, Dr. Snell reported that the Council had unanimously nominated Dr. John Howard-Jones for election as President of the Society for the Session 1928-29. The nomination having been accepted by the meeting by acclamation, Dr. Snell invested Dr. Howard-Jones with the badge of office and installed him in the presidential chair.

Dr. Howard-Jones briefly acknowledged the great honour that had been done him by his colleagues, and expressed himself as deeply touched that his life work had been considered worthy of such recognition by the Public Health Service.

On the proposal of Dr. Charles Sanders, seconded by Prof. H. R. Kenwood, the grateful thanks of the Society were accorded to Dr. E. H. Snell for his presidential services during the illness of Dr. James Wheatley and afterwards for the remainder of the Session.

The annual reports of the Council, the Hon. Editor and the Treasurer (on Proceedings of Council, PUBLIC HEALTH, October and November, 1928) were received and adopted. The President expressed the thanks of the Society to Dr. Charles Porter for his editorial services, and to Dr. Joseph Cates for his successful management of the finances of the Society during the past three years.

Mr. J. T. Harris was re-elected Auditor of the Society for the session 1928-29.

The following candidates having been duly nominated were elected to the Society:—

As Fellows.—Agnew, Alex. Percy, M.B., C.M. (Glasg.); Beatson, Basil Fraser, Major I.M.S. (retd.), M.R.C.S., L.R.C.P., D.P.H., D.T.M.; Boston, Ralph Burn, M.B., Ch.B. (Ed.), F.R.C.S. (Ed.), D.P.H.; Chadwick, Norman Ellis, M.B., Ch.B. (Cantab.), M.R.C.S., L.R.C.P., D.P.H.; Channon, (Mrs.) Hilda Alice, M.B., B.S. (Lond.), M.R.C.S., L.R.C.P., D.P.H.; Cotton, Gwendolen Coode, M.D., B.S. (Lond.), M.R.C.S., L.R.C.P.; Crawford, Angel Valentine Brown, M.B., B.Ch., B.A.O., T.C.D., D.P.H.; Donovan, William Terence, M.B., Ch.B. (Liv.), D.P.H.; Elliott, George Maxwell, M.B., Ch.B. (Ed.), D.P.H.; Fanning, James, M.D., B.S. (Lond.), M.R.C.S., L.R.C.P., D.P.H.; Griffin, Austin Jewkes Barlow, M.B., Ch.B. (Liv.), D.P.H.; Heynemann, (Mrs.) Dorothy Wilhelmine, M.B., Ch.B. (Ed.); Hughes, Audrey Margaret, M.B., B.S. (Lond.), M.R.C.S., L.R.C.P., D.P.H.; Hughes, Marguerite Guidlestone, M.B., Ch.B. (Bristol); Kehelly, Jeremiah, M.B., B.Ch., B.A.O., N.U.I.; Lane-Roberts, Cedric Sydney, M.S. (Lond.), F.R.C.S.; McLintock, Grace, M.B., Ch.B. (Glasg.), D.P.H.; McWalter, Doris, M.B., Ch.B. (Glasg.); Mitchell, Marjorie Hall, M.B., Ch.B. (Glasg.), D.P.H.; Morris, Ethel Winifred, M.R.C.S., L.R.C.P., D.P.H.; Munsiff, Jamshyd Dadabhai, F.R.C.S. (Ed.), M.R.C.P. (Ed.), D.P.H.; O'Gruagain, Padraig Seamus (Grogan, Patrick J.), M.B., B.Ch., B.A.O., N.U.I., D.P.H.; Reid, Edward Neil, M.A., M.B., B.Ch., B.Sc. (St. And.), D.P.H.; Reinhardt-Goodwin, Cecil Goodwin, M.R.C.S., L.R.C.P.; Richardson, David Turnbull, M.C., Major R.A.M.C., M.B., Ch.B. (Ed.), D.P.H.; Southey, William George, M.B., B.S. (Melb.), D.P.H. (Oxon); Stephenson, Edward Francis, F.R.C.S. (I.), L.R.C.P. (I.), D.P.H.; Taylor, Martin Bramley, M.R.C.S., L.R.C.P.; Ward, Marguerite, M.B., Ch.B. (Leeds).

As Associates.—Meredith, Charles Aubrey Lake, M.R.C.S., L.R.C.P., L.D.S.; O'Brien, Frederick, M.Sc., F.I.C.; Thom. Marion Murray, L.D.S., R.F.P.S. (Glasg.); Thomas, Edward Davies, M.R.C.S., L.R.C.P., L.D.S.

A number of nominations were read and received for the November election.

On behalf of the Midland Branch Dr. R. H. H. Jolly presented a portrait of Dr. E. H. Snell to be hung with those of other Past-Presidents in the Council Room of the Society. The President gratefully accepted a gift which would serve to remind succeeding generations of the great services rendered to the Society by Dr. Snell. Dr. Howard-Jones then delivered his Presidential Address (published in this issue) on "The Rôle of the General Practitioner and Specialist in Preventive Medicine."

A hearty vote of thanks was accorded to the President for his Address on the proposal of Lieut.-Col. F. E. Fremantle, M.P., seconded by Prof. W. W. Jameson.

The meeting then adjourned.

ANNUAL REPRESENTATIVE MEETING OF THE BRITISH MEDICAL ASSOCIATION.

REPORT BY THE REPRESENTATIVES OF THE PUBLIC HEALTH SERVICE.

The meeting at Cardiff from July 20th to 24th, 1928, was not outstandingly noteworthy from the public health point of view; a full report has already appeared in the *British Medical Journal*, and, as regards matters of

interest to this Society, in *The Medical Officer,* of August 4th, 11th and 18th.

Attendance at this meeting is most educative in that the attitude of the medical profession as a whole towards our branch can be so accurately assessed, and nothing is more striking than the development of a more informed opinion upon preventive medicine and its practitioners. There is still, of course, the extremist who clings desperately to his vested interest in disease, but his voice becomes each year less penetrating and raucous, and the increasing confidence is indicated by the larger number of divisions each year that select a public health officer as their representative. The favourable influence of those general practitioners who have been personally and officially associated with us through membership of our Council or of our Branch Councils is particularly evident.

Of special importance to us was the agreement to extend the time limit for the compromise salary scale in Scotland to a further five years, a step which, while by no means meeting our views in England, is undoubtedly exceedingly popular with our Scottish colleagues, who, as has subsequently been learnt through meeting many of them at a Scottish Conference, support the step with no uncertain voice, and have been brought nearer to us in sympathy thereby; and they are now talking freely of the ultimate adoption of the English scale in Scotland. At the same time, however, it should be noted that the English scale was applied to Northern Ireland.

A strong objection was sustained to the appointment of pupil assistants to medical officers of health with functions ordinarily assigned to paid assistants. The opposition that emanated from the neighbourhood of London to whole-time combined appointments of medical officer of health, poor law medical officer and public vaccinator resolved itself into a very much more moderate objection, more particularly to domiciliary treatment, and even that was conceded under certain circumstances.

Maternal morbidity and mortality were dealt with at considerable length, the recommendations in the report of the Special Committee of the British Medical Association Council being confirmed. These lay particular stress upon the importance of antenatal attention to the mothers, and include the proposal that a condition of payment of maternity benefit under the Insurance Act should be that the mother had had at least one ante-natal examination. Another resolution suggesting that the Midwives Act schedule of fees to doctors, for assistance at the behest of midwives, be supplemented by a fee for ante-natal attendance was withdrawn.

The inexperience of many persons carrying out treatment by radiation and electricity was also considered, and a resolution recommending their proper training was passed.

The establishment of paying centres for infant hygiene created exceedingly lively discussion, there being undoubtedly very strong feeling against it, and an amendment objecting to the principle entirely was put to the meeting and carried by a large majority.

The Venereal Disease Medical Officer of Edinburgh endeavoured to obtain support for the principle rejected by Parliament in the recent Edinburgh Bill, by which it was sought to strengthen the voluntary system by imposing compulsory treatment upon all persons affected with venereal disease. Chiefly in the belief that compulsion would drive the disease underground, his resolution was lost.

Many other matters of lesser importance were dealt with, reference to which appears in the official report, but only two others call for mention here. The first is that tuberculosis medical officers of districts who are not subject to detailed supervision by a chief tuberculosis medical officer shall rank for salary as officers in charge of departments; and the second is the continued opposition by the B.M.A. to any attempt, by the Ministry of Health or otherwise, to subjugate the work of a medical officer of health to the control of a town clerk.

At the general meeting afterwards, Sir Ewen Maclean, in his Presidential Address, paid a graceful compliment to preventive medicine, which he described as the most important side of medical practice.

The Sections of Public Health and Preventive Medicine were well attended throughout, and had most attractive and interesting programmes. It is unfortunate that these are not supported much more strongly by the members of the public health service, since their audiences draw thinking men from every department of medicine and from all parts of the world, which results in a stimulating freshness of debate.

The organisation and arrangements of the meeting were very thorough and perfect, and the kindness and hospitality shown to visitors on every side was almost embarrassing.

In conclusion we would express to you our appreciation of the honour done us by our selection to represent the Public Health Service, and of the opportunity afforded by such meetings as this to improve the relations between the two great sections of curative and preventive medicine by increasing their knowledge of and sympathy with each other's aims. These sentiments were conveyed, and were obviously appreciated, in remarks made by one of us when thanking the Association for its assistance and support, notably in connection with the salaries scale.

T. EUSTACE HILL.
HAROLD KERR.
R. M. F. PICKEN.
ERNEST WARD.

THE METROPOLITAN BRANCH.

President: Dr. J. B. Howell, M.O.H., Hammersmith.
Hon. Secretary: Dr. James Fenton, M.O.H., Kensington.

The monthly meeting of the Council of this Branch was held at the house of the Society on October 12th, 1928, the President occupying the chair.

The minutes of the last meeting were read, confirmed and duly signed by the chairman.

Dr. E. G. Annis and Dr. A. Middleton Hewat were re-appointed to act as Honorary Auditors to the Branch.

Consideration was given to a manifesto, prepared by Editorial Services, Limited, which it is proposed to issue to the medical press and, at a later date, to the lay press, urging upon the appropriate Government departments the desirability of encouraging the manufacture and use of smokeless fuel. The Council of the Branch decided that certain alterations in the wording of the document were desirable and authorised the President and the Hon. Secretary to sign the manifesto in its amended form.

The Council had before them a communication from the London Coke Committee calling attention to the smokeless fuel produced by the London Gas Companies by means of the process of high temperature carbonisation. Dr. A. G. G. Thompson stated that fuel of this type had recently been burned in open grates in his home and appeared to provide a very satisfactory fire. He agreed to the suggestion that he might submit a report upon this matter at a later date.

The Hon. Secretary presented a communication from the Amalgamated Anthracite Collieries, Limited, calling attention to the advantages of anthracite as a smokeless domestic fuel, and suggesting that the Council of the Branch might care to see a demonstration of the merits of anthracite as burned in open or semi-closed fires. The Council agreed with this suggestion and directed the Hon. Secretary to make arrangements for the demonstration to take place during the month of November.

The Council had before them a letter from a large firm of retail grocers and provision merchants, stating that exception has been taken by manufacturers to that firm's practice of surrendering unsound tinned food, and calling attention to the market which exists for the disposal of such goods which, whilst having the appearance of being "blown," may not actually be unfit for human consumption. The Hon. Secretary was directed to communicate to the firm the strong opinion of the Council of the Branch that borough medical officers of health are justified in accepting the surrender of these goods and that in no circumstances should the officers permit the return of such articles to the wholesalers. It was further agreed that the firm should be invited to convey the opinion of the Branch Council in this matter to the Grocers' Federation.

Consideration was given to a letter from the Metropolitan Boroughs' Standing Joint Committee, inviting the observations of the Branch upon the request of the Holborn borough council that the Standing Joint Committee should consider the desirability of acute rheumatism in children under the age of sixteen years being made a notifiable disease throughout London, and of rheumatism supervisory centres being established by the metropolitan borough councils. The Hon. Secretary reported that acute rheumatism in children under the age of sixteen years became notifiable in Kensington on October 1st, 1927, when a rheumatism supervisory centre was established by the borough council. Dr. Fenton gave an outline of the work which has been carried out in Kensington during the past twelve months and stated that he was

awaiting the first annual report of the rheumatism physician. It was suggested that this matter should be adjourned until the next meeting of the Council of the Branch, when the Hon. Secretary would be in a position to report fully upon the experience gained from the first year's working of the Kensington borough council's scheme; it was also proposed that Dr. Hewat and Dr. Joe might report upon the facilities provided by the county council and the Metropolitan Asylums Board respectively for the treatment of this condition. The Council adopted these proposals and decided to inform the Metropolitan Boroughs' Standing Joint Committee that this matter has been adjourned in order that the Branch Council might be in a position to submit a considered opinion upon the various aspects of the problem.

The Hon. Secretary reported that no further meeting of the Branch's Maternal Mortality Sub-Committee had been held. He presented for the information of the Council of the Branch the first three reports upon maternal deaths furnished by the Kensington Investigation Officer (Dr. Remington Hobbs). Several members present stated that they had not so far secured reports of this kind as they were awaiting the issue of the enquiry forms which are to be drafted by the Ministry of Health Maternal Mortality Committee. The Hon. Secretary drew attention to a statement made by Dame Janet Campbell that the submission of reports by medical officers of health would be of great assistance to the Committee of the Ministry in drafting the final enquiry form. It was, therefore, agreed that the metropolitan borough medical officers of health should put into immediate operation the practice of securing medical reports upon deaths associated with pregnancy and submit these reports to the Branch's Sub-Committee in the manner described in the report of that Sub-Committee, dated July 10th, 1928. The Hon. Secretary was directed to bring this decision to the notice of every metropolitan borough medical officer of health and to forward to each, for information, a copy of the form prepared for use in Kensington.

The attention of the Council of the Branch was drawn to the fund which has been instituted with a view to the building of an open-air bath at Shrewsbury as a memorial to the late Dr. Wheatley. It was agreed that a donation of £5 be made by the Branch to the fund.

THE HOME COUNTIES BRANCH.

President: Dr. F. T. C. Linton, M.O.H. Tunbridge Wells.
Hon. Secretary: Dr. W. A. Muir, M.O.H., Gillingham.

The first meeting of the 1928-29 session of this Branch was held at the house of the Society on October 5th, 1928. Dr. H. J. Milligan occupied the chair.

Apologies for absence were received from Drs. Paterson, Bostock Hill, Sanders, Greenwood, Porter, Glegg, Watts, Holroyde and Nash.

The Chairman called upon Dr. F. T. C. Linton to assume the Presidency of the Branch for the session, and Dr. McMaster proposed a vote of thanks to Dr. Milligan for his services as President during the preceding session, which was carried unanimously.

The minutes of the previous meeting were read, approved and signed.

The Hon. Secretary read letters from Mrs. Gilmour, widow of Dr. Gilmour, Wimbledon, and Mrs. Lawrence, widow of Dr. Lawrence, Edmonton, thanking the Branch for their expressions of sympathy.

Dr. A. Greenwood, County M.O.H., Kent, and Dr. A. B. McMaster, M.O.H., Dover, were re-appointed representatives on the Kent Branch Council of the British Medical Association.

Dr. Linton, having thanked the members for the honour conferred upon him, delivered his Presidential Address on "Climate." He dealt with differences of climate in many parts of the British Isles as shewn by meteorological data collected over the period 1880-1915. He stated that Braemar had recorded the lowest temperature (—17° F.) and Tonbridge the highest (100° F.). Figures given demonstrated that as regards hours of sunshine, coast stations were much more favoured than inland resorts. Guernsey had 1,900 hours bright sunshine as its average. Worthing came first on the mainland with 1,857 hours, followed by Hastings (1,790) and Torquay (1,785). The question of rainfall and the effect of variations of temperature on different pathological conditions were interestingly treated and suggestions made as to the districts most likely to benefit sufferers from heart disease, catarrh, etc. The President concluded his address by giving details of the effects of a cloudburst at Tunbridge Wells in 1921.

On the motion of Dr. Williams, seconded by Dr Donaldson, the President was heartily thanked for his address.

The Hon. Secretary having outlined the proposed programme for the ensuing session, obtained suggestions from the members present.

After a general discussion on the Ministry's Byelaws drawn up under the Nursing Homes (Registration) Act, 1927, the meeting terminated.

THE WEST OF ENGLAND BRANCH.

President: Dr. J. F. Blackett, M.O.H., Bath.
Hon. Secretary: Dr. P. H. Stirk, M.O.H., Exeter.

A meeting of this Branch was held at Bath on October 5th, 1928.

Present:—Drs. J. Allen, J. F. Blackett, L. Crossley, T. Rhind, C. E. Tangye, E. Ward, A. H. Wilson, and the Hon. Secretary.

Apologies for non-attendance were received from Drs. Savage, Middleton-Martin, Macfie and Acheson.

The minutes of the last meeting having been confirmed and signed, Dr. Allen (Taunton), the retiring President, asked Dr. Blackett to take the Chair.

On the proposal of Dr. Blackett, a vote of thanks was accorded to the retiring President for the interest he had taken in the work of the Branch, and also for the able way in which he had presided at the meetings.

Dr. Tangye and Dr. Crossley were re-appointed to audit the balance sheet. Reference was made to the Wheatley Testimonial, and the Hon. Secretary was instructed to ascertain before the next meeting what other branches were doing in the matter.

It was decided to hold the next meeting of the Branch on a Friday in January at Bristol, and, if possible, to include a visit to the cold storage premises. It was left to the Hon. Secretary to communicate with Dr. Askins, of Bristol, and endeavour to make the necessary arrangements.

The following meeting would be held on a Friday in March at Yeovil if possible; and in June a tuberculosis meeting would, it was hoped, take place at Winsley Sanatorium.

Dr. Blackett delivered his Presidential Address on "The Bath Housing Schemes," in the course of which he dealt in an interesting way with schemes both completed and proposed. The President also referred to the method of letting the houses (on which the Medical Officer of Health had been consulted), and to the vast improvement in those children transferred to improved housing accommodation.

The City Engineer, Mr. Sissons, showed plans of the various schemes already completed and of blocks of flats which it is proposed to erect in a position more central than those occupied by the completed schemes.

Subsequently, a visit was paid to the sites of the various housing schemes, where the lay-out and individual houses were inspected.

The members were loud in their appreciation of the arrangements made in connection with the visit, and on the return to Bath, Dr. Blackett entertained those present at tea.

Dr. Ward proposed a hearty vote of thanks to Dr. Blackett for his kind hospitality, and expressed regret that not more members had been able to avail themselves of the opportunity of being present. The motion was seconded by Dr. Tangye and carried by acclamation.

THE MIDLAND BRANCH.

President: Dr. R. H. H. Jolly, M.O.H., Wolverhampton.
Hon. Secretary: Dr. B. C. Haller, Asst. M.O.H., Wolverhampton.

The first meeting of the Session was held at the Medical Institute, 154, Great Charles Street, Birmingham, on October 11th, 1928.

Present: Drs. Goldie, Jolly, Davison, Clendinnen, Cowie, Snell, Gibbons Ward, Anderson, McKeggie, Horsburgh, Blaker, Symons, Carruthers, Dudley, Potts, Haller, Sharpley, Parker, Mitchell, Cassie and Newsholme.

Apologies for unavoidable absence were received from Drs. Bostock Hill, Auden, Hamilton Wood, Clark, Waddell, Badger, Killick Millard, Bracey and Sir John Robertson.

The induction of Dr. R. H. H. Jolly as President was performed by Dr. Goldie. A vote of thanks to the retiring President was proposed by Dr. Snell, seconded by Dr. Gibbons Ward, and carried unanimously.

The minutes of the last meeting, which had been published in PUBLIC HEALTH, were taken as read and signed.

Dr. Jolly delivered his Presidential Address, entitled "The Local Authority and its Public Health Officers," during the course of which he outlined a method of selection of officers for the Public Health Service and arrangements for promotion in it.

A hearty vote of thanks was accorded to the President for his Address, which Dr. Jolly acknowledged in suitable terms.

It was proposed by Dr. Symons and seconded by Dr. Horsburgh that the members of the Branch should be afforded an opportunity of subscribing to the Wheatley Memorial. The resolution being adopted the Hon. Secretary was instructed to open forthwith a subscription list among the members present and circularise the others.

THE NORTHERN BRANCH.

President: Dr. J. Bannerman, M.O.H., Weardale R.D.
Hon. Secretary: Prof. Harold Kerr, O.B.E., M.O.H., Newcastle-upon-Tyne.

The annual meeting of this Branch was held in the Medical Institute, 7, Windsor Terrace, Newcastle-upon-Tyne, on October 12th, 1928, Dr. R. Macleod occupying the Chair. Twenty-six members were present.

Apologies for absence were received from Dr. E. H. Snell (Acting President of the Society), Drs. C. G. R. Goodwin, Jas. Hudson, G. McCoull, G. C. M. M'Gonigle, and Jas. W. Smith.

The minutes of the last annual meeting were taken as read.

The minutes of the summer meeting (June 22nd, 1928) having been published in PUBLIC HEALTH were taken as read, confirmed and signed by the Chairman.

The Hon. Secretary reported that Mrs. Rankine had sent a letter thanking the Branch for its message of sympathy.

A letter was read from the Hon. Secretary of the Northern Centre of the Sanitary Inspectors' Association stating that his Association would like to discuss with the Branch the question of carrying out health propaganda work at the North-East Coast Exhibition which is to be held in Newcastle-upon-Tyne next year. On the motion of Dr. T. Eustace Hill, duly seconded, it was resolved that the matter be referred to the Branch Council with power to act.

It was unanimously agreed that Dr. W. J. Fordham be elected an Honorary Member of the Branch.

The retiring President (Dr. Macleod), before vacating the chair, thanked the members for their kind consideration during his two years of office, which had been to him a happy time. It was with great pleasure that he asked his old friend Dr. Bannerman to take the chair.

Dr. Bannerman then took the chair and thanked the members for the honour they had conferred upon him. Dr. Bannerman paid tribute to the able manner in which Dr. Macleod had carried out the presidential duties.

The annual report of the Council was read and approved.

The following were elected as members of Council:—Drs. J. A. Charles, W. H. Dickinson, A. S. Hebblethwaite, T. Eustace Hill, Jas. A. Hislop, Mary E. Howie, R. Macleod, J. W. Howard Morrison, Jas. W. Smith, A. F. G. Spinks, Alice M. Stenhouse, S. K. Young and, *ex-officio*, the President (Dr. James Bannerman), the Vice-President (Dr. G. C. M. M'Gonigle), and Hon. Secretary (Prof. Harold Kerr).

The arrangements for the next meeting of the Branch and for the Annual Dinner were left in the hands of the President and Hon. Secretary.

The members were informed that Dr. Christina Barrowman had offered to give a paper on ultra-voilet treatment, and this was accepted. The Hon. Secretary was instructed to convey the thanks of the Branch to her, and also to make the necessary arrangements.

The President gave a hearty welcome to Dr. S. J. Clegg who had returned to England after serving five years in Durban as Medical Officer of Health.

Dr. James Bannerman delivered his Presidential Address on "Some Experiences and Impressions of a Rural Medical Officer of Health," and invited discussion, in which the following took part:—Drs. Mason, Hill, Charles and Macleod. The President was heartily thanked for a most interesting and practical communication, which will be published in PUBLIC HEALTH in due course.

THE SOUTHERN BRANCH.

President: Dr. Percy Moxey, Chief Clinical T.O., Southampton.
Hon. Secretary: Dr. H. D. Kelf, Assist. M.O.H., Hants. County Council.

The first meeting of this Branch for the session 1928-29 was held at Southampton on October 5th, 1928.

The retiring President (Dr. R. H. Lyster) occupied the chair and there were present: Dr. Percy Moxey (President elect), Drs. N. D. Dunscombe, H. D. Kelf, Lockhart, Livingstone, B. L. Lloyd, H. C. Maurice-Williams, W. Simpson, T. S. Stirling, G. Tate, and Messrs. J. S. Roberts and E. J. Taylor (Dental Officers).

The minutes of the last meeting having been read, approved and signed, messages of apology for absence were read from Drs. A. E. Druitt, H. Gordon Smith and W. A. Bruce Young.

Correspondence and sketch were submitted by the Hon. Secretary with reference to a badge to be worn on ceremonial occasions by the Presidents of Branches during their year of office. It was resolved to join with other Branches in ordering the badge for this Branch.

The Hon. Treasurer (Dr. Lyster) submitted the balance sheet for the year 1927-28. It was resolved that the balance sheet be adopted and entered upon the minutes together with a hearty vote of thanks to the Hon. Treasurer who had so satisfactorily carried out the duties of this office for many years.

Dr. W. Simpson gave a few notes on a case of a schoolboy with multiple exostoses and the coincidence of finding a similar case in a cousin of this boy in a neighbouring village.

Dr. Lyster introduced Dr. Percy Moxey, the new President, to the chair, and Dr. Moxey, in a suitable reply, proposed a vote of thanks to the retiring President.

Dr. Moxey delivered his Presidential Address on "The Health Services," dealing first with the position, pay and prospects of public health officers compared with the medical staff serving in the Army and Navy. Dr. Moxey then dealt with the organisation of public health, which he considered should be directly under the control of the Minister of Health and not subject to local government and influence. He criticised generally the present position of housing, overcrowding, refuse disposal problems, the health of seamen, health propaganda, mentally deficiency work and tuberculosis schemes.

The paper evoked much discussion, in which most of the members joined, and at the conclusion a hearty vote of thanks was accorded to Dr. Moxey for his address.

THE TUBERCULOSIS GROUP.

President: Dr. Harold Vallow, Senior T.O., Bradford.
Hon. Secretary: Dr. Ernest Ward, T.O., South Devon.

The annual general meeting of this Group was held at the house of the Society on October 16th, 1928.

(1) The minutes of the last meeting were read and approved.

(2) The Council Representative reported the chief events of the preceding session:—

(a) After negotiations with the British Medical Association the new salaries scale had been turned down for the present.

(b) The Group's memorandum on the Prevention of Tuberculosis in Children had been passed by the Council of the Society with slight amendment and forwarded to the Ministry of Health and the medical journals.

(c) The utility and scope of the Central Council for Health Education were increasing. *Better Health* had reached a circulation of 120,000.

(d) The Group's memorandum on the Notification of Tuberculosis was still under consideration by the Joint Tuberculosis Council.

(e) He had attended some useful meetings of the Central Council for the Care of Cripples.

(3) Dr. Vallow delivered his Presidential address on "Suggestions for the Improvement of the Tuberculosis Service." In the discussion which followed the importance of hospital beds being placed at the disposal of tuberculosis officers was emphasised. The question of artificial pneumothorax and light treatment at dispensaries, tuberculosis in children, and Memo. 37 T were also discussed. It was decided that the address be submitted for publication in PUBLIC HEALTH, and that a memorandum on the subject be prepared for the consideration of the Group Committee.

(4) A meeting of the Group Committee was arranged for Friday, December 21st, 1928, at 10.45 a.m.

The Literature of Preventive Medicine.

THE HUMAN FACTOR IN INDUSTRY. By E. P. CATHCART, C.B.E., M.D., F.R.S., Gardiner Professor of Chemical Physiology, University of Glasgow. London: Humphrey Milford, Oxford University Press, 1928. Price 5s. net.

It was an excellent and a wise idea of the Director of the Department of Engineering of Glasgow University to invite the Professor of Chemical Physiology (Professor Cathcart) in the same university to deliver a series of lectures on the Human Factor in Industry to the students in his department. It was something more and better than a good idea on the part of Professor Cathcart to make these lectures the basis of this delightfully written and informative little book. Running to just over a hundred pages it combines a vast amount of thought, insight and humanity in its five chapters on physiology, fatigue and monotony, alleviation of fatigue, environmental factors, and industrial personnel. The appendix, which contains a note on "the living wage," though it offers no solution of the problem, helps because it expresses clearly that view on the subject by which many members of the health service must have been tormented for long and that only a few have very definitely uttered. Professor Cathcart's little volume is one to read and to have, and its usefulness is greatly increased because the author has taken the trouble to provide a very full bibliography.

A HANDBOOK ON VENEREAL DISEASES. By W. TURNER WARWICK, F.R.C.S., Assistant Surgeon and Medical Officer in Charge of Male Gonorrhœa Department, Middlesex Hospital. London: Faber and Gwyer, Ltd., 1928. Illustrated. pp. 221. Price 6s. net.

Primarily intended for nurses and written in a simple style, this little book will be found useful as an introduction to the study of the subject by medical students. Even to general practitioners it may prove convenient for reference and helpful on account of the conciseness with which the details of methods of treatment and procedure are set forth. It is attractive and accurate and will be liked by those for whom it is intended. To these it may be recommended without hesitation, and to the others mentioned it may be named as a volume well worth having.

In the Annual Reports.

DUCK EGGS AND B. AERTRYCKE.—An outbreak of food poisoning occurred in August, 1927. A supper party of 12 persons partook of a meal after which they were all seized with violent gastro-intestinal disturbance. Specimens of the suspected food, of the vomit, of the stools, and of the blood were sent for investigation. The food poisoning organism, Bacillus Aertrycke, was isolated and it is interesting to report that the probable source of infection was in duck eggs used in the preparation of a custard. No deaths were reported though all the patients were critically ill for one week.—*Dr. G. A. Dawson, Darlington.*

THE PREVENTION OF HERNIA.—In view of the serious inconvenience and, at times, death arising from "rupture," preventive measures should be taken. I have asked Mr. McAdam Eccles, M.S., F.R.C.S., kindly to lend his authority to a statement on the matter. He writes:—"Hernia, which is commonly called 'rupture,' is far more common than is usually recognised, and it is certain that some information upon its prevention is not out of place. It must be understood that the term 'rupture' has led to an entirely erroneous idea as to the causation of the condition. There is never a tearing or breaking of parts in its oncoming. A hernia consists of a pouch of the lining membrane of the 'stomach' (abdominal) wall, and this pouch is very usually born with the person, and a large number of persons of both sexes have this pouch on one or both sides and are quite unaware that it exists. But in addition for a hernia to be actually present, this pouch must receive some of the contents of the 'stomach' (abdominal organs), such as bowel coming down into it. This descent is due to a large number of causes, some of which are preventable. Among these coughing, sneezing, and straining at stool, acts frequently repeated, are common reasons for descent of bowel or omentum. Repeated strains at work may produce similar results, but a single strain cannot produce a pouch or the descent of intestine into a hernial pouch, unless the pouch ('sac') was present at birth. In connection with the prevention of hernia, constipation, and its associated straining at the closet, is of great importance. The ordinary closet, particularly that encased in wood, is often so high that the person using it sits with the abdominal apertures entirely unsupported by the thighs, and hence there is a great tendency for any straining in this position to lead to the gradual formation of a hernia. A lower seat to the closet, or a fixing of a step in front of the seat on which the feet can rest and the knees be raised, is definitely of considerable value in the prevention of hernia from this cause."—*Dr. C. W. Hutt, Holborn.*

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Editorial.

The Health of the Nation.

FEW who take the trouble to read this report* will disagree with the description of our public health system, so slowly and laboriously built up, as the most complete and comprehensive system of communal hygiene in the world.

It is, of course, impossible to give more than a brief survey of the report. It may be noted, however, that the death-rate for 1927 was slightly higher, 30,000 more persons dying than in 1926, mainly due to influenza, circulatory and respiratory disease.

The effects of sickness and invalidity as shown by the sums expended in sickness and disablement benefits by approved societies in England and Wales during 1927, and the estimated total number of weeks' sickness represented by the payments, give food for reflection and afford justification for the efforts now being made jointly by the Society and the National Association of Insurance Committees to provide for the spread of health knowledge amongst the insured industrial population.

The progress towards the provision of facilities for the prophylactic treatment of diphtheria is referred to at some length in the Report. It is somewhat remarkable to find that outside London and its environs little attempt has been made by local authorities

* ON THE STATE OF THE PUBLIC HEALTH. Annual Report of the Chief Medical Officer of the Ministry of Health for the year 1927. London: H.M. Stationery Office, 1928. pp. 271. Price 2s. 6d. net.

to provide facilities in their districts for this powerful prophylactic agent for the protection of child life against a dangerous disease. As Sir George Newman justly states: " No local authority responsible for the health of children should be satisfied that it has done its duty until every parent knows that his children can be inoculated against diphtheria with safety and with reasonable certainty of complete protection." It is to be hoped that public attention will be focused on this important feature of the report, containing as it does a lucid exposition of the subject. The financial cost of this provision by local authorities is small: £13, it is pointed out, will serve to protect 100 children; on the other hand, apart from the danger to life, every case of diphtheria in London may cost the ratepayer £37.

Sir George has a good deal to say on the important question of nutrition, a subject to which he rightly never fails to make reference in his reports. Here he refers to the progress which continues to be made in our knowledge of the factors governing nutrition, and the application which has been made of that knowledge by progressive firms engaged in food production.

In regard to milk Sir George pleads for an increase of the present low consumption of 0·4 of a pint daily to a daily rate per head of the population of one pint, and stresses the paramount necessity, in order to secure this desirable end, of milk producers and retailers making every effort to raise the standard of cleanliness and quality. Happily, as he points out, the indications are clear that the requirements of the public health in this respect are receiving increasing attention from farmers and others engaged in the milk industry.

With regard to the health of dairy cattle the report states that the effect of recent legislation has been the subject of observation during the year and considerable progress has been made in most parts of the country in adjusting the administrative arrangements set up by the Milk and Dairies Order, 1926. That in the majority of counties no arrangements for systematic veterinary inspections, apart from those involved in tracing the origin of tuberculous samples of milk reported to the medical officer of health, have yet been made, is to be deplored.

With regard to the Public Health (Preservatives, etc., in Food) Regulations, Sir George Newman notes that the year marks the successful completion of a reform of fundamental significance in the control of the purity of food. It is satisfactory to find that the fears of traders in certain commodities, *e.g.*, cream and bacon, that the operation of these regulations would render it impossible to carry on their business have not been realised. The suggestion offered as to the need for the reconsideration, by local authorities responsible for the administration of the regulations, of their present methods of sampling is one which should receive the earnest attention of the administrative officers concerned. The meticulous attention devoted to the detection of slight excess of permitted preservatives in scheduled articles is deprecated and is, it is pointed out, of secondary importance as compared with the primary intention of the regulations, which is the suppression of the use of prohibited preservatives.

In the section of the report dealing with tuberculosis the question of the efficiency of the tuberculosis scheme is vigorously handled The keeping of records, methods of diagnosis, home visitation, institutional treatment, and the value of care committees are freely and trenchantly dealt with, and should exercise the minds of those authorities and their officers whose administrative measures fall short of the standard at which all tuberculosis schemes should aim.

The report is an epitome of the preventive health work of England and Wales and Sir George may be congratulated in presenting once more a survey of the nation's health no less conspicuous by its clarity of thought and intellectual comprehensiveness than any of its predecessors.

* * * * *

Linking Two Health Services.

VERY largely as a result of the operations of the Central Council for Health Education, references to co-operation between the public health service, as represented by medical officers of health and their Society, on the one hand, and the national health insurance services on the other, have been exceedingly numerous of late. Not all of these references by any means come from the public health service, the other party, as represented by bodies and individuals interested in and concerned with the working of national insurance schemes, finding and making many opportunities of expressing a desire no less strong than that of medical officers of health for co-operation, and rejoicing at any progress

made in the direction of securing co-operation with and assistance from the health services in securing those benefits that are likely to follow from better health education of persons affected by the national insurance scheme. Very definite evidence of the reality of the desire for this co-operation was given at the last annual meeting of the National Association of Insurance Committees—the sixteenth—which was held in London on October 25th, 26th and 27th, 1928, under the Presidency of Mr. Henry Lesser, so well known within the Society as an active and helpful member of the Central Council for Health Education. Great in extent as was the business to be transacted in the three days of the meeting, the Association nevertheless arranged to set aside a part of one day for a discussion of the possibilities of the situation so far as regards co-operation and the spread of health knowledge amongst the insured and the methods available for securing these. At this meeting two representatives of the Central Council for Health Education—Professor Kenwood, who is Chairman of the Council, and Professor Jameson—attended to explain the objects of that body and to offer in its name and that of the Society as a whole the fullest possible assistance. The reception accorded to these speakers, and the attitude displayed generally to the matters they discussed and the suggestions they offered, left nothing to be desired and augured well for the establishment of a clearer and better understanding between public health workers and those in charge of national health insurance work for the smooth operation of the arrangements already made for the spread of health knowledge amongst a section of the population that the medical officer of health up to the present has had little opportunity of touching, and for the development of a complete and appropriate scheme in the future.

* * * * *

Sickness Insurance in Germany.

THE maintenance of health as a matter of public concern has received very tardy recognition among modern civilised states. By a slow and devious process have the people been led to believe that better health can be secured for all by combined effort, but progress in this direction has been, and still is, more a matter of opportunism than of considered public policy. Opportunity to make progress has differed greatly in different lands, so that the development of public health in various directions shows marked contrasts when two countries are compared. This is the first thought that will strike the medical officer in this country reading the " Benefits of the German Sickness Insurance System from the point of view of Social Hygiene," one of the latest reports published by the International Labour Office*. A further perusal of the book will convince him of the essential similarity of his own work with the problem of public health as seen in Germany, and he will realise how from different beginnings German public health workers are seeking the same end, while adding to the wealth of our experience and knowledge of the subject.

The German insurance system, first established by law forty-five years ago, had for its primary object the making of cash payments to enable the member to recover and to continue working, and at the beginning took comparatively little practical interest in curative medicine and none at all in preventive medicine. It soon found that the preservation of working capacity among the insured could not be attained within this narrow scope of action, and its ideas slowly but surely changed, first towards cure and later towards prevention. Its efforts in the latter direction have now attained large dimensions, while to some extent, independently of these, there has been growing up in Germany a public health system more on the lines which during the past fifty or sixty years we have been developing in England. It has thus become apparent that, in the words of the preface, "the work of " the insurance funds cannot be fully effective " unless all the efforts to raise the standard of " public health are connected up and co-" ordinated." The authors are thus led to the study of the outlines of a national health policy with the linking up of insurance systems and public health services.

In Germany to-day there are over twenty million insured persons, and now in 90 per cent. the family dependents of these persons participate in the benefits, so that something like forty million people enjoy the benefits of sickness insurance, a factor profoundly

* BENEFITS OF THE GERMAN SICKNESS INSURANCE SYSTEM. By FRANZ GOLDMAN, M.D., Research Member, Principal Health Office, Municipality of Berlin, and ALFRED GROTJAHN, M.D., Professor of Social Hygiene, University of Berlin. International Labour Office Studies and Reports Series M (Social Insurance) No. 8. London: P. S. King and Son, Ltd., 1928. pp. 188. Price 4s.

affecting not only the health and working capacity but also the social outlook and development of the German nation.

On the nature of the benefits afforded, one point of great significance to the English reader may be noted in the progressive proportionate decrease in cash benefit and increase in benefit in kind since the inception of the scheme. German health insurance has increasingly favoured this policy, so that now only some 30 to 35 per cent. of the total expenditure is in benefit in cash. This change was not made in order to reduce expenditure but because the grant of cash benefit was regarded as a less valuable form of benefit. As a matter of fact, these benefits in kind were more expensive at first but in the opinion of all interested they represent so much greater efficiency that they are regarded in the long run as effecting a considerable saving on the funds. This has had a great effect on the whole of public health administration in Germany, for the insurance funds are now very largely instrumental in supporting tuberculosis and maternity and child welfare schemes, in maintaining and providing hospital accommodation, both general and special, and in helping forward numerous health projects which in this country are dependent for financial support on local rates with the aid of State grants.

The insurance funds (versicherungskassen) are somewhat different in organisation from the approved societies in this country. They have either a local or an occupational basis, but the State reserves to itself the right and duty of supervising them and securing uniformity and efficiency in administration. This is attained through the agency of certain courts set up by the State (versicherungsämter) which are ultimately governed by the federal insurance office (reichsversicherungsamt). Despite all these organisations it is felt in Germany that the co-operation and co-ordination of the insurance system with the other State activities, and with the public and private welfare work now going on in increasing amount, is loose and confusing, and that some larger measure of control and direction should be brought into being through the State health office (Reichsgesundheitsamt) so that all the agencies may give of their best and work together for the common cause of improvement in health.

This book will well repay the study of the health officer in England, for although it is written primarily of an insurance system which has become an important, if not invaluable, factor in promoting health and working capacity of a great foreign nation, it shows a width of outlook and a clear and concise reasoning in dealing with the problems now presented there—problems which in their essential character are the same as those which confront England to-day.

* * * * *

Accommodation for the Sick in Public Schools.

AN interesting memorandum on the accommodation for the sick provided at certain public schools for boys in England* has recently been added to the rapidly increasing library of useful information which we have learned to expect from the medical department of the Ministry of Health. This memorandum is written by Captain W. Dalrymple-Champneys, who personally visited and inspected a number of schools and collected information from other sources.

In a foreword Sir George Newman states that since the publication of "The Health of Schools," by the late Dr. Clement Dukes, of Rugby, nothing of material importance (apart from clinical information) has been produced dealing with health matters in public schools. This definite pronouncement from so high an authority is worthy of close attention; but it seems hardly a fair statement of fact, bearing in mind the enormous advance made by many of the medical officers attached to the public schools either through their own initiative or through the agency of the Association of School Medical Officers. The contents of the memorandum are sound so far as they go, but there is too much detail for a pamphlet and not enough for a text-book.

The text is divided into two parts, of which the first is a summary of the existing accommodation for the sick as found by Captain Dalrymple-Champneys at his visits, and the supervision and treatment actually carried out by the school medical officers. Part II deals with such standard requirements as may be expected of these schools in our present state of advancement. In this section is also included advice for those schools which are contemplating the provision of new accommodation for their ailing and sick scholars.

Generally speaking, Captain Dalrymple-Champneys views the accommodation and provision at those schools visited as adequate and satisfactory to meet the needs of routine treatment, as well as to deal with sporadic outbreaks of infectious fevers. He notes, however, the absence of provision for possible epidemic outbreaks, and, in some cases, for serious illness requiring a major surgical operation. On this point, by way of criticism, it may be suggested that a public school is very much like an efficient and mobile army; the chief function of the school doctor is to care for the healthy boy and to keep him healthy and efficient. The school doctor should, therefore, not be hampered, nor his time unduly occupied, with too much pathological accommodation and material; so long as there are available adequate arrangements for dealing with the treatment of all cases of sickness outside the school there is no need for the provision of too complicated arrangements on the school premises.

Modern hospitals and equipment are expensive and if a school has any funds available they may be better spent in improving school rooms and dormitories, as well as in providing for efficient and sufficient nutrition. The need at the present moment is to educate the well-to-do parents of the public school boy to accept the isolation hospital as the ideal place for keeping and treating a case of infection, and to recognise that the sick boy who needs an operation is better off in the hands of the expert surgeon, who should do his operating in a suitable hospital.

A most useful part of the report is that in which Captain Dalrymple-Champneys gives his views as to the number of beds required for the sick in proportion to the number of boys and the allotment of these beds for various purposes. Here the claim is rightly made that the space allowed per bed is the most important consideration in the planning of wards of any type and the distance between beds of paramount importance in preventing cross-infection. The general requirements in this regard as set out in the report are:—

1.—The total number of sick beds of all denominations should never be less than 18 per cent. of the total school population. (This minimum, it may be noted, is considerably in advance of the usually accepted 10 per cent. limit, and even of Dr. Clement Dukes's suggestion of 15 per cent.)

2.—These 18 per cent. of beds should be apportioned as follows:—(*a*) The allocation of sick rooms, in those schools where the boys live separately in houses, is an essential for efficiency and should provide as a minimum requirement 6 per cent. of the beds; (*b*) the remaining 12 per cent. must be provided outside the houses either in a school infirmary or sanatorium, and of these, 2·5 per cent. should be definitely apportioned for non-infectious cases, and 9·5 per cent. for such infectious cases as may occur in schools during non-epidemic periods.

Other arrangements, such as the utilisation of one house as an infirmary, after accommodating the boys elsewhere, during periods of epidemics, are also discussed. Girls' public schools are, of course, not mentioned, but no doubt these also require attention in this connection, and Sir George Newman may next carry out an inquiry into the character and amount of accommodation provided, thus adding yet another important and useful contribution to the literature of the subject.

* Ministry of Health Memorandum on the Accommodation for the Sick Provided at Certain Public Schools for Boys in England. By Capt. W. Dalrymple-Champneys, M.A., B.M., M.R.C.P. London: H.M. Stationery Office. 1928. pp. 35. Price 1s. net.

* * * * *

The New Scottish Chief Medical Officer.

THE Secretary of State for Scotland has appointed Dr. John Parlane Kinloch, at present Medical Officer of Health of Aberdeen and head of the Public Health Department of Aberdeen University, to be Chief Medical Officer in the Department of Health for Scotland which, on January 1st, 1929, will take over the powers and duties of the Scottish Board of Health. He is forty-three years of age and graduated at Glasgow University in 1909.

Known over a wider area, Dr. Kinloch is particularly well known and esteemed in Scotland, and it is gratifying to learn that there his appointment has been well received and is extremely popular. He has established a reputation as a sound, strong and sensible administrator, and his capacity for offering well-considered and deliberate opinions will be welcomed by administrative officers.

With confidence it may be expected that he will fitly and with dignity follow in the steps of his distinguished predecessors—Dr. J. B. Russell and Sir Leslie Mackenzie.

DR. E. CATHERINE MORRIS JONES has been appointed an assistant medical officer under the Gloucestershire county council.

Suggestions for the Improvement of the Tuberculosis Service.

By HAROLD VALLOW, M.D., CH.B., D.P.H., Senior Tuberculosis Officer, Bradford.

In relation to the tuberculosis scheme Dr. Vallow holds that "criticism should be replaced by appreciation of what has been accomplished; energies directed to improving the measures which have been established," and in this, his Presidential Address to the Tuberculosis Group of the Society, he indicates the directions that improvements might take.

THE State adopted the recommendations of the Departmental Committee on Tuberculosis in 1912-13, the scheme consisting of two essential factors, namely:—

(I) The dispensary unit.

(II) The institutional unit—sanatoria, hospitals, colonies and other institutions.

This scheme has been in existence now for fifteen years and Sir George Newman, Chief Medical Officer to the Ministry, is satisfied that the foundations have been well laid for the gradual elimination of tuberculosis. In certain quarters, however, the scheme has been very severely criticised.

As a senior tuberculosis officer of seventeen years' experience, I am convinced that an *efficiently organised tuberculosis scheme* not only affords opportunity for earlier detection of the disease with greater possibility for recovery, but materially assists in prevention; such a scheme should include as an essential a specialist staff of tuberculosis officers.

I can appreciate the pessimism of general medical practitioners working in slum areas and brought into close daily contact with the miseries associated with consumption, but I can also assure them that the number of these deplorable cases has been greatly reduced and that better housing conditions and a greater appreciation by local authorities of the need for strengthening anti-tuberculosis measures will reduce the number still further.

I can sympathise with the view of a certain eminent medical officer of health that the reduction in the mortality from tuberculosis is due to improved housing conditions. These have undoubtedly played a part, but several other factors have also had a considerable influence.

I cannot accept the opinion that the wide extension of settlements is the real solution of the tuberculosis problem. These have only been tried thoroughly in a few places, and then under private management. Only a proportion of the cases admitted for treatment have been "settled," as many of them have been found to be quite unsuitable for settlement life.

Settlements are required for certain specially selected cases and, as such, should be regarded as an important part of the institutional unit. They should not be allowed to expand at the expense of the existing organisation.

Local authorities and the public generally should realise that, in the past, tuberculosis was generally considered to be an incurable disease and that now, owing to the activities of the State and local authorities combined, a large number of cases are definitely cured, many lives are prolonged, and a large number of persons are protected from infection. Criticism should be replaced by appreciation of what has been accomplished; energies directed to improving the measures which have been established; care should be taken that the essential principles are retained.

With the intention of assisting in the improvement of anti-tuberculosis measures, an enquiry into the existing tuberculosis schemes has been instituted by the Committee of the Tuberculosis Group of this Society. Information has been readily given by medical officers of health and tuberculosis officers of (a) the metropolitan boroughs, (b) the English counties, (c) the Joint Tuberculosis Committees, (d) the English county boroughs, and (e) the Welsh National Memorial Association.

In some areas, particularly several of the metropolitan boroughs, the dispensary and institutional units are worked separately. (In the metropolitan area, the local authorities are responsible for the dispensary unit, subject to the approval of the London County Council and the Ministry of Health; the London County Council is responsible for the institutional treatment.)

In other areas, for example, Sheffield county borough and Westmorland county, the senior medical officer of the dispensary is responsible for the management and control of treatment at the institutions.

In several areas there is close co-operation between the dispensary and institutional units, and the tuberculosis officer visits the institutions periodically.

The Ministry of Health has allowed a considerable amount of latitude to local authorities in the development of their tuberculosis schemes.

(I). *The Dispensary Unit.*

The Report of the Departmental Committee emphasises that the "one essential" of the tuberculosis dispensary is the appointment of a skilled tuberculosis officer with a capacity for organisation; he should have the necessary equipment for modern diagnosis and treatment, and he should have adequate medical, nursing and clerical assistance.

Notification of pulmonary tuberculosis was made compulsory in 1912, and after two years' trial was extended to all forms of tuberculosis.

In some areas, the dispensary organisation is concerned mainly with diagnosis and treatment, the preventive measures being directed from the health office, whereas, in others, the dispensary organisation is responsible for the detailed preventive measures as well as the methods of diagnosis and treatment.

Arrangements for the work of tuberculosis officers vary considerably in different parts of the country. These arrangements can be roughly divided into groups:—

GROUP 1.

With a Central Tuberculosis Officer.

(*a*) A central tuberculosis officer controls the administration of the whole area, which is divided into districts with a consultant tuberculosis officer in charge of each, and one or more medical assistants attached to each main dispensary. The arrangements made by the Lancashire County Council are an excellent example of this group. A population of over 1,785,000 is served and a central tuberculosis officer controls the administration of the whole area. The county is divided into five main districts with an average population of 350,000. There is a consultant tuberculosis officer in charge of each district with one or more medical assistants and an adequate clerical and nursing staff. Each main dispensary is equipped with a high-powered X-ray plant, a clinical laboratory, artificial sun lamps and other facilities for modern diagnosis and treatment. The consultant tuberculosis officers have hospital beds, and also visit periodically other institutions to which they send patients. The medical superintendents of the two sanatoria are in charge of a small dispensary area around the sanatoria.

(*b*) A central tuberculosis officer administers the whole area; this is divided into several small districts in charge of a district tuberculosis officer with no medical assistance. For instance, the West Riding of Yorkshire is divided into eleven districts with an average population of 150,000.

(*c*) A central tuberculosis officer administers the whole area, which is not divided into districts. He may have medical assistance as in Manchester (pop. 761,320) and Bradford (pop. 300,000), or he may not, as in several of the metropolitan areas, *e.g.*, Battersea (pop. 171,900). In Manchester and Bradford the clinical arrangements and the specialised preventive measures are directed from the dispensary.

GROUP 2.

Without a Central Tuberculosis Officer.

District tuberculosis officers administer areas of varying size and population with the health office as a centre for co-ordination as, for instance, Middlesex, where each tuberculosis officer serves a population averaging 220,000 without medical assistance. In Kent, the district tuberculosis officers control districts with populations varying from 219,622 to 53,686.

GROUP 3.

Omnibus Appointments.

Assistant county medical officers in some cases act as district medical officers of health and combine the duties of tuberculosis officer with supervision of maternity and child welfare, medical inspection of schools and have the assistance of a part-time consulting physician and surgeon—as in Essex and Hampshire. In Essex several of the districts served have a small population. In three of the areas the average population served is 125,000.

GROUP 4.

The duties of the tuberculosis officer are carried out by the superintendent of the sanatorium with or without medical assistance,

as in Sheffield county borough with a population of 523,300, and Westmorland, with one of 62,080.

GROUP 5.

The duties of the tuberculosis officer are carried out by the medical officer of health as in the smaller county boroughs with a population of less than 85,000, as, for example, York (pop. 84,430) Soke of Peterborough (49,000).

GROUP 6.

Local authorities contract out with the voluntary hospitals for the provision of the necessary medical, nursing and clerical services, as, for example, in the metropolitan area, Hackney, Islington and Shoreditch combine for the purpose.

The county boroughs of Leeds and Newcastle have appointed a part-time consulting tuberculosis officer in addition to the tuberculosis officer.

In considering the efficiency of the arrangements the following two great principles should be remembered, *viz*:—

(1) That any person suffering from, or suspected to be suffering from, tuberculosis, should be able to consult a specialist in tuberculosis whenever necessary.

(2) That the specialist in tuberculosis should have such knowledge of preventive measures as will enable him to assist materially in the prevention of the disease.

It seems to me that the scheme of the Lancashire County Council is eminently satisfactory as regards facilities for diagnosis and treatment. There is no divorce between the dispensary and institutional units—one of the chief reasons for lack of efficiency in the tuberculosis service at the present time.

The Essex scheme is open to criticism in that clinical efficiency appears to be sacrificed to co-ordination. It is obviously impossible for each patient to consult a specialist in tuberculosis whenever necessary.

The essential difference between these two schemes is that, on the one hand there is a central tuberculosis officer co-ordinating the specialised preventive and clinical work of his medical assistants who are properly equipped with facilities for expert diagnosis and treatment, while on the other hand we have several public health general medical practitioners in charge of small areas who are necessarily inadequately equipped for expert diagnosis and who are without the necessary co-ordination provided by the appointment of a central officer.

The arrangements in several of the large county boroughs are similar to those in Lancashire. The other schemes are simply variations between group 1 (a) and Group 3.

There are dispensaries which are understaffed and ill-equipped for purposes of accurate diagnosis and provision of necessary treatment. There are grave differences in the remuneration made for equal medical, nursing and clerical work. The amount of medical assistance varies disproportionately with the size of the population in different areas. The differences in remuneration apply more especially to senior tuberculosis officers. In view of the responsibilities of the tuberculosis officer only skilled clinicians and administrators should occupy these posts, otherwise there is a grave danger to the individual and to the community. In certain areas the general medical practitioners have little or no confidence in the specialist provided by the local authority. In other areas capable tuberculosis officers have been compelled, through the inadequacy of the remuneration made, to seek more remunerative work. In certain county council and county borough areas, tuberculosis specialists are employed who have gained the confidence of the general medical practitioners, the council and the public. The schemes are good, the clinical work is excellent, the staffs are contented. A high standard of diagnosis is attained, a comprehensive view of the future of the individual is taken, the best treatment compatible with the economic position of the patient is suggested, and the dispensary organisation materially assists methods for prevention of the disease. These well-administered areas should be taken as a standard by the Ministry of Health, and influence should be brought to bear on the other areas to bring their administration up to the requisite standard. The Ministry should withdraw their partial approval of tuberculosis work being done by general public health medical practitioners, for this is a dangerous and retrogressive step.

Memo. 37/*T*.

The instructions issued by the Ministry of Health to local authorities in memorandum 37/T have caused a real hardship in some districts. Dispensary organisations with adequate medical and clerical staffs can supply the information required with comparative ease, whereas those with small medical and clerical staffs are unable to supply the information accurately, without seriously interfering with their ordinary duties.

The Ministry should realise that additional labour may be involved and should point out to local authorities that additional medical and clerical staff may be required.

A memorandum has been prepared from information collected from the various areas of England and Wales in which the grave differences in remuneration made to the senior tuberculosis officers and the disproportion of medical assistance provided are shown. It is divided into four sections:—Section A, the metropolitan boroughs; Section B, the English counties and Joint Tuberculosis Committees; Section C, the large county boroughs and some smaller boroughs; Section D, Wales. The facts are authentic and suggest the necessity for the adoption by the Council of this Society of some definite scale of salaries arranged with due regard to the responsibilities of the officers concerned.

(II). *The Institutional Unit.*

It has been impossible, in the time at my disposal, to deal adequately with the institutional unit. The relationship between the dispensary organisation and the institutions has been considered.

A survey of the schemes generally suggests the necessity for the re-organisation of several of the tuberculosis schemes in this country.

SOME SUGGESTIONS FOR THE IMPROVEMENT OF TUBERCULOSIS SCHEMES.

The following suggestions have been based on the experience gained in different areas, on an analysis of the various schemes submitted, and my own personal experience. They are as follows:—

(1) *A Central or Senior Tuberculosis Officer.*

That in all areas a tuberculosis officer should be appointed to advise the council and the chief administrative medical officer on all matters relating to the prevention and treatment of tuberculosis. He should direct the specialised preventive measures and the methods for diagnosis and treatment.

(2) *Population of Area.*

That areas should be of such size and population that it is possible to employ a specialist service. I suggest a minimum population of 250,000. Smaller authorities should combine to maintain an efficient tuberculosis service. Sparsely populated areas should be linked up to the sanatorium.

(3) *Co-operation between the Dispensary and Institutional Units.*

That there should be close co-operation between the dispensary and institutional units.

(4) *Medical Staff and Equipment at the Dispensary.*

That each main dispensary serving an area of at least 250,000 population should be in charge of a senior tuberculosis officer with, at least, one medical assistant. There should be an adequate nursing and clerical staff. The necessary equipment for modern diagnosis and treatment should be supplied, *e.g.*, modern high-powered X-ray unit, artificial sun lamps, clinical laboratory, artificial pneumothorax apparatus, etc.

(5) *Remuneration.*

That remuneration should be made sufficiently high to attract and retain men with the necessary experience in preventive and clinical medicine.

(6) *Memo.* 37/*T*.

That the Ministry of Health should realise that the provisions required by memorandum 37/T may materially interfere with the effectiveness of anti-tuberculosis measures unless adequate medical and other assistance is provided.

(7) That the Council of this Society should be requested to consider adequate rates of remuneration for the high standard of administrative and clinical work required. That, for this purpose, the memorandum prepared should be submitted to the Council of this Society.

(8) That the Council of this Society should be requested to consider suggestions for the improvement of the tuberculosis service.

In conclusion, it is necessary to point out that there is much dissatisfaction amongst several capable tuberculosis workers. It should be realised that the *one essential* of the dispensary organisation is the appointment of a tuberculosis officer with the requisite organising ability and clinical skill. If these appointments are not remunerated sufficiently well to retain capable officers, the organisation will suffer and there will be a great wastage of public money.

Ut Ita Dicam.

(Being Comments, apropos and otherwise, on Sundry Matters.)

The Dinner of 1928.

Even though it is practically impossible to arrange for the holding of any important function at this or, indeed, any season in the metropolis so as to avoid clashing with some other important function, it is permissible to express regret that the date fixed for the Society's dinner should have been the same as that chosen by the Royal Society of Medicine for their celebration. As a result of the clash the numbers present at the Piccadilly Hotel with the President were perhaps smaller than they would otherwise have been, and certain of the distinguished sat down with Lord Dawson instead of with Dr. Howard-Jones. Not that it was by any means a small dinner, with " covers " (whatever that may mean) for 150, or without distinction having regard to the fact that there shone at the top table brilliant lights of the legal and medical professions and personages prominent in the world of politics and local government and in the life of the City of London. Practically every one of these had sincere words of admiration, respect and esteem to say of the Service, the Society and medical officers of health. The chief guest, the Rt. Hon. H. P. Macmillan particularly, for a lawyer, was unstinting in his praise of the work we do, and in excluding us from the category of bodies that " keep minutes and waste hours," ranged us with the proper group and provided some of us, at any rate, with a quip that was new. An outstanding speech was that of the Mayor of Newport (Mon.), who honoured the Society as a whole and not the President only by attending with several representatives of the Council of Newport. From what he said it was clear that there was in that body and amongst the people of Newport generally, gratification at and appreciation of the selection by the Society of Dr. Howard-Jones as President, and the reception given to the speech must have convinced the Mayor and those with him that the Society had delight in honouring Dr. Howard-Jones and in learning that the high esteem in which he was held by his fellows was no less than that accorded to him in Newport. The tributes paid to the President throughout the evening were many, though it may be said, with safety indeed, that the whole of the proceedings constituted a tribute and a very pleasant one, too. For the company it was most enjoyable, thanks to the management of the Executive Secretary, and the goodwill and cordiality of everybody present. These, as a matter of fact, I thought exceptionally well marked on this occasion, and noted that in spite of the fact that dancing and a cabaret awaited the pleasure of the diners very many of them shewed a definite inclination to linger in the neighbourhood of the dining-room exchanging talk and greetings.

The Council Meets.

One of the reasons for the fixing of the date of the dinner for Thursday, November 15th, was to ensure as large an attendance as possible at the regular Council and Society meetings on the day following. At the former was a fairly full gathering; the latter less so. As will be seen from the report of the meeting the Council dealt with a number of subjects of importance, arriving at decisions upon most of them. Unfortunately, there was neither time nor opportunity for discussion of the Local Government Bill, a measure which, since it involves profound changes in the whole public health structure, most definitely calls for the fullest and most enlightened consideration the Society can give it. So definitely is this felt and appreciated that there was no hesitation on the part of the Council to set apart a special day for discussion, choosing the sixth of December as likely to prove convenient to the bulk of the members and as allowing time for the forwarding of any views and conclusions arrived at to any allied bodies concerned to learn the opinion of the Society.

An Ordinary Meeting and Distinguished Visitors.

The first ordinary meeting of the Society was something of an event noteworthy on account of the fact that the attendance included no fewer than four Members of Parliament—Sir George Berry, Dr. Vernon Davies, Dr. Drummond Shiels and Colonel Fremantle. Members of the Medical Group in the House, all these representatives were present to hear the papers and take part in the discussion on " The Notification and Control of Venereal Diseases." The arrangements for the discussion were those that

have now become common in relation to our proceedings, partaking of the nature of a symposium with several individuals making openings from different points of view of the subject. In this case there were to have been three speakers—Dr. Chalmers, Dr. Lyster and Dr. William Robertson. Of these, for some reason not explained, the last-named did not appear, his place being taken by Dr. Drummond Shiels, M.P. for one of the Edinburgh divisions, who, coming no doubt to listen, found himself to his surprise called upon to speak. Not unnaturally he addressed himself to the problem of the defaulter from treatment for venereal disease, and dealt with the arguments that had prevailed over those in support of the claims of Edinburgh for special powers of compulsion in the case of such defaulters.

Various Solutions of the Venereal Disease Problem.

Though the discussion centred mainly around Edinburgh, needless to say there were incursions into the debate by individuals with specifics for the solution of the problem, jibes at the nonconformist conscience and allegations of trickery practised against the passage or for the rejection of this, that or the other legislative measure. There was not, as there ought to have been, any wide glance cast upon the problem. Dr. Chalmers said he did not believe in compulsory powers and did not think they were necessary; Dr. Lyster said he believed in compulsion, but if preventive packets were frankly and freely and widely available the venereal diseases would disappear and with them all need for treatment and compulsion in connection therewith; while Dr. Drummond Shiels declared that all Edinburgh wanted compulsion and believed that just as compulsory removal, isolation and treatment had got rid of small-pox, so compulsion applied to defaulters from treatment for venereal disease would soon make an end of that. The discussion, which began soon after five, went on until nearly eight. Myself, I left at seven, having heard all the Members of Parliament. Also I had heard all the same kind of talk as I am used to hear when this subject is under discussion; and I came away from it just as discontented as I generally come away from discussions which are full of discussion but barren of decision.

Listening v. Discussing.

One opinion to which I was driven at the meeting I take the liberty of mentioning, although it has nothing to do with the question discussed, but took the form of a doubt as to the wisdom of employing the symposium method with several set speakers entirely to the exclusion of the older-fashioned one paper and free and open discussion by some or all of the audience. The difficulty with the symposium system is that there is so frequently an inability on the part of the individually announced speakers to remember that it is a symposium and that they are not each of them required to put the whole case to the meeting. As a result the meeting finds itself listening to a series of discourses and is deprived of proper opportunity of discussing all or any of the views expressed. No doubt the difficulty might be overcome if a time limit could be enforced, but as the openers are commonly persons of distinction and not infrequently visitors to the Society, it is not easy to adopt this course. Equally it is not possible to return permanently to the old one-paper arrangement. It is too deadly. What must be done, I imagine, is to take trouble over deciding as to the best method to adopt in regard to any subject chosen. For some, one opener may be adequate, and for others the symposium method more appropriate. In any case the charms and advantages of brevity should be urged, hoping thereafter for the best.

Thoughts on Cleanliness.

These are some of the crop garnered from the Health Week School Essays of 1928:—

The man who comes home to find a dirty house, dirty children and a slovenly wife will generally go to the nearest public-house to get the peace and rest which he cannot have at home.

You must have clean hair, but if you do not keep your hair clean, well, dirt gets in the little cracks wich are in your head then you catch a terrible deasease. They are the laws of health wich all people should do.

When a confirmed non-washer realises that the only straight and narrow path to health can be attained by cleanliness he may well re-echo the memorial words of Sidney Carton: " I do a far, far better thing now, than I have ever done before."

Teeth also must be kept clean, for if we did not the teeth would become decayed, then we would not be able to endure the pain as it would hurt too much and we would have to have the teeth out. The teeth would not only spoil the breath if they decayed, but they would injure your eyes; you might become blind for not cleaning your teeth.

P.

The Constitutional Factor in Tubercular Infection.

By T. STEWART STIRLING, M.B., Ch.B. Glasg., D.P.H. Camb.,
Assistant Medical Officer of Health, Bournemouth.

As was the case in his paper on "Pre-School Life and the Scholar," published in the July, 1927, number of PUBLIC HEALTH, *Dr. Stewart Stirling in this also provides considerable food for thought. At the meeting of the Southern Branch on March 2nd, 1928, at which it was read, it aroused a very lively discussion.*

IN the ever-widening sphere of preventive medicine it is now generally accepted both by clinicians and research workers that heredity and its influence on the individual is a subject of vital significance and far-reaching effect. Throughout the centuries many theories have been propounded on the subject; and within recent years, bio-chemical and eugenic research has undoubtedly shed very considerable light on our modern conception of human heredity and all that it implies. When we speak of the diathesis of an individual we refer to a physical or bodily condition predisposing to a particular disease. If we are to accept the latest theory—which seems a very feasible one—a diathesis results from a localized impairment of certain germ-cells in early embryonic life; in other words, there is inherited a diminished vitality and an impaired developmental potentiality of the particular "determinant" involved. It is, therefore, obvious that since inheritance is of developmental tendencies only, the factor of environment will surely play an important part in their realisation. The part played by hereditary influence is often somewhat difficult to trace; it is, at any rate, an accepted fact that inherited predisposition and *not* environment is the basic cause of most mental disorders, though of the mode of inheritance nothing has yet been definitely proved. Last year's Huxley lecture was a very brilliant essay by Sir Archibald Garrod[1] on this subject of "Diathesis"; and one well worth reading. He shows, for example, that it may be difficult to draw a hard and fast line between diathesis and idiosyncrasy; for the latter includes those striking examples of protein hypersensitiveness which are manifested by skin eruptions such as urticarias, erythemas, intermittent hydarthrosis, and certain forms of asthma. We admit a diathesis to be inborn, but there is no reason apparent why a protein hypersensitiveness may not be acquired, as for example in anaphylaxis. After all, the study of human inheritance on Mendelian lines has not thrown much light on this baffling subject; for although we may safely assume that a character which is handed down in a family from one generation to another is probably dominant, we are hardly justified in deducing conclusive *ad hoc* evidence from knowledge gained by the experimental breeding of plants or animals. There are signs that clinical medicine is at last beginning to realise the tremendous significance of heredity and diathetic type in both medical theory and practice. A vast field has still to be explored in the study and application of genetical research to many of our public health problems; we have still much more to learn. It is very evident that the problem of *diathesis* can only be solved by an extensive study of large numbers. In his latest Report on the Health of the School Child, Sir George Newman[2] strongly advocates this line of enquiry when he reminds us that the debilitated child of subnormal health at present constitutes one of the most serious problems of the School Medical Service.

Our modern views on one aspect of the biological conception of disease have been well expressed in a recent paper on tuberculosis.[3] "As far as this infection is concerned, there is no proof of the existence of any immunity factor. Recent research in biology leads us to believe that Weissman's theory of the non-transmission of acquired characteristics should be reviewed. There is every reason to regard immunity as being an accidental acquisition transmitted according to Mendelian succession, but so far as immunity to tuberculosis is concerned, we cannot assure ourselves that the acquisition is a reality."

We will now attempt to briefly follow out the conception of an inherited tendency to tuberculosis, generally accepted as a factor of prime epidemiological importance. This conception may be well borne out by the facts in communities where the disease is endemic,

but can we apply it in the case of members of other communities where the disease is almost unknown when they leave their original surroundings and come in contact with tuberculous infection? If this theory still holds, then such persons should possess a high degree of resistance to infection, since an inherited susceptibility must necessarily be rare or absent. From the evidence available we know that this is not so; the case is quite the reverse. Then there is the question of *clinical type*. If a tubercular diathesis plays a part, we should expect to find cases of a milder type amongst races free from any possible predisposition to the disease. Here again the facts appear to be far otherwise, for we know from the numerous contributions of statistical data that tuberculosis tends to be rare in countries or regions that are isolated from communication with the rest of the world. This rarity or absence of clinical tubercle we must assume to be associated either with an absence of the bacillus or with a toleration of the organism in persons leading an ideally healthy life. This aspect of the tuberculosis problem has attracted considerable attention in the scientific world, but a wealth of information has still to be gleaned from statistics if we are to gain further knowledge on the subject and thereby solve the problem of the distribution of tuberculosis in civilized communities and of the measures necessary to cope with the spread of the disease.

From extensive *ad hoc* statistical surveys carried out in various parts of the world it has been conclusively proved, by means of von Pirquet's cutaneous tuberculin test reaction, that rarity or absence of clinical tuberculosis in certain areas is closely correlated with an absence of the tubercle bacillus. We do know that the above test gives a negative result in those persons, such as infants, who have never been exposed to tubercular infection, and that the percentage of "positives" rises rapidly as increasing age leads to contact with the bacillus in question. Similarly, amongst persons living in isolated areas it is found that the percentage of positive reactions is very low and that the percentage rises steadily with the advance of foreign penetration. It is conclusively evident that amongst the members of such communities there can be no trace of hereditary liability to tuberculosis. From figures bearing on the relative susceptibility of different racial types serving under closely comparable conditions during the war, it has been shown in a very striking manner that individuals from countries where tuberculosis is rare, exhibit, when exposed to infection, a susceptibility incomparably greater than that of the inhabitants of countries where the disease has long been widely prevalent. Thus, under conditions which preclude all possibility of the existence of any "diathesis" or "constitutional factor" transmitted from a tuberculous ancestry, all that is required for the contraction of the disease is contact with infection. *Infection*, then, *is a prime factor in the spread of tubercular disease.*

Resistance.—We will now consider the other factor—the resistance of the individual—for this explains many of the phenomena of the disease in civilised communities. Differences between the incidence, mortality, and type of tubercular infection in "virgin soil" on the one hand, and what we might describe as "sensitized soil" on the other, can only be explained on a theory of active immunity acquired by contact with the tubercle bacillus; this relative immunity has conferred upon its possessors a considerable degree of resistance to the disease. Infection and resistance are opposed yet complementary forces; the one which is predominant determines the reaction of the individual.

Infection and Resistance versus *Inherited Disposition.*—We still regard the "consumptive type" as a more or less definite entity, and it was even described by Hippocrates two thousand years ago: "The form of the body peculiarly subject to phthisical complaints was the smooth, the whitish, that resembling the lentil, the reddish, the blue-eyed, the leucophlegmatic, and with scapulæ having the appearance of wings." Here there is no question of tubercular inheritance beyond the association of the disease with certain physical characters possibly inherited; and it was not until the close of the seventeenth century that the French pathologist Desault, while conceiving an hereditary transmission of the disease, first made the assertion that infection was an element of prime importance. The discovery of the tubercle bacillus by Robert Koch in 1882, finally solved the problem of the nature of the disease, and the infective element became a certainty. It was thus shown that the inheritance of the disease as such could be practically excluded, but not so the transmission of a tendency to infection. Koch further asserted that the question of inheritance in tuberculosis "is explained most naturally by supposing that the infective germ itself is not inherited but rather certain peculiarities favourable to the development of germs which may later on come into contact with the body

—in fact, it is the predisposition to tuberculosis which is inherited." With increasing knowledge the conception of a " tuberculous type " on the one hand, and an hereditary disease on the other, had gradually given place to a theory of "*infection*" *combined with another factor*—" *hereditary predisposition.*"

Hereditary Predisposition.—This conception of " inherited predisposition " became an established fact when Karl Pearson[4] in 1907 published the results of his enquiry into the relation of pulmonary tuberculosis in parents and their offspring. To quote a few of his conclusions : " The main result of this investigation . . . is that the diathesis of pulmonary tuberculosis is undoubtedly inherited and that the intensity of this inheritance is comparable with that found for normal physical characters in man. A theory of infection does not account for facts." " That such an inheritance really exists is sufficiently marked by the increasing percentage of tuberculous offspring as we pass from neither parent to one parent and then to two parents affected." " In general, whether we deal with all tuberculous stocks or only with those having no parental history, the older offspring, especially the first and second, appear subject to tuberculosis at a very much higher rate than the younger members." Pearson is somewhat hypothetical in his application of the hereditary theory when he says : " Infection probably plays a necessary part, but in the artisan classes of the urban population of this country it is doubtful whether their members can escape the risks of infection except by the absence of the diathesis, *i.e.*, the inheritance of what amounts to a counter disposition."

Throughout his papers, Pearson finds evidence pointing to " infection " and another factor.

"*Infection*" *and Another Factor.*—This other factor he believes to be " inherited predisposition," and he gives it a far more important place than infection. Are we justified in substituting " absence of acquired resistance " for " inherited predisposition," and will this cover the facts ? On a theory of " infection and resistance " it would follow that children, not having had time to develop their full resistance, would be more liable to infection than adults, since the children of tuberculous parents would be exposed to infection to an unusual degree. Such a theory would explain why the correlation between tuberculosis in children and parents is closer than that between husband and wife, because men and women at the age of marriage would have developed resistance. It would also explain why the elder children are more often attacked than the younger, since they tend to be born at a time when the parents still belong to the " dangerous " age groups, the periods of life when " open tubercle " is most frequent. It would explain why adult members of the artisan community still continue, in the majority of cases, to escape clinical tuberculosis. In accepting this theory of " infection and resistance " we must assume that infants and young children are highly susceptible to tuberculosis ; that with very few exceptions all of them are, sooner or later, exposed to some degree of infection, and that a gradual increase of resistance takes place amongst the survivors as age advances.

Infection and Resistance in Infancy, Childhood, and Adult Life.—We know from post-mortem findings in cases of death from all causes, that while tuberculous lesions are extremely rare in infants and young children, it has been found that lesions either old or latent occur in rapidly increasing numbers as age advances, until they are found in nearly 90 per cent. of all bodies in the higher age groups. In a series of researches carried out over twenty years, Hamburger,[5] noting the frequency of tuberculous lesions in children at post-mortem examinations, conclusively showed that a higher percentage of tuberculous infection existed in infancy than had hitherto been recorded ; that the percentage of positive findings rapidly increased with advancing years, and that the proportion of bodies infected was found between eleven and fourteen years to be comparable to that of adults. Hamburger also found that the proportion in which the tuberculous infection was the cause of death was 100 per cent. in the first six months, and that the figures, which still remained high, dropped gradually in each age group up to fourteen years. These figures must admittedly strike us as being extremely high, but they cannot be far out. The amount of inherited infection must be almost negligible, for the lowest percentage of tuberculous lesions are found at the earliest age periods—those very age periods at which the mortality is 100 per cent. We are, therefore, justified in assuming that the newly-born infant has no resistance whatever, and that any relative immunity he may subsequently acquire will be evoked through contact with the tubercle bacillus. The correlations worked out by Karl Pearson between the tuberculosis of parents and children are sufficiently explained by this theory of acquired immunity and a diminishing

case mortality as age advances. The infection has been overcome by resistance ; the theory of inherited disposition does not apply.

Infection and Resistance : their Influences on Clinical Type.—As we have seen, then, tubercular infection amongst children is much more common than was supposed. Holt[6] says : " It was formerly believed that the disease was rare in infancy, but recent observations have shown that, although its form is somewhat different, it is more frequent in infancy than at any later period in childhood." We know from clinical experience that infection and resistance in their mutual action and reaction are the prime agents in determining clinical phenomena. Where infection is greatly in excess of resistance we should expect a rapid generalization of tuberculosis and a relatively slight reaction. Where infection and resistance are evenly balanced we should expect localization of the disease, with varying health and a tendency to serious auto-inoculations as the result of over-exertion, intercurrent illness or excessive strain. Where resistance is greatly in excess of infection the general health should remain good. Where infection has been successfully overcome, and where the resulting resistance is high, we find the clinical type of disease is more or less benign, as shown by an insignificant incidence and a low mortality rate. Brownlee[7] has contributed largely to our findings on the subject : his valuable papers entitled "An Investigation into the Epidemiology of Phthisis in Great Britain and Ireland " were issued some years ago by the Medical Research Council, and to be fully appreciated should be read in the original. The figures and findings therein strongly support the theory of " infection and resistance in mutual interaction." From an analysis of the mortality statistics in England and Wales, Brownlee has inferred that three types of phthisis exist—one, which he calls the " young adult " type, having its maximum mortality among males between the ages of 20 and 25 years; a second, the " middle age " type with a maximum mortality between 45 and 55 ; and a third, the " old age " type causing a maximum number of deaths between 55 and 65 years. We can gather from statistics that the occurrence of the " young adult " type was decidedly marked in Ireland and the Scottish Highlands during the latter half of last century. The " middle age " type was largely found in London and also in certain industrial areas, chiefly in Lancashire, and the North of England. The " old age " type was most marked in Cornwall, combined with a high mortality in the " young adult " and a marked drop in the " middle age " period. How do these facts fit in with the theory of " infection and resistance " ? We have found that the " young adult " type is predominant in areas which are comparatively isolated from contact with the outside world ; and that the " middle age " type is prevalent exactly where " contact " is most intense. We also know that where the " young adult " type prevails, the " middle age " type is rare ; that where the " middle age " type is prevalent, the " young adult " type is seldom found. Then again, a positive correlation certainly exists between the " standard death-rate " for all causes and the " middle age " type, which is thus shown to be most prevalent where the surroundings are unhealthy. The theory of " infection and resistance " therefore seems to be the most feasible explanation of these findings. In this connection, Brownlee further states : " It is, however, possible and probable that with a widespread infection in youth, many people establish an active immunity which protects them even against a somewhat different strain of the organism for many subsequent years or even the whole of life." In examining the correlation between the infection of milk and the mortality from his three elementary types, Brownlee also found a well-marked *negative* correlation between milk infection and the " young adult " type, a strong positive correlation between milk infection and the " middle age " type, and a high *positive* correlation between tuberculosis in children under five and the " middle age " type. These findings can easily be explained on the theory of infection and resistance ; they are not affected by the fact that both " bovine " and " human " types of bacilli may be present in the tuberculosis of childhood. We are thus justified in concluding that the relatively high resistance to tubercular infection shown by the majority of individuals in infected communities is attributable to acquired immunity resulting from previous contact with the disease.

Our Present Position.—It is gratifying to know that the mortality rate from tuberculosis in children under 15 years of age continues to show a steady decline. During the decade 1915-1925 the mortality amongst children from pulmonary tuberculosis dropped by about 46 per cent., and that from non-pulmonary by about 42 per cent., whilst the numbers of new cases notified of both types of the disease substantially diminished. Modern preventive

medicine has accomplished much in this respect, and our position as regards tuberculosis both in infancy and childhood has been enormously improved. Many factors have played a part in reducing the case incidence at these ages—education of the people; better sanitation; improvement in housing conditions; a higher standard of living: these in varying measure have contributed to the raising of resistance, which we know to be the prime essential in warding off disease. With regard to our milk supply, the time is long overdue for some practicable solution of this economic and vital problem. Tuberculosis in cattle is almost as prevalent now as ever it was: we are told that one in every three milch cows is tuberculous; and it has been stated that at least 5 per cent. of all the milk sold in this country to-day will produce tuberculosis on guinea-pig inoculation. This state of affairs should give us much food for thought; for at present the only precautionary measure we can urge is that of pasteurization, which certainly kills the bacilli in question, but does not remove the toxins created by other pathogenic organisms. Pasteurization is *not* an alternative to cleanliness, for, as Rosenau wrote many years ago, "pasteurization will never atone for filth." Until purer milk supplies are available on a much larger scale, the spread of infection with the bovine type of bacillus is bound to continue.

Ways and Means.—It has been stated that the mainstays in the present tuberculosis campaign are four in number:—(1) Notification; (2) The Dispensary; (3) The Sanatorium; (4) After-care.

Of these the second is by far the most important. Since its inauguration, the Tuberculosis Service has achieved much, but there is still room for further expansion.

In a recent address on "The Present Position of the Tuberculosis Problem," Sir Arthur Newsholme,[8] has laid strong emphasis on the following points, which virtually summarize this paper:—

"(1) The objects of all anti-tuberculosis measures are to increase the resistance of mankind to infection, and to reduce the amount and frequency of infection to which mankind is exposed.

"(2) The amount and frequency of infection are greater in consumptive families; and commonly, owing to poverty and its associated circumstances, the resistance to infection is at its lowest in such families.

"(3) The age-incidence of mortality from tuberculosis shows that the risk of acute tuberculosis and death is greatest in the first two or three years after birth. Hence the supreme importance of protecting young children against infection.

"(4) The excessive incidence of tuberculosis in early childhood and the important part played by epidemic diseases in increasing tuberculosis emphasize the extreme importance of connecting tuberculosis work and child welfare work closely together, and of affiliating both to general health work.

"Steady educational work is required until the public realise that our present anti-tuberculosis work is sound and beneficient and that it needs to be extended in every direction. Until we are in a position to say that in every area every tuberculous patient is receiving throughout the whole of his sick life such care as will give him the best chance of recovery, and which, whether recovery is possible or not, will secure comfort for him, and protection against infection of all who are associated with him, we cannot be satisfied."

In conclusion, tuberculosis is indeed a complex problem, and its solution will be reached only if we approach from *all* sides. Of the part played by active immunity in this disease we have still much to learn; and protective inoculation has yet to come. We do know that further extensive and co-ordinated research is called for if our efforts at the control of tuberculosis are to be directed upon effective lines.

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The Society.

Reports, Proceedings and Announcements.

ANNUAL DINNER.

The Annual Dinner of the Society was held at the Piccadilly Hotel, London, on Thursday, November 15th, 1928, when the President (Dr. J. Howard-Jones) and Mrs. Howard-Jones received over one-hundred and fifty members and guests.

The President was supported by the following:—

Past-Presidents: Dr. W. G. Willoughby, Prof. H. R. Kenwood, Dr. T. Eustace Hill, and Dr. E. H. Snell.

Members of Council: Dr. J. Cates, Dr. W. Paterson, Dr. P. H. Stirk, Prof. H. Kerr, Dr. C. Porter, Dr. A. E. Baker, Dr. R. H. Wilshaw, Dr. R. M. F. Picken, Dr. J. J. Buchan, and Lieut.-Col. G. S. Parkinson.

Branch Presidents: Dr. F. T. H. Wood (N.W.), Dr. Cyril Banks (Yorks.), Dr. J. B. Howell (Metrop.), Dr. E. H. R. Harries (Fever Service Group), and Dr. J. Sim Wallace (Dental Group).

Lieut.-Col. F. E. Fremantle, M.P., Dr. F. N. Kay Menzies and Dr. Stella Churchill were committed to attend the dinner of the Royal Society of Medicine on the same evening, and others who sent apologies for unavoidable absence were Dr. J. Fenton, Dr. R. Veitch Clark, Dr. Naylor Barlow, Dr. Gibbons Ward, and Prof. A. Bostock Hill.

The general company included:—

The Rt. Hon. H. P. Macmillan, P.C., K.C., LL.D.; Major L. Haden Guest, M.C.; Dr. H. B. Brackenbury, LL.D., Chairman of Council, British Medical Association; H. Lesser, Esq., LL.B., President, National Association of Insurance Committees; Councillor Walter Griffiths, Mayor of Newport (Mon.); Sir Allan Powell, C.B.E., Clerk, Metropolitan Asylums Board; Dr. Alfred Cox, O.B.E., Medical Secretary, British Medical Association; J. Yate Johnson, Esq., Prime Warden, Fishmongers' Company; James Oswald, Esq., Master, Plumbers' Company; Dr. Catherine Chisholm, President, Medical Women's Federation; Dr. Violet Kelynack, Medical Secretary, Medical Women's Federation; Major-General H. P. W. Barrow, C.M.G., D.S.O., K.H.S.; Dr. Andrew Balfour, C.B., C.M.G.; Dr. Aileen Boyd-Mackay; Lady Smith, J.P.; Dr. Norah Priestley; Mrs. W. Paterson; W. Lionel Jenkins, Esq., M.A.; Dr. F. B. Skerrett; Mrs. Cyril Banks; Dr. J. A. Scott, Mrs. Scott; Dr. H. M. C. Macaulay, Mrs. Macaulay; Dr. W. E. Turner; Professor J. C. Drummond, D.Sc.; Dr. A. C. Troup; C. N. Hooper, Esq., Clerk, Fishmongers' Company; Mrs. Cates; O. Cattlin, Esq., Mrs. Cattlin; J. A. Inglis, Esq.; Mrs. Penny; Dr. A. G. G. Thompson, Mrs. Thompson; L. J. Packington, Esq.; Dr. F. D. Ross-Keyt; Dr. E. G. Rawlinson, Mrs. Rawlinson; Mrs. Stirk; Dr. Arthur Hawley, Mrs. Hawley; Mrs. Snell; F. Quick, Esq., J.P.; J. Colts-Davis, Esq., Mrs. Colts-Davis; S. P. J. Merlin, Esq., Mrs. Merlin; Colonel W. Clifford Phillips, V.D., T.D.; Dr. Alfred Friel, Mrs. Friel; Dr. Donald Stewart, Mrs. Stewart; Dr. Mabel Brodie; Dr. Ian S. Thomson, Mrs. Thomson; Dr. Dan Powell; Dr. T. R. Elliott; Dr. A. S. M. Macgregor, O.B.E.; Mrs. Kerr; T. Crew, Esq.; Dr. W. H. Blackburn; Dr. J. A. Fraser; Dr. Mary Kidd; Dr. G. Quin Lennane, M.C.; Mrs. Fenton; Mrs. G. F. Buchan; The Rev. C. G. T. Colson; Miss Howard-Jones; Dr. J. W. Jeger; Dr. Maitland Radford, Mrs. Radford; Dr. Fanning, Mrs. Fanning; Dr. Gertrude Dearnley; Dr. D. M. Livingstone and guests; Dr. J. Clarke McMillan, Mrs. McMillan; Dr. W. H. Gordon; Dr. Crystabel Eyre; Dr. J. A. H. Brincker, Mrs. Brincker; Dr. T. Fortescue Fox; Dr. Cecil Herington, Mrs. Herington; Dr. J. W. Bell; Dr. T. Orr; S. A. Pleasant, Esq., Mrs. Pleasant; E. A. Jennings, Esq., L.D.S.; J. F. Pilbean, Esq., L.D.S.; F. J. Hagen, Esq., L.D.S., Mrs. Hagen; Miss Field; F. Breese, Esq., L.D.S., Mrs. Breese; W. Leigh Breese, Esq., L.D.S.; Arnold Thorne, Esq., Mrs. W. R. Thorne, L.D.S.; Mrs. A. E. Baker; Herbert Baker, Esq., L.D.S.; Richard Pryce, Esq.; Dr. F. Foord Caiger; Dr. Ruby Inkster; Captain W. Dalrymple-Champneys, Mrs. Dalrymple-Champneys; Captain K. C. McCallum, M.C.; Dr. C. Isobel Wright; Dr. W. A. Lethem, M.C., Mrs. Lethem; Dr. C. T. Maitland, Mrs. Maitland; Major Forman; Dr. W. Herbert Butcher, Mrs. Butcher; Dr. Carrie Sims; Mrs. Harries; Dr. John Tate, Mrs. Tate; Mrs. Howell; and Mr. G. S. Elliston (Executive Secretary).

The loyal toasts, proposed by the President, were enthusiastically honoured.

THE RT. HON. H. P. MACMILLAN, P.C., K.C., in giving the toast of "The Society," expressed the great indebtedness of the people of this country for the magnificent work which the Society and its individual members were performing in the public interest. The development taking place in public health administration was bringing about nothing short of a revolution in the health and welfare of the nation, and very tangible evidence of that was recently forthcoming in the statement of one of the leading assurance companies that, thanks to the raising of the standard of life of the community by modern sanitation and public health administration, the expectation of life had been increased to such an extent that assurance companies had been able to discard their old mortality tables and offer lower premiums to the assured.

An outstanding feature of the work of the public health service was the splendid enthusiasm brought to it, apropos of which Mr. Macmillan humorously referred to the medical

officer who, in the witness chair, was positively lyrical on activated sludge, and whose flights of oratory on the subject of an outfall sewer were beyond admiration. It was that enthusiasm which, though, it was to be feared, rather scantily rewarded, had done so much to improve the standard of life in this country. The people had benefited enormously during the last few years by the legislation which had been passed and had been administered by the health service of the nation. He would not attempt to recite all that the Society had achieved during its seventy-two years of existence, but there was no doubt that the free interchange of ideas amongst its members must have been of great value in encouraging its beneficent work and advancing the cause of public medicine. The educative side of the Society's work was also particularly valuable and, unlike some societies which kept minutes and wasted hours, no time was lost in securing the best results that initiative and resource could produce. From a knowledge of the welfare work carried on under the guidance of medical officers of health, he had been very much struck by the way in which the task had been approached. It was not a case of relieving people of duties, but rather of showing them how they might themselves best develop their interests, improve their conditions and utilise their lives to the fullest advantage. The public health side of medicine was perhaps the most valuable of all, and the reward of the labours of the health service was reflected not only in the dry tables of vital statistics but in the happiness of the home, in a people better housed and, in the end, economically more prosperous. Mr. Macmillan, in conclusion, congratulated the Society on its splendid membership; approximately 2,000 members had banded themselves together to develop their science and to advance the interests of humanity. The service deserved well of the nation, and he wished it all possible success.

THE PRESIDENT said that he regarded it as an honour to reply to the toast of "The Society," so eloquently proposed by Mr. Macmillan, whose remarks on their work were greatly appreciated. Reference had been made to the wonderful prosperity of the assurance companies in this country, who were apparently in need of an outlet for surplus funds. A Canadian company had sent a large number of medical men to this country for a considerable period to study public health institutions, and the English companies might be prepared to follow the example and send a party of medical officers on a similar study tour in other countries.

Dealing with legal questions, the President said that many a Public Health Act had had its origin in the brain of a provincial medical officer of health. His recommendations, after passing through his council, would go to the Parliamentary agents (who generally said: "There is no precedent for this") and then on to the Government departments and the committees of the House of Commons and House of Lords, and ultimately emerged unrecognisable by the initiator.

Referring to the "vital statistics" of the Society, Dr. Howard-Jones reminded the members that its birth took place in 1856, the parents being the medical officers of health of the metropolis, who founded the great organisation to which they belonged. They were now passing through a period of growth, and their activities were spread over thirteen branches (including one in Southern India and another in the Malay States) and six groups dealing with specific departments of public health work. No branch yet existed in Ireland. The growth of the Society would, he predicted, increase very rapidly because preventive medicine was beginning to pervade the whole realm of medicine, and eventually would come into its own. Though in theory the greatest branch of medicine, in practice at present such was not the case.

The League of Nations system of interchanges of medical officers from many countries received cordial appreciation from the President, who held that they were doing more to cement the friendship of the nations than any other department of the League.

Turning to the cost of health services, Dr. Howard-Jones stated that out of a total of £373,000,000 expended in England and Wales during the year 1924-25 on local government administration, only £12,000,000 was spent on those services usually controlled by the medical officer of health. This amounted to about 6s. 3d. per head of the population. Taking the amount spent on behalf of the women from fifteen years of age upwards, the cost was approximately 2s. 6d. per head of the population. In that connection it would be interesting to make a comparison with the amount per head spent on the hygiene of the hair.

Much had been heard of the expectation of life. It had taken eighty years to increase the expectation of life by seventeen years. In less than eight years the ladies, he was sure, had produced a more spectacular effect, thanks to the activities of the hair specialist and the artificial silk manufacturer, and that was without the assistance of the glands of internal secretion. Ladies had achieved the secret of increasing youth, and the only old ladies were those they knew in their childhood.

The President concluded his remarks with a warm tribute to the Executive Secretary (Mr. G. S. Elliston), whose wonderful work in all departments of their activities had won the admiration of the whole of the Society.

DR. CHARLES PORTER, in an exceedingly happy speech, proposed the toast of "The Guests." The members extended an especially cordial welcome to Mr. Macmillan, who had so charmingly proposed the toast of "The Society," and they were particularly gratified to have amongst them Dr. Haden Guest, who had put in such a great amount of work in connection with the public health service, more especially in relation to clean food—one of the most important matters in the realm of public health to-day. They were also glad to see the Prime Warden of the Fishmongers' Company. The amount of educational work which that old and famous Company was doing was tremendous, and it was a source of pride that the Society had been taken to the heart of the Fishmongers' Company in connection with that work, and that the Society in its turn had fully reciprocated the kindly feelings and goodwill of the Company. Equally there was another great City Company which was doing a vast amount of educational work in relation to public health; he referred to the Plumbers' Company, whose Master they were all glad to welcome. With regard to Dr. Brackenbury, it was strange that he should be posing as a guest, and while he would be welcomed very warmly as a member of the Council of the Society he would be welcomed no less warmly in his official capacity as a representative of the British Medical Association. It was a particular pleasure also to have the company of Dr. Cox, Medical Secretary of the British Medical Association. Sir Allan Powell, representing one of the greatest public health bodies in London—the Metropolitan Asylums Board—was always cordially welcomed at the Society's gatherings. Then there was Mr. Lesser, President of the National Association of Insurance Committees, who was a valued ally of the Society in the educational side of its work. Another guest whom the Society was especially happy to welcome was the Mayor of Newport. There was present with them also the President of the Medical Women's Federation; it was a great pleasure to have a representative of that important body with them, and everybody would offer to her a very warm welcome. The Society, added Dr. Porter, delighted no less to welcome the ladies and private guests of Fellows of the Society.

MAJOR L. HADEN GUEST, M.C., in the course of his reply, expressed strongly the view that there ought to be much more scientific thought directed to public affairs, and that very many more doctors and people trained in the medical sciences should turn their attention to public life. It would be all to the advantage of the country if there were, for example, as many doctors in Parliament as there were members of the legal profession. In the political arena it was rarely found that there was any bitterness in matters of public health interest, because they had been considered, analysed and weighed in such a way that certain definite facts were known about them when they came forward in the shape of proposed legislation. More and more he believed that doctors would be needed in public life because politics had got to become more serious, and sober consideration by quiet-minded, scientifically-trained people was essential. He made a strong plea for doctors to take a part not only in medical administration but in the hurly-burly of public life, so that there might be, instead of fourteen members of the medical profession in Parliament as at present, at the very least fifty.

DR. H. B. BRACKENBURY (Chairman of Council, British Medical Association) voiced the pride with which he regarded his membership of the Council of the Society and the extreme cordiality which, he hoped he might say, existed and which it was highly desirable should be cultivated between the Society whose members were in the public health service and that larger Association of the medical profession as a whole, including the public health members. The distinction between the curative and preventive sides of medicine was happily becoming less a real distinction. It was his object and the object of those he represented to emphasise fully those things in the profession which were common to all and to minimise, as far as possible, those things in which it might be

considered, not unnaturally, a somewhat different view might be taken. There was an enormous amount of curative work done in connection with public health departments under the administrative supremacy of medical officers of health all over the country. They had all of them gone through the same training in order to obtain their registered medical qualification, and the medical officer of health did not cease to be influenced by the clinical training which he had received any more than the ordinary practitioner of medicine ceased to be influenced by it; indeed, when they came to speak of the distinction not merely between curative and preventive medicine but between the very words "clinical" and "administrative," they realised that it was becoming less and less a distinction. After all, the history and the point of view of those who had been for many years in the public health service had gone through exactly the same phases as those of them who were going their way in the ordinary practice of the profession. When medical officers of health were first appointed they were there to diagnose and to cure the diseases with which they were brought in contact, and in exactly the same way it had been considered to be necessarily the primary object of the ordinary practising members of the profession to diagnose and cure the illnesses of the individual, and it was only later that it was discovered that in diagnosing and curing those illnesses of the community they were actually practising preventive medicine; thinking all the time how they could stop the kind of thing they saw happening in the patients and their families. Moreover, they were looking not merely to the prevention of disease but to the prevention of conditions, so that in town planning, by means of open spaces and in other ways the life of the community could be brought to the highest possible state of development. They were all of them working together to exactly those ends; all of them doing curative and preventive medicine and, if he might say so, "perfection" work. He hoped it would be realised that they were all members of the same profession with the same kind of mind and the same kind of attitude and object; all of them endeavouring to bring about the perfection of the health of the nation.

MR. H. LESSER (President, National Association of Insurance Committees) said that it was the first time he had had the honour and privilege of being present at the Society's dinner, and he understood the invitation to be a gesture from the Society of goodwill towards the insurance committees of the country. The insurance committees, who were so much concerned with a great industrial medical service, had been brought into closer relation with the Society, chiefly through the Central Council for Health Education. Mr. Macmillan had spoken of the educative work of the Society, and he desired to add his testimony to the value of that work to the community. It was due to the Society that a great deficiency was likely to be made good, *viz.*, the lack of co-operation between a service devoted to 15,000,000 workers and the medical officer of health in every individual community. There was under the Act of 1911 power given to local insurance committees or the approved societies to institute an enquiry where there was excessive sickness in any particular area. That provision became a dead letter and was not exercised. The sickness of the industrial classes was increasing alarmingly, and if that link was forged between the insurance organisations and the medical officers of health an opportunity would be given to investigate local conditions. The experience of those organisations could be placed before the official responsible for health in his area, and similarly co-operation would be afforded to the insurance organisations by the great knowledge and experience which the medical officer of health was able to bring to bear on the subject. The form which that co-operation might ultimately take it was difficult at the moment to indicate, but in commencing with health propaganda and endeavouring to arouse the interest of the bodies concerned, he was confident that the Society was rendering a very valuable and important public service. Mr. Lesser concluded by expressing the hope that the co-operation which had commenced would be fostered and promoted to the utmost possible limit to the ultimate good of the country.

COUNCILLOR WALTER GRIFFITHS (Mayor of Newport, Mon.) said that it was a great privilege and pleasure to be present at the dinner of the Society, and he desired at once to convey the appreciation of the citizens of Newport that their medical officer of health had received the honour of occupying the Presidential Chair of so influential a Society. His Worship referred to the very high esteem in which Dr. Howard-Jones was held in their

town and seaport, and to the valuable work he had carried out in connection with the health services of the town and the mercantile marine. His labours in the interests of the health of the merchant seaman were well known, and redounded with credit not only to himself but to the local authority he served. Dr. Howard-Jones had also performed a great work in relation to the maternity and child welfare services of Newport, and under his guidance the town was fortunate in possessing a health service of great utility and efficiency.

PROFESSOR HAROLD KERR, O.B.E., proposing the health of the President, said that where there was work to be done Dr. Howard-Jones was always there. His Mayor had referred to the President's work as port medical officer of Newport. Port medical officers had not always taken themselves as seriously as they might have done, but the work of Dr. Howard-Jones for the British mercantile marine deserved to go down in history. He had been keenly concerned with the work since 1913, at any rate, and had made the subject a strong card in the programme during his presidential year. In the Great War he joined up at the very beginning, serving as A.D.M.S. throughout, and his keen interest in all matters pertaining to the hygiene of the Services was shown by the prominent part he took in the work of the Navy, Army and Royal Air Force Hygiene Group of the Society. During the year to come the President had much work ahead of him—work that would require all his *finesse*. The Rating Bill would see all of them in very troubled waters, but they hoped that it would be carried through to a triumphant conclusion. The whole Society would wish him success during his year of office and all happiness and contentment in it.

The toast was accorded with musical honours, the President briefly returning thanks.

During the evening Mr. Charles Pond entertained with a series of humorous monologues.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on Friday, November 16th, 1928. The President (Dr. J. Howard-Jones) was in the chair, and there were present:—Profs. A. Bostock Hill, Kenwood, H. Kerr, Drs. Snell, Porter, Lyster, Buchan, Paterson, Chalmers, Jolly, Wood, Eustace Hill, Picken, Pearce, Bertram Hill, Linton, Muir, Tapper, Puddicombe, Stirk, E. Ward, Stella Churchill, Evans, Wilshaw, Pringle, Fenton, Brackenbury, Baker and Lieut.-Col. G. S. Parkinson.

The minutes of the last meeting having been approved and signed, apologies for absence were received from Drs. H. J. Milligan, R. Veitch Clark, Naylor Barlow, Gibbons Ward, and G. F. Buchan.

Representation of the Society.—(1) Prof. H. R. Kenwood was re-elected as the representative of the Society on the Joint Tuberculosis Council. (2) Dr. Charles Porter and Dr. Stella Churchill were nominated for the Joint Committee proposed by the National Association for the Prevention of Infant Mortality for educational work in connection with maternal morbidity and mortality. (3) Prof. A. Bostock Hill and Dr. Fenton were asked to attend as observers at a non-party conference convened by the National Union of Societies for Equal Citizenship to discuss the proposed substitution of the block grant for percentage grants in the Government's Rating Reform Bill.

Pupil Assistants.—A letter was considered from Dr. Cox referring to the following resolution of B.M.A., *viz*:—

"That advertisements for pupil assistants to act (*a*) either as residents in infectious hospitals, sanatoria or institutions of a similar nature; or (*b*) to do work usually assigned to Assistant Medical Officers of Health or Assistant School Medical Officers, be not accepted for publication in the B.M.J. whether a premium be required or not."

Dr. Cox reported that he had been consulted by a M.O.H. who desired to observe the letter and spirit of the Association's policy in this matter as to whether objection would be raised to the acceptance of an unpaid pupil assistant, who would pay no premium, and who would only be expected to do some research work and occasional relief duty for the permanent assistant medical officers. Such pupil assistant would do no work that would otherwise be paid for by the local authority. In the course of discussion it was pointed out that D.P.H. students are given ample opportunities of seeing the routine work of a public health department and that the employment of pupil assistants would enable parsimonious authorities to avoid such staffing of their

health departments as to permit of opportunities for research, and reasonable leave allowances, for existing medical officers. It was agreed, therefore, to notify Dr. Cox that any amendment of the B.M.A. resolution in this connection is not desirable.

Superannuation of Local Government Employees.—Dr. Fenton reported that in accordance with the decision of Council (September 28th and October 19th) Dr. Cates and himself had conferred with representatives of the Sanitary Inspectors' Association, the Women Sanitary Inspectors' and Health Visitors Association, and the College of Nursing. As a result he was able to submit a memorandum indicating how the Report of the Departmental Committee on the Superannuation of Local Government Employees failed to recognise the special claims of the public health officials. The inspectors and health visitors, through their representative bodies, would be asking the Society to organise a joint deputation to place the facts before the Ministry of Health, and he (Dr. Fenton) was in agreement with Dr. Cates that this responsibility should be accepted by the Society. *Agreed* that the Ministry of Health be asked to receive a deputation in reference to the conditions of superannuation of public health officials, and that the President and Dr. Fenton attend with the deputation as representatives of the Society.

P.H. Encroachments on Private Practice.—The following committee was appointed to consider the interim report of the Private Practice Committee of the British Medical Association in reference to Encroachments on the Sphere of Private Practice by Local Authorities (*B.M.J. Supplement*, November 3rd, 1928), *viz.*:—Prof. Bostock Hill, Dr. Stella Churchill, Dr. Picken, Dr. Snell and Dr. Fenton, with the President *ex Officio*.

It was also agreed that the Branches be asked to forward to the committee any observations they may wish to offer on the report before the end of December.

Local Government Bill, 1928.—Dr. Fenton drew attention to the urgent importance of the Local Government Bill, 1928, now before Parliament, and suggested that a committee should be appointed to watch the progress of the Bill at every stage and to take any steps necessary to obtain expression of the views of the Society on matters affecting the public health service. It was agreed that in order to formulate the views of the Society on the general intention of the Bill a special meeting of the Council should be held at 2 p.m. on Thursday, December 6th, and that the sitting should be resumed at 10 a.m. on December 7th, if necessary. Meanwhile, it was agreed that the officers of the Society, with Dr. Fenton, should act as a watching committee in regard to the progress of the Bill.

The Executive Secretary was directed to invite the Branches to submit any recommendations bearing on the Bill for the early consideration of the Council.

ORDINARY MEETING.

An ordinary meeting was held at the house of the Society on Friday, November 16th, 1928, the President (Dr. J. Howard-Jones) in the chair. The minutes of the last meeting were approved and signed.

The following candidates having been duly nominated were elected to the Society:—

As Fellows:—

Allardice, Frank, M.B., Ch.B. (Ed.), D.P.H.; Brechin, Forrest, M.B., Ch.B. (Glas.), D.P.H.; Campbell, Angus Henry, M.B., Ch.B., B.Sc. (Ed.), D.P.H., D.T.M. & H.; Johns, Archibald Tisdall, B.A., M.D., B.Ch. (Dub.); Lawrie, John Hollis Drummond, M.D. (Edin.), D.P.H.; Leys, Duncan Gerard, B.A., B.M., B.Ch. (Oxon.), M.R.C.P.; MacIver, Donald Patrick, M.C., M.B., Ch.B. (Ed.), D.P.H.; Stephens, Edith Emily, M.D., B.S. (Lond.), Wilson, Charles Robertson, M.B., Ch.B. (Ed.), D.P.H.

As Associate:—

Taylor, Ernest John, L.D.S., R.C.S. (Eng.).

A number of nominations were received for the December election.

There followed a discussion on "The Notification and Control of Venereal Diseases." The openers were Dr. A. K. Chalmers (formerly M.O.H., Glasgow) and Dr. R. A. Lyster. Other speakers included Dr. Vernon Davies, M.P., Sir George Berry, M.P., Dr. Drummond Shiels, M.P., Dr. Wansey Bayly, Dr. A. S. M. Macgregor, Dr. J. J. Buchan, Dr. E. H. T. Nash and Lieut.-Col. F. E. Fremantle, M.P.

At the close of the discussion it was agreed unanimously: "That the Council of the Society be asked (*a*) to ascertain the views of the Branches in reference to the compulsory treatment and compulsory notification of venereal diseases, and (*b*) to consider whether any scheme of action can be recommended in reference to the parents of children infected with venereal diseases."

A report of the discussion will appear in an early issue of the Society's journal.

THE WHEATLEY MEMORIAL FUND.

At the council meeting of the Society of Medical Officers of Health, on October 19th, it was suggested that many members of the Public Health Service felt the proposed memorial to Dr. James Wheatley at Shrewsbury to be too local in its character, and that some form of commemoration at the headquarters of the Society would make a stronger appeal. In the course of the discussion it was pointed out that the Shrewsbury memorial embodies a scheme long advocated by Dr. Wheatley, and that the organising committee would gladly mark some definite part of the memorial as the gift of the Public Health Service. On this understanding the council were satisfied that members of the Society would do well to support the Shrewsbury scheme, and it is hoped that those who have hesitated to forward their donations will do so at once. Contributions already received are as follows:—

£5 5s. each: Sir George Newman, Dr. A. D. Symons, Dr. T. R. Elliott, and the Metropolitan Branch of the Society.

£3 3s. each: Dr. A. E. White, Dr. B. Astley Weston, Dr. Ralph Crowley, Dr. J. Sim Wallace, and the Editor of *The Medical Officer*.

£2 2s. each: Dr. W. D. Carruthers, Dr. J. Middleton Martin, Dr. H. Gordon Smith, Dr. P. G. Horsburgh, Dr. Wilson Evans, Dr. J. R. Kaye, Dr. M. Gepp, Dr. A. C. Watkin, Dr. W. Taylor, Dr. T. S. Stirling, Dr. G. Lissant Cox, Prof. E. W. Hope, Dr. Frank Robinson, Dr. T. Eustace Hill, Dr. Stella Churchill, and Dr. Gerard Taylor.

£1 1s. each: Prof. H. Kerr, Dr. J. T. Macnab, Dr. Thos. Orr, Dr. J. A. Fairer, Dr. R. P. Garrow, Dr. Mabel Blake, Dr. F. T. H. Wood, Dr. M. C. R. Grahame, Dr. A. Hamilton Wood and Prof. A. Bostock Hill.

£1: Dr. J. Fenton.

10s. 6d.: Dr. P. Stanley Blaker.

10s.: Dr. Charles Sanders.

Dr. Wheatley's friends are anxious that the fund should be completed as soon as possible, and intending contributors are urged not to delay in sending their subscriptions. Cheques should be forwarded to Dr. A. D. Symons, M.O.H., 74, Wyle Cop, Shrewsbury, or to the Executive Secretary, 1, Upper Montague Street, Russell Square, W.C.1.

THE NORTH-WESTERN BRANCH.

President: Dr. F. T. H. Wood, O.B.E., M.O.H., Bootle.
Hon. Secretary: Dr. G. W. N. Joseph, M.O.H., Warrington.

A meeting of this Branch was held in Manchester on October 12th, 1928, Dr. W. St. Clair McClure occupying the Chair. Twenty-six members were present. The minutes of the last meeting were read and confirmed.

Apologies for absence were received from Drs. Cox, Peck, Meredith Young, Adams, Edwards and Mussen.

Dr. W. St. Clair McClure introduced Dr. F. T. H. Wood, O.B.E., to the Chair as President for the session 1928-29, after investing him with the newly-acquired emblem of office.

It was resolved that the best thanks of the Branch be accorded to Dr. McClure for his services as President during the session 1927-28.

The question of the proposed Wheatley Memorial was considered, and it was resolved that it be a recommendation to the Council that the promoters of the present scheme be approached with a view to ascertaining whether some specific part of the memorial at Shrewsbury could be identified with medical officers of health, and, if so, that all members of the Society should be asked to contribute towards it; failing this that a permanent memorial to Dr. James Wheatley be established at headquarters in the form of a plaque and a fund from which an annual prize could be offered for some important public health work.

Dr. Wood delivered his Presidential Address entitled, "The Public Health Twenty Years hence."

A vote of thanks, proposed by Dr. Stallybrass and seconded by Dr. Veitch Clark, was enthusiastically accorded to the President for his Address, which will appear in PUBLIC HEALTH in due course.

A meeting of this Branch was held in Manchester on November 8th, 1928, the President occupying the chair. Fifteen members were present.

The minutes of the meeting held on October 12th, 1928, were read and confirmed.

The question of the proposed memorial to Dr. James Wheatley was further considered, and after discussion it was resolved that the Hon. Secretary obtain further information

with regard to certain particulars from Dr. A. D. Symons at Shrewsbury.

A paper on "Notification of Infectious Diseases, with special reference to Small-pox" was read by Dr. A. E. Brindley, Medical Officer of Health, Derby, and gave rise to a considerable amount of discussion in which many useful points were raised.

Dr. Naylor Barlow, in proposing a vote of thanks to Dr. Brindley for his excellent paper, referred to the futility of late notification and to the fact that some general practitioners seemed to overlook entirely the object of the notification of infectious diseases.

Dr. Veitch Clark, in seconding, said that Dr. Brindley had opened up avenues of thought that must have been apparent to all for some time, not only with regard to small-pox but to all endemic infectious diseases, namely, the origin of such diseases in a community. The only actual avenue of work was the control of contacts, but we were bound to tackle the question of the origin of the first recognisable case of the disease. He was satisfied that active pathogenic viruses were carried about by normal, healthy people apart from the ordinary "carrier" of disease. With regard to vaccination he was in favour of a voluntary measure with power in the face of an epidemic of declaring an area an infected area with compulsory vaccination of contacts.

The vote of thanks was warmly accorded, and the hope was expressed that Dr. Brindley's paper would appear at an early date in the journal of the Society.

THE YORKSHIRE BRANCH.

President: Prof. J. Johnstone Jervis, M.O.H., Leeds.
Hon. Secretary: Dr. G. H. Pearce, M.O.H., Batley.

A meeting of this Branch was held at the Education Offices, Calverley Street, Leeds, on October 18th, 1928, Dr. Mair, Medical Officer of Health, Harrogate, occupying the chair.

The minutes of the last meeting, having appeared in PUBLIC HEALTH, were taken as read.

Correspondence from the Executive Secretary respecting a circular letter, dated October 1st, addressed by him to Branch and Group Secretaries, was considered and the recommendations therein adopted.

A letter from the West of England Branch, asking what action the Yorkshire Branch proposed taking in connection with the Wheatley Memorial, was considered. It was decided that the West of England Branch be informed that the members were unanimously favourably disposed towards supporting any approved scheme for perpetuating the memory of the late Dr. Wheatley, such as, for instance, the placing of a memorial tablet in the Society's house or elsewhere; the institution of an annual prize on the lines of the Neech prize, or otherwise; but were not in favour of subscribing towards providing an Open-Air Swimming Bath for the town of Shrewsbury, which, in the opinion of the Branch, was something which should be provided by the municipality. Meanwhile, each member was, of course, at liberty to take what individual action he desired.

The Hon. Secretary was instructed to send to the widow of the late Dr. F. E. Atkinson, who occupied the Presidential Chair of the Branch in 1896, a letter expressing the sympathy of the members in the loss she had sustained by the death of her husband.

A letter was read from Dr. Cyril Banks resigning his position as one of the representatives of the Yorkshire Branch on the Council of the Society. On the proposition of Dr. J. J. Buchan, seconded by Dr. J. R. Kaye, Dr. W. Bertram Hill was unanimously elected as his successor.

Various other correspondence was considered and action taken in accordance with the recommendations of the Council, which met prior to the meeting of the Branch.

THE HOME COUNTIES BRANCH.

President: Dr. F. T. C. Linton, M.O.H., Tunbridge Wells.
Hon. Secretary: Dr. W. A. Muir, M.O.H., Gillingham.

The second meeting of the 1928-29 session of this Branch was held at the factory of Messrs. Bovril, Ltd., Old Street, London, E.C.1, on the afternoon of Friday, November 2nd, 1928.

The President and thirty members were present.

The principal manufacturing processes carried on in the factory were demonstrated, including the blending of extracts and mixing with beef fibrin and albumin; the milling of beef powder, which is incorporated with the extracts and essences; and bottling, capping and labelling — carried out chiefly by machinery. As a side-line the manufacture of chocolate was also shown.

During the tour of the factory, the modern laboratories were visited where chemical analysis is carried out of every batch of extracts, etc., to ensure that the finished article conforms to a standard.

After tea, provided by the directors, the President proposed a vote of thanks to the Company for their kindness in arranging the visit and also for their hospitality. A representative of the directors suitably replied.

THE WELSH BRANCH.

President: Dr. A. Duncan, M.O.H., Merthyr Tydvil.
Hon. Secretary: Dr. Thomas Evans, M.O.H., Swansea.

The inaugural meeting of this Branch for the session 1928-29 was held at the City Hall, Cardiff, on November 2nd, 1928. The retiring President (Dr. L. W. Pole) occupied the chair and ten members were present.

The minutes of the last meeting were read, approved and signed.

Letters regretting inability to attend were received from Drs. Howard-Jones and Lewys-Lloyd.

Arising out of the correspondence, several interesting topics—a proposal to submit a memorandum for the consideration of the Welsh Departmental Committee on Rural Education; Sir George Newman's circular on the investigation of maternal deaths, and the administration of orthopædic schemes—were considered and each subject evoked considerable discussion.

The retiring President then inducted Dr. A. Duncan as President of the Branch for the session.

Dr. Duncan, on taking the chair, thanked the members of the Branch for the honour conferred on him by his selection as President, and thereafter delivered an extremely interesting and illuminating address dealing with the history and sanitary development of Merthyr Tydvil.

A hearty vote of thanks for the address, proposed by Professor Edgar W. Collis and seconded by Dr. Pole, was carried with applause. A vote of thanks for the services rendered by Dr. Pole as President of the Branch during the preceding session, proposed by Dr. Picken and seconded by Dr. T. Evans was also enthusiastically accorded.

THE MIDLAND BRANCH.

President: Dr. R. H. H. Jolly, M.O.H., Wolverhampton.
Hon. Secretary: Dr. B. C. Haller, Asst. M.O.H., Wolverhampton.

The second meeting of the session of this Branch was held at the Medical Institute, Birmingham, on November 8th, 1928, the President occupying the chair. Twenty-six members were present.

The minutes of the previous meeting, which had been published in PUBLIC HEALTH, were taken as read and signed.

Apologies for absence were received from Drs. Snell, Carruthers, Gibbons Ward, Goldie, Miller, Peebles, and Killick Millard.

Mr. T. Harrison Butler, F.R.C.S., read an interesting and instructive paper on "Ophthalmic School Clinics." A discussion followed, many of the members present giving their own experiences of ophthalmic school clinics and asking numerous questions.

A hearty vote of thanks to Mr. Harrison Butler was proposed by the President and seconded by Dr. Auden, and the hope was expressed that the paper would be published in PUBLIC HEALTH.

THE MATERNITY AND CHILD WELFARE GROUP.

President: Prof. A. Louise McIlroy, Professor of Obstetrics and Gynæcology, University of London.
Hon. Secretary: Dr. Margaret Emslie, 18, Weymouth Street, Portland Place, W.1.

A meeting of this Group was held at the house of the Society on October 19th, 1928, when twenty members and guests were present. The President occupied the chair.

Nominations were asked for the third Vice-Presidentship of the Group which, through an oversight, had not been filled at the July meeting, and Dr. Stella Churchill was elected by a majority of votes.

The programme for the session was announced as follows:—

Friday, December 14th, 1928.—Dinner at the Criterion Restaurant, London, W.1.

Thursday, January 24th, 1929.—Joint meeting with the Medico-Legal Society to discuss "Criminal Abortion, and Measures necessary to Restrict the Sale of Abortifacient Drugs."

Thursday, Friday and Saturday, February 21st, 22nd and 23rd, 1929.—Provincial meeting at Manchester.

Friday, March 15th, 1929.—Joint meeting with the Obstetric Section of the Royal Society of Medicine to discuss "The Future of the Maternity Service."

Friday, April 26th, 1929.—Joint meeting with the School Medical Service Group to discuss "Diastolisation in the Treatment of Nose, Throat and Ear."

Friday, May 24th, 1929.—Presidential Address.

Professor Frederick Hobday, C.M.G., F.R.C.V.S., F.R.S.E., Principal of the Royal Veterinary College, addressed the Group on the subject of "Milk Production and Child Welfare," in which he stressed the importance of collaboration between the medical man and the veterinarian. A number of prominent speakers—medical and veterinary—followed Professor Hobday in a most interesting and informative debate, and at the conclusion the sincere thanks of the Group were, on the motion of the President, conveyed to Professor Hobday and the other speakers.

THE DENTAL OFFICERS' GROUP.

President: Dr. J. Sim Wallace, Lecturer on Preventive Dentistry, King's College Hospital.

Hon. Secretary: W. Leigh Breese, Esq., L.D.S., 328, Brixton Road, S.W.9.

The annual meeting of this Group was held at the house of the Society, on October 19th, 1928.

The following officers were elected for the session 1928-29:—

President: Dr. Sim Wallace.

Vice-President: Mr. Evelyn Sprawson.

Hon. Treasurer: Mr. G. Thomson.

Hon. Secretary and *Hon. Editor*: Mr. W. Leigh Breese.

Two members to the Council: Miss Fry and Mr. W. G. Senior.

Representative on Council of Society: Mr. A. E. Baker.

The retiring President, Mr. Evelyn Sprawson, delivered his valedictory address, in the course of which he thanked the officers of the Group who had given him their support during his year of office.

Dr. Sim Wallace read a paper entitled "Recent Research on Enamel and the Incidence of Dental Caries," which it is hoped will be published in due course.

At a recent meeting of this Group, Mr. Frank Coleman, M.C., M.R.C.S., L.R.C.P., L.D.S., read a paper on "The Construction of Tooth Extraction Instruments and their uses."

Mr. Coleman introduced his subject by stating that there were many practical points in the construction and uses of tooth extracting instruments that were not widely known or fully appreciated.

He laid great stress on the importance of acquiring a sensitiveness of touch in order to become a safe and reliable extractor of teeth and to be able to appreciate a well-designed instrument.

The physician of a former generation employed the term "tactus eruditus" to express a delicate sense of touch that is acquired after long and constant practice in the use of the fingers for palpation, and unless the dental practitioner likewise acquires this sensitiveness of touch he can never become a reliable extractor.

The forceps, as often remarked, should become an extension of the fingers, and there should be a very slight amount of lateral movement or play between the blades of the instrument. This lateral play is to serve two purposes: First, to allow the blades to adapt themselves to varying shapes of teeth, and secondly, to enable the root of the tooth to be palpated or felt; for palpation necessitates, apart from pressure, a slight amount of gliding movement over the object palpated. This gliding movement is permitted only when the joint of the forceps allows the blades to work freely and without friction. We know from experience how the sense of touch is lessened, or nearly abolished, when using a rigid instrument which allows pressure sense only to be appreciated, and the extraction becomes merely a mechanical movement of the hands.

The so-called "surgical extraction" of teeth has, he thinks, evolved largely because of this tactile sense not being fully appreciated or acquired; although he grants that "surgical extraction" is sometimes of great value, or indispensable, especially after failure of the ordinary methods of extraction. The necessity for employing surgical extraction to any large extent must be regarded as a confession of failure in acquiring proficiency over the ordinary methods of operating. The terms extra-alveolar and intra-alveolar extraction might be used to express the two methods employed; "intra-alveolar" extraction being the term used when forceps and elevators are employed in the usual manner within the tooth sockets, and "extra-alveolar" extraction when access to the tooth or root is obtained by removing the covering bone.

The maxillary first pre-molar when it has

fine divergent roots and is set in firm bone is probably the most difficult of the teeth to remove successfully, apart from pathological conditions of the teeth and jaws, but many of us would be dissatisfied if we encountered more than a one per cent. of failures in their extraction. Needless to say, such a low percentage of failures in the extraction of this tooth can only be attained when working under favourable conditions as to technique, anæsthesia and type of patient, and the term "failure" need not necessarily pertain to a root that was fractured, but subsequently removed at the same operation or even, perhaps, shortly afterwards. Surgical, or extra-alveolar, extraction may come to our aid here in enabling us, if desirable, to remove the portion of root left. Fortunately it is usually the outer root of a maxillary premolar that fractures, and this lends itself more satisfactorily to surgical extraction than would a small fragment of the inner root. If the operator continues with forceps a very fine bladed instrument should be used, the inner blade of which is thrust deeply into the empty palatine socket and the outer blade deeply between the mucous membrane and the outer alveolar wall to obtain a firm grasp on the root; the instrument is then carried from first to last in an outward curve towards the cheek.

This latter method is liable to displace more of the outer wall of the socket than is necessary or desirable and may not be successful if the roots of this tooth be very divergent, so that a thick septum of bone intervenes between the roots. A well-designed "open" operation through the mucous membrane and bone, especially if the aid of a radiogram be previously obtained, is a more satisfactory method of dealing with these small fragments.

Apart from failure in carrying out the technique in all its aspects in a correct manner, forceps that do not fit accurately the root of the tooth, or the use of a rigid instrument, are productive of many fractures of the teeth.

The credit of introducing forceps adapted to the neck and to the root of the tooth is due to the late Sir John Tomes, and it is most important that the blades of the forceps should be constructed to fit not only the neck of the tooth but also a portion of the root of the tooth.

The various stages in the evolution of the present-day tooth forceps have been well described in a short article written by Mr. W. H. Collins and entitled "Dental Extracting Instruments Past and Present" (Royal Dental Hospital of London, Annual Reports, 1911). Mr. Collins remarks in this article how it has taken eighty years to reach the present perfection in dental forceps and considers there may be scope still for improvement; a statement in which most of us would concur.

The forceps is a modified pair of pincers, and consists essentially of the same parts, *viz*, a pair of blades or jaws with handles, which meet and cross each other at the hinge; each half becomes a lever of the first order, having its common fulcrum at the hinge. The instrument should be of the best steel, and the blades or jaws so tempered as to bend slightly, rather than break, if any undue force be encountered. Besides being made to fit the neck and root of the tooth accurately, they should be thin and sharp at their edges, so as to detach the gum margin and enter, when desired, between the root of the tooth and its alveolus. The blades should be of polished steel, and should not be nickel-plated, as this adds no strength, renders the blades less sharp, and is liable to chip off, especially at the points.

In the early days of forceps making the entire instrument was left in polished steel except for the handle, which was subsequently lacquered. The handle was less slippery than the present-day nickel-plated handle and consequently afforded a better grasp, but the instrument was more difficult to keep clean. Some dental surgeons still have their forceps made in this way, irrespective of their appearance, for the more important reason that they afford a better grasp.

When closed upon a tooth, the blades should rest parallel on its root for some distance, and not merely touch at their points, and be free from impinging upon the tooth crown. The blades should be no longer than is necessary, as power is thereby lost; moreover, long blades will often bend upon the neck of a very firm tooth instead of moving it.

The hinge should be strong and not liable, when closed, to include portions of the lips, tongue or cheek. There are two main types of hinges, *viz.*, the pin or box hinge and the screw or circular hinge. The pin hinge is employed chiefly in the lower forceps and the screw hinge chiefly in the upper forceps. The screw hinge is stronger and more easily adjustable, but requires a little more metal for its construction so that the instrument is a little more bulky.

A third type of hinge, the loose or fly hinge, is employed when a larger excursion of the blades is necessary, as in the bayonet and Read type of upper forceps.

In constructing the adapted forceps it is usual, after forging and fitting the blades as nearly to the required shape as possible, to fit them still more perfectly by applying them to the neck of a normally formed tooth coloured with pigment; the places marked by the pigment are cut away, and the process is continued until an almost perfect adaptation is attained, after which the instrument is hardened and tempered.

It is a good way to see the instrument in the "soft" condition (*i.e.*, before it is hardened and tempered), as in this condition slight alterations can be made in the length or breadth of the blades and in their angle or curvature. The handles can, if necessary, be shortened, more deeply or less deeply serrated and in other ways adapted to individual tastes. It is an advantage to have one or both handles roughened where the thumb is interposed.

Thus constructed, the blades should fit accurately upon the external and internal surfaces of the neck of the tooth; but as these do not always bear the same relative position to each other, the small amount of play at the hinge, as mentioned above, is useful in allowing the blades to conform themselves to this departure.

The handles should be strong, broad and coarsely roughened or serrated. The handles should be sufficiently long to afford a firm grasp, but no more, for although length in the handle gives greater power, it makes the instrument cumbrous and interferes with delicacy of touch and movement.

The handles are usually slightly bowed; they should not approximate too closely when the blades are adjusted to the root of the tooth, or the interposed thumb would have to be removed and the instrument grasped like a gas-fitter's pliers with loss of tactile sense and great danger of crushing the tooth.

A frequent mistake that is made in the construction of forceps, especially the full lower molar forceps, is that the blades fit the tooth with the handles too closely approximated; this allows for no wear and tear, and after a little usage it is found that the blades are loose on the tooth even with the handles fully approximated, or in the case of a small molar tooth the instrument may be loose at the outset.

He believes this to be one of the chief factors that have led so many to discard the full lower molar forceps and to employ in their place the lower root forceps, or some modification of these.

He does not think he is disclosing any secret when he says that he had to point out this fact to Mr. Collins. He found that many of Collins's full lower molar forceps, especially after hospital usage entailing frequent employment and sterilisation, soon became loose on the tooth; the reason being that they were fitted to the root of the tooth with the handles too closely approximated and any further approximation, as occasioned by wear and tear of the blades or by their use on a small molar tooth, necessitated the removal of the interposed thumb. A good test for full lower molar forceps is their adaptation to the second deciduous molar tooth; if they fitted the neck and root of this tooth there need be no fear of their being loose on the permanent molar teeth.

To note the firmness of a tooth, previous to its extraction, it is a good plan to palpate it between the fingers or between the fingers and a mouth-mirror when far back in the mouth, or by feeling it with a probe (*i.e.*, rocking it) when trismus is present which may preclude the former methods. Mr. William Guy takes exception to the usual descriptions given in text-books, and sanctioned by general usage, of preceding the outer movement by a slight inward movement in the extraction of teeth generally. Mr. Guy believes this preliminary inward movement to be useless and superfluous, and states that it adds a pang to an ordinary extraction and wastes precious time in an extraction under an anæsthetic.

These objections can be dismissed in a few words, as the time consumed in this preliminary inward movement is but a few seconds and most extractions in these days are conducted under an anæsthetic, general or local. Apart from this, Mr. Coleman does not consider the few seconds are wasted. He commences with a preliminary inward movement with most of the teeth, except perhaps the second and third lower molars, the reason being as follows: Most of the teeth give far more readily in the outward than in the inward direction (except perhaps the second and third lower molars), so that the initial inward movement serves as a test of the firmness of the tooth and gives an indication of what liberty can be taken in the outward movement and such experience is gained without endangering the tooth. The amount of inward movement that can be carried out is usually so slight that it will practically never endanger the tooth; in fact most operators use this movement as a test of the density of the bone rather than as part of the operation for dilating the tooth socket. He certainly uses it more as a test of what force will be required in removing a tooth than actually as part of the extraction, just as he tests the firmness of the tooth with the fingers or with a mirror before commencing the operation.

He considers that as a rule insufficient time is spent in carefully examining the tooth or teeth to be extracted. If an extraction takes him by surprise either in its simplicity or in its difficulty, he feels that his preliminary examination of the tooth must have been incomplete or defective.

It is a wise plan when several teeth require extraction to note carefully the character, (*i.e.*, length, breadth, divergency and curvature of the roots) of the tooth first extracted, as this information will serve as a valuable guide to the character of the roots of the remaining teeth. An easy extraction should be chosen first, so that this information is obtained before the more difficult extractions are attempted, and therefore not at the expense of fracturing a tooth.

Teeth should always be kept until the operation is completed and should any tooth be fractured this should be retained for future guidance at any subsequent operation. Any tooth that gave rise to special difficulty in its removal should be examined carefully and the cause of the difficulty investigated. The forceps should be applied to the tooth to note whether the difficulty was due to the instrument employed or to its method of employment. The tooth, if the last extracted by that instrument, will often be lying in the beaks of the forceps, in which case their relation to each other can be well seen.

A man of great experience as an operator used to say that a tooth should never be fractured within ten seconds of the commencement of the operation. This time limit was suggested in the days when one had to extract chiefly under a brief nitrous oxide anæsthesia, when the average period of unconsciousness was about thirty seconds or possibly a few seconds longer when oxygen was given with the nitrous oxide gas. In the present day with local anæsthesia and continuous nitrous oxide anæsthesia, far greater precautions can be taken in avoiding the fracture of a tooth.

No factor is more prolific in causing a tooth to fracture than a badly fitting instrument, and a sure sign that the blades of the forceps are not closely fitting the root of the tooth is that harsh, grating sound which is produced when metal is rubbing against tooth structure. Time is well spent in carefully adapting the blades of the forceps to the tooth before commencing the movements for loosening it, and the operator should immediately desist and change his instrument or his method of technique if the blades of the forceps are not fitting accurately the root of the tooth.

A good attempt at an extraction, even if failing in its ultimate object of removing the tooth, will not to any extent render subsequent treatment more difficult. For a good attempt implies that the tooth has been slightly loosened in its socket and the socket has been slightly dilated, both of which will render any subsequent extraction less difficult. The operator has gained some useful information as to the cause of the resistance of the tooth. A " snap " fracture, on the other hand, leaves the tooth and the bone in firm contact and the operator has gained no information as to the condition of the roots of the tooth or of the density of the bone.

He would like to comment on a harmful statement that one so frequently hears, *viz.*, " that it is only an apex or a small portion that has been broken off and left behind," thereby inferring that it is of no great importance. Such a statement not only encourages inefficient work, but shows an entire lack of knowledge of pathology, for pathology is not concerned in quantities only, but is often far more concerned in qualities, and a minute apex of a root may be a factory for turning out organisms into the circulation at the rate of several hundreds a minute. We know also the difficulties in removing subsequently these small pieces and often wish that a more generous portion had been left behind.

Mr. Coleman then showed a selection of well-designed instruments for the extraction of teeth and commented on the favourable points of many of them.

THE TUBERCULOSIS GROUP.

President: Dr. Harold Vallow, Senior T.O., Bradford.
Hon. Secretary: Dr. Ernest Ward, T.O., South Devon.

A meeting of the Group Committee was held at the house of the Society on November 16th, 1928, the President occupying the chair. There were also present Drs. Blackmore,

Jessel, T. R. Elliott, Brand, Charlotte Brown, and the Hon. Secretary.

(1) The Secretary announced that Dr. Trayer had been appointed as representative by the North-Western Tuberculosis Society in place of Dr. Adams.

(2) The Council Representative reported :—

(*a*) The Central Council for the Care of Cripples had prepared a pamphlet containing suggestions for the guidance of local organisations. A useful propaganda film had also been produced at Oxford.

(*b*) The activities and scope of the Central Council for Health Education continued to increase. The journal *Better Health* had now a circulation of over 120,000, and had paid over £69 to the Council whose finances continued to be in a satisfactory condition. The venereal diseases film had now been shown to 2,000,000 people. The National Associations of Insurance Committees of England, Scotland, and Wales had allied themselves to the Council and were each represented thereon. Many Associations of Approved Societies were also co-operating and the Chairman of the Consultative Council on National Health Insurance (Approved Societies' work) had become a member of Council. Thirteen of the principal Friendly Societies had also become associated. A conference with the various voluntary health organisations of the country had been held on October 18th.

(*c*) Dr. Nagelschmidt, of Berlin, had been introduced to him as having obtained excellent results with a modified Friedmann's treatment in tuberculosis. The claims were being investigated.

(3) Drs. Crossley, Gorden Smith and E. Ward were re-elected representatives of the Group on the Joint Tuberculosis Council.

(4) A memorandum on the Improvement of the Tuberculosis Service, which had been circulated, was discussed and various suggestions were made. The Secretary was asked to present a revised statement at the next meeting, after Dr. Vallow's Presidential Address had been published.

(5) A difficulty had arisen in localities which did not employ a whole-time bacteriologist, in the payment of the government grant for sputum examinations asked for by general practitioners. In other places where a local authority in a county area had its own sputum arrangements, overlapping took place and some unnecessary expenditure was incurred. The Committee considered that sputum examination, being one of the special methods of diagnosis, should only be undertaken by the public health authorities administering tuberculosis schemes. Every facility should be provided for sputum examinations for general practitioners.

(6) X-ray training for tuberculosis officers was discussed.

(7) Consideration of the memorandum on the notification of tuberculosis was postponed.

(8) Letters from Dr. Todhunter were read.

(9) The interim report of the Private Practice Committee of the British Medical Association was discussed.

(10) Friday, January 18th, 1929, at 10.45 a.m., was the date and time fixed for the next Committee meeting.

THE JOINT TUBERCULOSIS COUNCIL.

A meeting of the Joint Tuberculosis Council was held at the house of the Society of Medical Officers of Health, on October 17th, 1928. Twenty members were present.

(1) It was decided that a copy of the Disinfection Memorandum be sent to members of Council, and a further supply to each member if desired. As far as the supply permitted the Memorandum would then be circulated to medical officers of health and tuberculosis officers.

(2) A report by the Committee on Memorandum 37 T, in reference to Dr. Coutts' letter, was considered and adopted. It was decided that arrangements be made for the Committee to interview the Ministry.

(3) Sir Henry Gauvain was nominated Chairman for 1929; Dr. Lissant Cox, Vice-Chairman; Dr. E. Ward, Hon. Secretary; and Dr. James Watt, Hon. Treasurer.

(4) Dr. Sutherland reported the proceedings of the Conference at Rome. The time had been fully occupied and some scientific papers had been read.

(5) The Report of the Lancashire Group on "The Fate of Young Children in Tuberculous Households" was regarded as too important to be hastily reviewed, and was referred to the next meeting.

(6) The Secretary reported that money for tickets for the Dinner to Transatlantic colleagues amounted to £105, and for the General Fund £52 11s. The expenses to date amounted to about £114 6s. 3d., but wine bills had still to be paid. A resolution was passed "That this Council wishes to record its appreciation of the arduous labours of the Chairman and Hon. Secretary in making the Dinner such a brilliant success; and that this resolution be placed upon the minutes."

(7) The next meeting was arranged for Saturday, January 19th, 1929, at 10 a.m.

The Literature of Preventive Medicine.

AIDS TO PUBLIC HEALTH. By W. G. AITCHISON ROBERTSON, M.D., D.Sc., F.R.C.P.E., Barrister - at - Law, late lecturer on Forensic Medicine and Public Health, Surgeons' Hall, Edinburgh. London: Baillière, Tindall and Cox, 1928. pp. 186. Price 3s. 6d. net.

The author claims that in this, the second edition, the whole volume has been thoroughly revised and brought up to date. He claims also that he has extended and recast the whole of the subject matter. This may account for the fact that he advises the reader that notifications of infectious disease must be made within twenty-four hours of his diagnosing the case and adds, as a piece of information that may edify the examiner, that "in certain towns the householder must also notify the case ('dual notification')." It may also explain the lucidity with which he expresses his views as to a number of other matters, but more particularly on malaria, a disease which, abounding in tropical countries, "may be found in colder climates during the summer, especially if there are suitable breeding places for mosquitoes—damp ground or stagnant pools. The female form of this fly (*anopheles*) harbours in its salivary glands the plasmodium which causes malaria, and from her it passes into marshy pools, where the larvæ develop. These become infected, and so, when the mosquito is fully developed, it contains the malaria organism."

HANDBOOK OF SANITARY LAW. For the use of Candidates for Public Health Qualifications. By B. BURNETT HAM, M.D., D.P.H. (Camb.), late Commissioner of Public Health for Queensland. London: H. K. Lewis and Co., Ltd., 1928. pp. 284. Price 6s. 6d. net.

Dr. Burnett Ham, who apparently accepts at intervals only the responsibility for new editions of the handbook that bears his name and that has been something in the nature of a guide and friend to generations of students since it first appeared in 1899, has himself performed the work of revision and bringing up to date in this the tenth edition. As several chapters have been entirely re-written or recast in order to permit of reference to recent legislation the handbook will no doubt receive a warm welcome from those for whom it is intended.

CANCER, THE SURGEON AND THE RESEARCHER. By J. ELLIS BARKER. London: John Murray, 1928. pp. 483. Price 7s. 6d.

Mr. Barker has with wonderful industry compiled from the writings of medical men a series of extracts showing what are the predisposing causes of cancer, such as X-rays, radium rays, arsenic, tar, pitch, paraffin, auto-intoxication, etc. In this bulky volume he shows how the soil may be prepared, but as to how the seed gets there or what it may be, he tells us nothing, because, as Mayo Robson said: "Of the true cause of cancer we really know nothing." Mr. Barker, indeed, does not believe that any seed is necessary, and that research workers who are trying to find it are wasting time and money. He accuses them of being in league with surgeons to maintain their vested interests, and of employing statisticians and others to mislead the public, and comes to the curious conclusion that they are responsible for the increase of cancer mortality. It is a relief to see that Sir Arbuthnot Lane, who writes an introduction, refutes the author's allegations. Mr. Barker anticipates that the present book will be treated with the usual malevolence by the medical trade unions and their anonymous journalistic hirelings. *Abusus non tollit usum.*

SHORT MANUAL OF INDUSTRIAL HYGIENE. For Managers, Foremen, Forewomen and Industrial Supervisors generally. By LEONARD P. LOCKHART, M.A., M.B., B.Ch. (Cantab.), M.R.C.S., L.R.C.P. With a Foreword by the RT. HON. LORD INVERNAIRN. London: John Murray, 1927. pp. 114. Price 3s. 6d. net.

The objects of this book, which is dedicated to Sir Thomas Legge, late H.M. Inspector of Factories, are sufficiently indicated in the title. The ground to be covered, however, is so large that it is practically impossible to do so in a volume of this size, and though it may prove helpful to those for whom it is intended it will probably be more as a guide to wider reading. The author himself would appear to have recognised this as he has placed at the end of most of the chapters a considerable number of references.

In the Annual Reports.

WHERE VACCINATION IS NEGLECTED.—In view of the prevalence of smallpox during the year, the statistics showing the vaccinal conditions of children examined at medical inspection is of interest. It will be seen that taking the county as a whole 77 per cent. of the children are unvaccinated, and also that the position is uniformly bad throughout the county. It is no wonder that smallpox continues to be prevalent. In looking up my predecessor's report for 1914 I see that the percentage of unvaccinated children was then 39·71.—*Dr. W. M. Ash, Derbyshire County Council.*

VALEDICTORY.—The resignation of your medical officer of health calls for some comment. This need not be an event of great importance unless an entirely new policy results. Your present medical officer of health has appreciated the efforts of his fore-runners and followed in their footsteps with occasional deviations from the path. Whatever methods are adopted by the new medical officer of health they will not be successful unless he receives the solid support of the council and staff. In the interests of the city, I trust that this will be forthcoming. In conclusion I wish to thank those members of the council who have given me help and to express my gratitude to my colleagues in the public health and other departments, many of whom have rendered me loyal and valuable aid. —*Dr. H. Gordon Smith, Lincoln.*

IN PRAISE OF VOLUNTARYISM.—Kensington enjoys a great advantage in possessing a large number of ladies and gentlemen who give freely of their time and money to voluntary bodies interested in the health and welfare of the poorer members of the community. Not only are all the maternity and child welfare institutions in Kensington organised on a voluntary basis, but there are at work in the borough two branches of the Charity Organisation Society, a branch of the Invalid Children's Aid Association, a branch of the British Red Cross Society, the Kensington Council of Social Service, School Care Committees, a Tuberculosis Care Committee and a number of other bodies managed and financed on voluntary lines by Kensington residents. The council have endeavoured with marked success to work in close co-operation with these organisations and the relationship between them has always been a happy one.—*Dr. James Fenton, Kensington.*

A PLEA FOR A PUBLIC ABATTOIR.—The pressure upon the various slaughter-houses, of which there are 101 in 15 different localities in the city, is becoming ever greater, and in spite of the increased requirements they are diminishing in number. The structural state of the Dispensary Lane group, which has been licensed for only six month periods for many years now, is really shockingly bad, and if only there was alternative accommodation these 40 killing shops should have been closed and demolished long ago as utterly unfit for the purpose of preparing food for human consumption. There never was greater need of a public abattoir than exists to-day, and the time was never more opportune for the construction of a new market and abattoir, not necessarily to serve Newcastle alone. The proper inspection of carcases is impossible at the present time, owing to the scattered position of the killing centres, and their division into multitudinous little private booths. We cannot afford to be dependent upon the goodwill and *bona fides* of the butchers, who are, if willing, at least unskilled in the detection of disease.—*Dr. H. Kerr, O.B.E., Newcastle-upon-Tyne.*

BACK TO THE BEGINNING.—It will not do to wait until the school age to commence investigation and treatment. The beginnings of defective eyesight, of defective teeth, of "mouth breathing," are to be sought for and counteracted in the infant. The "adenoid face" is reflected in the mother's bosom. It is not sufficient that the mother should breast-feed her baby. It is necessary that she should know the correct way to do it, and how she can keep herself fit to continue the process. "The catarrhal child" develops also under the unguided or misguided mother's care. The enlarged tonsils which are found by the hundred in the course of school medical inspection work are usually associated with a history of "teething bronchitis" by the parent, as if this were one of the normal accompaniments of the appearance of teeth. How often is this infantile bronchial trouble at the time of teething the result of a cold, saliva-sodden "bib" left to weaken a babe's resistance because it has not the power to make specific objection to the discomfort. This is education, and education means not elementary lectures on physiology, but "bringing out," as the word implies, what is latent in every expectant mother, the capability of rearing a healthy child on lines that nature, and not artifice, indicates.—*Dr. R. J. Maule Horne, Poole.*

THE SCHOOL DENTAL CLINIC.—A great number of parents do not definitely refuse treatment but state that "private treatment will be obtained." Were the promised private treatment obtained one of the chief functions of the school medical service would be attained. Not only is the treatment not obtained, but on subsequent re-inspection the same evasion is repeated, and in many instances the children attend the clinic finally as "urgent special cases," capable of treatment by extraction only and through urgency take precedence over children whose parents have accepted treatment in the usual manner. It is no exaggeration to state the percentage of parents accepting private treatment as being less than 10 per cent. It is unfortunate that the parents returning the above reply cannot be compelled to visit their dental advisers and obtain for their children the promised treatment. Since it is not possible to bring pressure on every parent refusing to obtain treatment advised, it might at least be possible to insist on a "clean mouth" before any child is permitted to take up a scholarship, as in the case of entrants to training colleges, etc. As legal action is not desirable and has only been taken in those cases where the refusal constitutes cruelty to children, one is afraid to contemplate the effect on the child's health and general well-being before this state is reached.—*Dr. W. H. Brodie, Croydon.*

DR. H. LEWIS BARKER, deputy medical officer of health for Rotherham, has been appointed medical officer of health and school medical officer for Ilkeston, at a salary of £800 a year.

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THE JOURNAL OF
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Editorial.

The King.

THE gladdest tidings received by the nation in the period preceding Christmas—the time popularly supposed to be that in which gladsome tidings are the rule—were those that arrived on December 20th, to the effect briefly that so far as his illness was concerned the King had turned the corner. This day marked the thirtieth in the course of his Majesty's attack, and though throughout this time there had been occasions when the nation as a whole had received impressions that there was betterment in certain respects, in the main it was of comparatively unrelieved anxiety. More particularly, perhaps, members of the medical profession suffered anxiety, being more inclined than their lay brethren—since a little learning, in addition to being dangerous, is a disquieting thing—to find reasons for suspicion that all is ill rather than well in a bulletin that is phrased vaguely. By way of compensation to the profession, the relief that came as a result of the fuller, franker and more heartening statement of December 20th, that followed the comprehensive survey of the King's progress, was probably greater than that vouchsafed to others of the people. The words "evidence of more normal respiratory function" conveyed much more to them, and meant the dissipation of gloomier views as to ultimate possibilities.

To the observer, particularly one of another nation, the evidences of concern on the part of everyone of the King's subjects with regard

to his Majesty's health and progress must have appeared wonderful and touching. Of its reality and of the depth and sincerity of the affection in which the King is held there can be no question. It is open to believe that, having regard to the remarkable knowledge of the mind of his people that he has shown on a number of occasions and in numberless ways, the King is aware of the existence of the affection and has sensed the anxiety. Indeed, it must have been impossible to keep from him even at the worst stages of his illness that his people were disturbed and distressed and were praying for ease for him and for his recovery. It is open to believe, even in such materialistic times as these, that the sympathy, concern and affection were not without effect, and that the prayers availed something. That there are still trying days to be gone through before recovery is complete, certain of the bulletins issued since Christmas have shown. In every one of these days the King may know, if indeed he does not of his instinct already know, the thoughts of everyone are with him and that the most real and sincere of all the hopes for health and happiness in the New Year that are expressed throughout the realm are for him.

* * * * *

The Local Government Bill.

THE amount of consideration given to the Local Government Bill by the Society through the Council and its Branches must not be judged by the length of the statement included in the report of the Council Meeting, of December 21st, published elsewhere. Nor must it be taken as evidence of complete satisfaction with the objects of the Bill, its provisions and possibilities, that the number of amendments suggested is so meagre. In reporting shortly and amending slightly the Society is acting no differently from other professional bodies and societies all of which have devoted no less time to a consideration of the measures. The brevity in every case has resulted because, while it is recognised that the effects to be produced are certain to be far-reaching, it is incredibly difficult to anticipate just how far-reaching they may be. That the utmost care has been devoted to the drafting of the Bill cannot be doubted. Every effort appears to have been made to obtain the opinion and support of every individual and organisation—political and governmental particularly—likely to have views to express and opinions and interests calling for consideration. Amongst these efforts not the least important was the setting up of a Royal Commission which, mysteriously and conveniently, reported almost on lines parallel with those followed in the Bill just about the time the measure was due to come up for consideration.

Because of all these things it is easy to understand why the Society should have little to say, especially since the determination arrived at was to limit consideration to matters having a bearing " on the organisation and efficiency of public health organisation." In imposing this self-denying ordinance upon itself the Society took a view somewhat different from that adopted by other bodies, the British Medical Association, for example, whose report, as submitted to the Council of the Society by their leading representative upon that body, appeared to be in the main a critical examination of matters of policy and concerned with suggested amendments providing for the inclusion of medical practitioners on most of the committees referred to in the Bill or that may be required under the re-organised scheme. Not unnaturally, since there must be uncertainty as to what their effect may be, many of the references in the report of the Council are to " block grants," and to the anxiety that is entertained with regard to the user of the funds thus made available to local authorities. Some guarantee must be given that a proper proportion shall be allocated for public health services and this the Society rightly is asking for. It is interesting also to find that, in spite of comments occasionally made with regard to the activities of voluntary associations, support is given to the claims for continued assistance from the Exchequer put forward by bodies of this kind concerned with propaganda and educational work. Having regard to the use made of such organisations by members of the health service all over the country, it is only fair that an appeal on their behalf should be made and it may be hoped that the claims they are submitting will be greatly strengthened by the support the Society is affording.

The other matters very largely have reference to detail, but the report, coming as it does, from a body consisting of persons intimately concerned in and acquainted with administration, should prove impressive, and exert some influence. The work of the Society does not, however, end with the submission of the report or with the acceptance of the suggestions. Continued watchfulness is essential, and there is every necessity for the giving of concentrated attention on the part of the special committee appointed to follow the progress of the Bill through Parliament.

* * * * *

The Central Council for Health Education.

IN their addresses to the recent Conference of the National Association of Insurance Committees, Professor Kenwood explained the aims and objects of the Central Council, and Professor Jameson, while impressing the need for health education, indicated the important part which insurance committees and approved societies may play by disseminating health information among the approximately 14 millions of insured workers. Both addresses contain matter so informing and of such interest to the readers of PUBLIC HEALTH, that an early opportunity has been taken to find room for them.

The Central Council is to be congratulated upon the good start it has made. It promises to be an offspring of which the Society will have every reason to be proud. In the national health education advocated by the Council there must be a well co-ordinated and persistent campaign of personal appeal—a campaign guided by the best knowledge and experience available, and characterised by sound and practical advice. There is no agency of health education which is not serviceable in the scheme; for there is work enough for all. But optimum results wait upon a well-organised and co-ordinated effort. There has been in the past, and there remains at the present day, a great waste of effort through lack of co-operation and co-ordination, and guidance upon the preparation and presentation of the advice offered. Therefore, the need of a central body, of authoritative status, which can advise upon and organise the work of health education, has been felt for long. This need has increased with the expansion of the work, which has resulted mainly from the assistance of the Ministry of Health, both in advocacy and legislation, but also from the very evident growth of interest shown by the masses in facts relating to health. If the Central Council succeeds in fully achieving its aims, it will render a public service of the greatest value.

The medical officer of health is in constant and intimate touch with every class of the community; he therefore gains a first-hand knowledge of all the social circumstances of the population which affect health; and this fact, combined with his trained preventive outlook, surely establishes him as one who is pre-eminently fitted to direct the work of health education to the best advantage. But if he believes that " in the multitude of counsellors there is wisdom " even he may find occasions on which the Central Council can be of service, although, of course, it is to others that the Council, as an advisory body, should appeal more particularly. It is to be expected, however, that the medical officer of health will do his best to promote the object of the Central Council in bringing about co-operation and co-ordination in all the health education within his administrative area, whenever there is need for this; and this work will be facilitated by the arrangements which are in progress for linking up with the Central Council, in associate membership, the various bodies, voluntary and otherwise, which are engaged in health education.

It is not easy to foresee, in these early days of the Central Council, the full extent of its evolution. It is certain of great developments; but the help of all of its many well-wishers is needed, not only in the direction of extending its utility, but also in securing that every expansion of its responsible work proceeds upon the soundest and most serviceable lines; and the Council is encouraged by the hope and expectation that all members of the Society will assist to these ends. It is easy then to foresee that it must grow to be of considerable assistance to the medical officer of health, and that it will enhance the prestige of the Society. Even now there are ways by which the Central Council may be of assistance to the medical officer of health, as indicated in Professor Kenwood's reference to the more important work of the Central Council during the first year of its life.

* * * * *

Orthopædics.

MEDICAL officers of health responsible for the control of child welfare and school medical services have abundant reason to know how great is the problem of the crippled child. The organisation of such services must, if they would be considered in terms of efficiency, provide definite machinery for dealing with these " sore let and hindered " children. Commencing with spasmodic voluntary effort—to which a considerable debt of gratitude is due—it is becoming increasingly obvious that this

question must pass from a matter of "charity" to a serious obligation of the State.

Sir Robert Jones, who has contributed so much to the science of orthopædic surgery, provides food for thought on this matter in a recent paper contributed to *The Cripple*,* a journal devoted to the welfare of those who, by disease or accident, are numbered amongst the lame or deformed. Not until the last century did the cripple become a problem demanding sympathy and proper medical care, although even yet there still lingers in some minds the impression that he is a useless member of society.

In 1840, London saw the foundation of the Royal Orthopædic Hospital, but for many years treatment, of necessity, was limited in the main to non-operative methods. The advent of antiseptic and aseptic surgery led rather to the development of the treatment of acute surgical conditions than to open operations on deformed limbs; and, indeed, so recently as the outbreak of the world-war there existed but a mere handful of orthopædic surgeons, and only one or two special hospitals. Military medicine, in the early days of the conflict, had reason to regret the absence of adequate organisation for the care of fractures—a defect which was responsible for many deaths and much permanent crippling. It was to this national emergency that a rapid development of orthopædic surgery was due. The attitude of public opinion towards deformities also altered, for it became obvious that these defects were not to be accepted as hopelessly inevitable and unalterable, but as preventable and curable.

What, then, of the future of this work? Sir Robert Jones envisages a national scheme devoted to prevention, treatment, training and rehabilitation. The nation must be fully educated as to sources of infection, and must learn that apathy towards the supply of tuberculous milk and the prevention of rickets will continue to add to the number of physical defectives. Greater co-operation between all health agencies, official and voluntary, must be achieved if waste of effort is to be avoided. Orthopædic treatment belongs to a highly specialised branch of surgery, and the need for special hospitals and wisely controlled after-care centres requires urgent attention. Immediate treatment of deformities does not complete the problem; subsequent training and rehabilitation of those incapacitated for normal work are equally essential. Those to whom a large degree of recovery has been given may be absorbed into ordinary industries, while in the case of greater permanent disablement the necessity of communities will have to be faced, working on lines similar to those followed at Papworth with patients suffering from pulmonary tuberculosis, and in Shropshire where a similar experiment for cripples is in the process of development. It should be borne in mind that such schemes are intended not for the child only but for the adult as well, since this mechanical age has been and is responsible for vast numbers of maimed and halt.

Lack of vision and failure to take the long view are not unknown in the health service, and it is safe to say that official orthopædic schemes have been somewhat limited and narrow in character. With equal safety it may be said that any health worker who wishes to obtain a correct perspective of this great problem must receive considerable assistance and much inspiration from Sir Robert Jones' timely and masterly survey of this comparatively untilled field.

* * * * *

The Council and Encroachments.

APART from devoting much time to an examination of various of the provisions of the Local Government Bill, the Society and its Branches have been concerned to give attention and consideration to the so-called "Interim Report on Encroachments on the Sphere of Private Practice by the Activities of Local Authorities," produced by a committee of the British Medical Association specially appointed at the annual meeting in Cardiff to undertake research into this important matter. The report of this committee, based, to some extent, upon a report following an investigation into the activities of selected authorities by the Secretary of the Association (Dr. Cox), was published in a supplement to the *British Medical Journal* and sent to the Divisions of the Association for comments. The Council of the Society of Medical Officers of Health, regarding the matter as one of some importance and deserving of notice, thought it well to discuss the report and to express views also. The search for views occupied a great part of the time of two meetings of the Council, in addition to that of a meeting of a committee specially appointed to consider and report, and of meetings—in some cases specially convened—of the various Branches of the Society. The issue of all these labours will be found in the report of the Council of the Society. In arriving at a decision as to the kind of opinion representatives of the public health service might, with propriety, express upon the report and the position generally as regards "encroachments," the Council had the advantage of the assistance of certain members of the Council of the British Medical Association. In spite of this the Council of the Society did not speak with one voice, nor absolutely in accordance with the views submitted by the Branches generally.

* * * * *

The Intradermal Tuberculin Test in Cattle.

AMONG the many useful publications of the Medical Research Council the report* by Professor Basil Buxton and Dr. Salusbury MacNalty is of special assistance in the endeavour to eliminate tuberculosis from dairy herds.

There has long been dissatisfaction with the results and reliability of the subcutaneous tuberculin test in cattle and, following representations by Viscount Astor and others in 1921, the Tuberculin Committee of the Medical Research Council was asked to investigate the matter. In 1925 they reported† that the subcutaneous test was quite satisfactory under laboratory conditions, but troublesome and subject to many fallacies on the farm. Attempts were therefore made to devise something better, and as the result of careful experimental work and reports from seventy-seven veterinary surgeons, there is now available, as described in the present publication, a reliable and harmless test for tuberculosis in cattle—the double intradermal test.

The test is easy to carry out and it saves time, for only three visits by the veterinary surgeon are necessary instead of six or eight; it is unnecessary to keep the animal indoors, the milk yield is unaffected, and it can be applied without risks to pregnant cows and young animals three to four months old. To illustrate the reliability it may be said that out of 835 non-reactors to the subcutaneous test subjected subsequently to the double intradermal test, 122 reacted positively and an autopsy performed in 94 of these confirmed the diagnosis in every case. Dipping of cattle by previous tuberculin injections does not nullify the test, and an animal subjected to four tests at intervals of three weeks reacted definitely on each occasion. The technique is simple; a Record pattern syringe is used with a needle which does not project more than 5 m.m. beyond the syringe, except in the case of bulls when it projects 7 m.m.; 0·1 c.c. of old tuberculin is injected into the deeper layers of the skin of the neck and not into the subcutaneous tissues. The animal is visited and the test read forty-eight hours later, importance in the reading being attached to heat, tenderness, and consistency.

A pinched-up fold of skin, including the site of the test, is also measured with callipers before and after. A small hard infiltration does not indicate tuberculosis. If the test is negative or doubtful another injection of the same amount is made at the same site, and read again twenty-four hours later.

Occasionally there are doubtful reactions, but the number of these will diminish as experience with the test increases. There will probably always remain a few, and these almost exclusively among advanced cases in which the diagnosis is obvious.

* * * * *

The Food and Drugs (Adulteration) Act, 1928, Etc.

IN a circular (No. 950) dated December 17th, 1928, and addressed to Food and Drugs Authorities in England and Wales, attention is directed to the fact that the Act named comes into operation on January 1st, 1929.

The wording of the new Act, it is noted, is not in all respects identical with that of the older statutes, and particular attention is drawn to the fact that the administering authorities are for the first time referred to as "food and drugs authorities" (section 13), and the officers who are empowered to take samples as "sampling officers" (section 16).

The official memorandum as to procedure (Memo. 36/Foods), which usually appears about this time, accompanies the circular. Except that it has been revised to bring it into accordance with the new legislation, it shows no

*THE CRIPPLE. A Retrospect and a Forecast. By Sir ROBERT JONES, Bt., K.B.E., C.B., F.R.C.S. Cripples' Welfare Series, No. 2. London: John Bale, Sons & Danielsson, Ltd., 1928. pp. 12. Price threepence.

*THE INTRADERMAL TUBERCULIN TEST IN CATTLE. Collected Results of Experience. By J. BASIL BUXTON and A. SALUSBURY MACNALTY. Medical Research Council Special Report Series, No. 122. London: H.M. Stationery Office, 1928, pp. 64. Price 1s. 6d. net.

†TUBERCULIN TESTS IN CATTLE WITH SPECIAL REFERENCE TO THE INTRADERMAL TEST. Medical Research Council Special Report Series, No. 94. London: H.M. Stationery Office, 1925. Price 3s. net.

substantial alterations from the edition of January, 1927.

The circular, in addition, chronicles the printing of the Public Health (Preservatives, &c., in Food) Regulations in a consolidated form. Footnotes to the new print indicate the places where alterations have been made in pursuance of the two series of amending Regulations already issued, and also show the effect of the new Food and Drugs Act on the construction of the Regulations. It is interesting to note that these regulations are undated in the title, though information as to the time of the making of the originals and of the amendments is given in the preamble. The convenience of at last having the provisions relating to preservatives in one set of regulations is certain to be appreciated.

* * * * *

Towards a Pure Milk Supply.

IT is almost a truism in these days to claim that, for the great and undoubted improvements that have taken place in the milk supply of this country, those engaged in the trade itself are very largely responsible. No better evidence of this exists, perhaps, than is shown in the efforts of such an organisation as the United Dairies of London to control the supplies they handle.

In the areas from which the milk is drawn, the farms are divided into zones with an inspector in charge of each zone. As a matter of routine every farmer's milk that is sent to the United Dairies is sampled twice a month and subjected to the following tests: Sediment test, for cleanliness; acidity test, for freshness; and chemical test, to see that no water is added or cream abstracted. Finally, there is the bacterial count. If the farmer falls below any of these tests, an area inspector calls on the farm and tries to help him get the matter put right. In the meantime, the milk is sampled every day until it is put right. This routine sampling is carried out by the laboratories in the creameries and London depôts. All bottling plants in London are sampled and inspected as a matter of routine by the plant inspector. Samples of the incoming milk are taken, and further samples every half-hour during the process. Plant rinsings are also examined to ascertain that the cleaning and sterilizing are properly carried out. There is an inspector and sampler in each zone, apart from the laboratory analysts who do this routine work.

In addition, however, all bottling plants are bacteriologically sampled and inspected at frequent and irregular intervals from an outside source, *e.g.*, by the chief office staff of inspectors. These samples are sent to the chief laboratory, under number, in the same manner that the official samples are sent in. Samples of raw milk, first milk over the cooler and from the bottle-filling tanks are taken. Bottles are sampled at the depôt and during distribution, and on their return to the depôt after being out on the rounds. Sterile rinsings are taken of bottle caps, bottles, churns and other containers, and also of plant and equipment, by running sterile water through pipes and fittings and submitting samples to the chief laboratory. All pipes and tanks are numbered so that any unsatisfactory sample can be traced to the man responsible for cleaning.

Inspection reports made out in triplicate in the log-book are taken at irregular intervals: 100 marks are the maximum, any deductions made for such conditions as lack of cleanliness and tidiness or improperly cleaned utensils, etc., being noted and marks deducted. Unfavourable reports are brought to the notice of the chairman of the company. The aim of the organisation is to supply milk of the highest possible standard, low in bacterial count and free from *bacilli coli* in 1/10th of a c.c. In this policy, it is claimed, the company are in the vast majority of cases successful, but they welcome suggestions as to the best methods of increasing efficiency in the supervision of the product they sell, with a view to improving its quality. In this connection it is interesting to note that a beginning has been made by United Dairies in paying farmers on a bacterial and butter-fat content basis.

* * * * *

Obituary.

WE record with great regret the death of two members who were closely associated with the Northern Branch of the Society, and to whom generous tribute is paid in the Branch report published in this number.

JAMES WILKIE SMITH, M.D. Ed., D.Hy. (Hon.) Durh.

On November 21st there occurred the death of Dr. James Wilkie Smith, who was among the earliest members of the Society in the north.

Dr. Smith, who was a Fifeshire man, graduated at Edinburgh University in 1873. He settled in general practice at Ryton-on-Tyne, in the county of Durham, and in 1897 was appointed part-time medical officer of health of the district. He was one of the most regular attenders at the meetings of the Northern Branch, and was elected president many years ago.

At the funeral the Society was represented by Dr. Charles Franks, Dr. W. H. Dickinson, Dr. Howard Morrison, and Prof. Harold Kerr.

For very many years to come the name of James Smith will be honoured above most in the annals of medicine. An exceedingly able practitioner, he exercised an extraordinary influence over his contemporaries, to whom his life served as an inspiration, and by whom he was greatly beloved.

SYDNEY JAMES CLEGG, O.B.E., M.D., D.P.H.

On November 23rd there passed away Dr. Sydney James Clegg, until recently medical officer of health of Durban, Natal, and previously deputy medical officer of health, Newcastle-upon-Tyne. Dr. Clegg qualified at Manchester University in 1909, and for several years was captain of the University first eleven for both football and cricket. He was a man of magnificent physique and greatly distinguished in the realms of sport, besides being an outstanding figure in his chosen profession.

After remaining in Durban for five years, Dr. Clegg returned to England last September with his wife, and took up residence at Rhos-on-Sea, where he was suddenly stricken with lobar pneumonia a few days before his death.

The funeral took place at Pendlebury, Manchester, the Society being represented by Prof. H. Kerr and Dr. J. J. Butterworth.

Dr. Clegg's passing removes a striking figure from preventive medicine. His wide sympathies and broad outlook endeared him to all with whom he came in contact and created for him a very large number of friends.

JOSEPH PRIESTLEY, B.A., M.D., D.P.H.

A personal appreciation of Dr. Priestley appears elsewhere in this issue, and here is expressed the general regret at his death. A pathetic feature in relation to his passing was that it occurred only one year after his retirement from the post of medical officer of health of Lambeth, which he had held for the long period of thirty-two years. For the greater part of that time he was metropolitan secretary of the Society, and played an important part in its growth and development. He was also secretary of the Metropolitan Branch from 1901 to 1905. Busy as these various activities must have kept him, Dr. Priestley was associated with a number of medical and other societies, and was one of the lecturers at the Royal Sanitary Institute, of which he was a Fellow. He also devoted much time to literature, and for many years edited the Public Health Section in *The Medical Annual*.

The funeral took place at Lambeth Cemetery, Tooting Graveney, on December 21st, and was attended by a number of representatives of the Society.

Sanatorium Costs—MEMO. 122B/T, recently issued by the Ministry of Health, shows in tabular form, under various heads, the cost per patient per week at certain residential institutions for the treatment of tuberculosis during the year ended March 31st, 1928. For the purposes of comparison the corresponding figures for the previous two years have been inserted in those cases in which the figures are available. The hope is expressed that the information contained in the memorandum may be of substantial assistance to authorities in enabling them to decide whether in any particular case the various items of expenditure are on the lowest level compatible with efficiency, and to take any further steps necessary to secure the economical administration of their institutions. It is requested that local authorities will continue to pay attention to the question of keeping the beds in their institutions filled to the greatest possible extent, and will review from time to time the question of the economical staffing of their institutions with due regard to efficiency in the light of the comparative figures given in the statement. Both these matters, it is pointed out, have an important bearing on expenditure, and in this connection the suggestion is offered that if it is found that some of the beds in an institution are not required for patients from the area served by the institution, efforts should be made to obtain patients from the authorities of other areas who need additional beds. Copies of the memorandum may be obtained on application to the Ministry of Health.

The Notification and Control of Venereal Diseases.

By A. K. CHALMERS, LL.D. (Hon. Causâ), M.D., etc., formerly Medical Officer of Health, Glasgow; ROBERT A. LYSTER, M.D., B.Sc., D.P.H., Medical Officer of Health, Hampshire County Council; and WILLIAM ROBERTSON, M.D., D.P.H., F.R.C.P. (Ed.), Medical Officer of Health, Edinburgh.

These three papers, read at an ordinary meeting of the Society held in London on November 16th, 1928, not only brought together a very large and interesting gathering of Parliamentary and medical notabilities, but led to a discussion which revealed the continued existence of a marked divergence of opinion on the advisability or otherwise of adopting compulsion in relation to any of the methods in operation for dealing with the problem of venereal disease. The only definite decision arrived at was to refer the matter to the Branches—a course that, very appropriately and very helpfully, having regard to the constitution of the Society, might be adopted much more frequently in relation to many matters than has been the case in the past.

DR. A. K. CHALMERS.

IN a sense I am here by accident, but I welcome the opportunity which it affords of taking part in a discussion on one of the most important problems in administrative procedure which has arisen since our present Public Health Service took form. A word in explanation.

On the day of the provincial meeting of the Society at Bath, in April last, the Press reported a discussion, which had taken place in Parliament, on a proposal to introduce compulsion, as a *quasi* punitive measure, into the treatment of disease; and it impressed me with a feeling, akin to regret, that on a proposal with such wide-reaching implications, this Society had not formulated any opinion.

In consequence I suggested to the Council, which also met on that occasion, that local authorities might not unreasonably look for such guidance as the considered opinion of a Society of Medical Officers engaged in Public Health administration might afford, on a question which was eliciting views, not only diverse, but contradictory.

A full agenda debarred the suggestion from being considered at that meeting, and, when it ultimately came up for consideration by the Council, it was deemed of sufficient importance to be submitted to a full meeting of the Society.

As originally raised in Council, the question had reference to compulsory treatment alone, and the argument then submitted was somewhat as follows:—

The circumstances on which the plea for compulsion is based are, of course, obvious enough. There is the passive defaulter, who simply abandons treatment, but there is also the more active variety, who, after symptoms have become less acute, and discomfort has subsided, re-exposes himself and develops, afresh, acute symptoms—whether arising from re-infection or simply from re-lighting a latent focus remaining from an earlier infection, does not affect the argument.

To penalise him in some way for spreading infection is logical enough, but to compel him to undergo a particular form of treatment is to suggest an analogy with crime, and is opposed to every principle which has hitherto guided the evolution of medical and surgical methods for the relief of disease*.

But compulsion implies other considerations:—

(1) A patient may, and, sooner or later, someone would, object to receiving intravenous injection, and the application of force would become necessary, if the law is to be observed. What procedure is to be adopted in these circumstances?

(2) Should death occur, following an injection, would public sentiment not insist on withdrawing the provision?

(3) Would methods of treatment not tend to become stabilised at those in use in the year in which the Act is obtained?

(4) How is the habitué to be dealt with, after he has been "cured"? Being "recessive" towards the period of phallic worship he will practise his cult directly a fresh opportunity offers, and get re-infected.

(5) Again, if the infected person may avoid the treatment centre by placing himself under the care of a private practitioner, are we to revert to the methods of pre-salvarsan days in syphilis, and of copaiba capsules in gonorrhœa? In 1916, Venereal Disease Regulations did not regard the administration of salvarsan or its substitutes as being within the competence of the general practitioner, unless he had acquired the technique of administering it, and five or six years later the Trevethin Committee said much the same thing. Is the position much different now? Will any scheme of compulsory treatment commend itself to the public until the whole body of medicine has acquired familiarity with the technique of modern method and has been trained to carry it out?

Apart from other considerations, the exclusion of the general practitioner from a compulsory scheme seems to me likely to be fatal to its success.

These reasons, and there are others (the recent experience of the Empire Leprosy League, for example, in the contrasted results of segregation *versus* dispensary treatment) seem to me of sufficient importance to warrant the Council, with the approval of the Society, making some concerted effort to advise local authorities in what is unquestionably a difficult administrative problem.

The Council, very wisely, I think, has extended the scope of to-day's discussion to include notification as well as control, and thus the whole field of local authority policy is open to review. The difficulty may well be to compress the discussion within the compass of a single meeting.

The Volume of Venereal Disease.—By way of giving prominence to the salient features of the problem at the present time, I submit the following tables which have been compiled from data in Sir George Newman's Annual Report for 1926, and in the Board of Health's Report for Scotland for the Departmental Year 1926-27.

The numbers presenting themselves, for the first time, for treatment during a recent completed year can thus be stated at 95,000 (95,482)—81,000 of whom approximately (81,506) are in England and Wales, and 14,000 in Scotland. But fully one-fourth (26,250 or 28 per cent.) are classed as "other than" or "not" V.D., and may be written off with the observation that, while they afford an excellent illustration of the value of propaganda regarding the danger of promiscuity, they also suggest that only about one in four exposures escapes infection.

This leaves 69,000* as the number contracting venereal disease in one or other of its forms, and presenting themselves at treatment centres for the first time during a period of twelve months. Leaving aside those who may

TABLE I.

NEW CASES AT TREATMENT CENTRES. ENGLAND AND WALES, 1926—SCOTLAND, 1926-27.

	Total New Cases.	Other than V.D.	Syphilis.	Gonorrhœa.	Both Syph. and Gonor.	Soft Chancre.	Total V.D.
England and Wales ...	81,506	22,754	22,550	35,052	—	1,150	58,752
Scotland	13,976	3,496	3,705	6,148	427	200	10,480
Total	95,482	26,250	26,255	41,200	427	1,350	69,232
Percentage.							
(1) of Total New Cases ...	—	27·5	—	—	—	—	—
(2) of V.D. Cases only ...	—	—	—	—	—	—	—
England and Wales ...	—	—	38·3	59·6	—	—	97·9
Scotland	—	—	35·3	58·6	4·1	—	98·0

APPARENT SUBSEQUENT HISTORY OF V.D. CASES.

	Percentage in total V.D.	Numbers in thousands
I.—Completed Treatment		
(a) With subsequent observation ...	40	28
(b) Without subsequent observation...	22	15
	—	—
	62	43
II.—Failed to complete treatment ...	38	26
	—	—
	100	69

* At the Wembley Conference of 1924 I had stated: "The proposal to compel a patient to continue treatment is based on a complete misapprehension of the powers of local authorities. They may prevent him from spreading infection, and, for this purpose, remove him to hospital, but they cannot enforce a specific method of treatment. This, I understand, is common law."

* "First Attendances"—not all, necessarily, although mainly, "recent infections." The proportions are not given.

be treated in private practice (a very small proportion we may surmise)*, the figures suggest an annual attack rate of about 1·6 per 1,000 of the combined populations at "All ages"; but fully 2 per 1,000 for that of Scotland—an excess which may be interpreted differently north and south of the Border.

Forms of Venereal Disease.—The returns for England, so far as I have seen, do not separate out double-infections; but grouping the figures as published, 26,000 of the annual total (69,000) are syphilis; 41,000 are gonorrhœa; in Scotland there are in addition 427 persons who have both; and in both countries a small proportion (2 per cent.) are soft chancre.

These figures represent for England 38 per cent. of the new cases in any year as arising from syphilis; 60 per cent. from gonorrhœa; while in Scotland 35 per cent. are due to syphilis and 59 per cent. to gonorrhœa, but also 4 per cent. have both infections, so that for each country the combined rate is 98 per cent. It is illustrative, I think, of the habits of this part of our population, that the drift towards a double infection is greater from the syphilis group than from gonorrhœa, in the ratio of 3 to 1.

The Purpose of Venereal Disease Schemes was to afford facilities for diagnosis and treatment, and it was assumed, at the outset, that treatment would be continued until cure or a non-infective condition was reached. Can we now, on the basis of experience, follow the subsequent history of these 69,000 persons who contract one or both these diseases annually? What proportion of them will finally get rid of infection? Information is readily available for Scotland, which will enable us to do so, but I have not been able to discover that a recent similar analysis is published for England, although the data must exist. Syphilis and gonorrhœa, however, constitute 98 per cent. of the infections contracted in each country, and we may, for the moment, assume that the proportion continuing treatment until a non-infective stage is reached will likewise be reasonably comparable.

From a table in the Report of the Board we may deduce, for Scotland, the proportions indicated in the accompanying statement.

	Number.	Percentage ceasing treatment.
(1) Discharged *after* completion of treatment and observation	3,536	39·8
(2) Ceased attendance *after* completing course of treatment but *before* final tests as to cure	1,979	22·3
(3) Ceased attendance *before* completing course of treatment	3,374	37·9
(4) Transferred to other centres	1,508	—
Total	10,397	
Deduct transfers	1,508	
	8,889	100·0

Omitting item (4) we can enquire further regarding the 9,000 approximately, (8,889) whose treatment ceased for one reason or another.

The table suggests that 40 per cent. only of those who can be traced to the termination of their period of treatment may be accepted as definitely free from infection; or 27,600 out of the 69,000 for the whole country.

But the 22 per cent. who form item (2) are technical defaulters only; and we shall avoid overstating the proportion of gross default by basing it on item (3), which gives 38 per cent. or fully 26,000 of our original 69,000. *Per contra*, taking items (1) and (2) together, we have the substantial proportion of 62 per cent., or almost 43,000 of our original 69,000, who have all completed treatment, but have not all complied with the requirements for subsequent testing for non-infectivity.

Default in Treatment of Syphilis and Gonorrhœa compared.—Pursuing this analysis into corresponding information for syphilis and gonorrhœa separately, I submit the following table, which repeats the number and proportion under the several groupings, in Scotland, already quoted, but shows in addition the response of the sexes to the facilities for treatment which have been provided.

In this table (Table II) column (2) includes the figures for "mixed infection" (syphilis and gonorrhœa) and soft chancre, but these are both excluded from columns (4) and (5) where syphilis alone (3,084 cases and gonorrhœa alone (5,213 cases) are dealt with.

Syphilis.—From column (4) we find that 52·7 per cent. of the males complete treatment although three-fifths of this number do not continue until the final tests for non-infection can be carried out. In a like way, 73·4 per cent. of the females in attendance complete treatment, although, again, considerably more than half fall off before the tests are applied.

* Local figures suggest that not more than 1 in 12 practitioners make use of the provision for obtaining Salvarsan Substitutes under Venereal Disease Regulations.

TABLE II.

SCOTLAND, 1926-27.

PROPORTION WHO CEASE ATTENDING TREATMENT CENTRES FOR VARIOUS REASONS.

(1) Condition on Ceasing Treatment	(2) Number both sexes	(3) Percentage both sexes.	(4) Syphilis. Male.	(4) Syphilis. Female.	(5) Gonorrhœa. Male.	(5) Gonorrhœa. Female.
I.—Discharged *after* completing treatment and observation for non-infectivity	3,536	39·8	21·8	29·8	42·8	64·6
II.—*After* completing treatment, but *before* observation	1,979	22·3	30·9	43·6	12·0	17·5
III.—*Before* completing treatment	3,374	37·9	47·3	26·6	45·2	17·9
	8,889	100·0	Males 1,739		Males 4,119	
			Females 1,345		Females 1,094	
			3,084		5,213	

But the bearing of this factor on the reduction in infantile syphilis, which would appear to be taking place, is obvious. Not far short of half the number of male patients cease attendance before completing treatment, but only about one in four of the females.

Gonorrhœa.—With regard to gonorrhœa, 82 per cent. of the female patients complete treatment; 65 per cent. continue also until the end of the period of observation; 55 per cent. of the males complete treatment; 43 per cent. of them continue until the expiry of the observation period.

But again, 45 per cent. of the males, although only 18 per cent. of the females, cease attending before completing treatment. Women thus emerge from the comparison with a much higher ratio of continuance under treatment than men, with 73 per cent. completing it for syphilis and 82 per cent. for gonorrhœa, compared with 53 and 55 per cent. for men.

The similarity in the proportion of absolute default among males (for syphilis 47 per cent. and for gonorrhœa 45 per cent.) would seem to exclude difference in the stringency of the régime of treatment required for each, and induces one to regard it as arising largely from other causes. It is probable that the instinct of cleanliness explains the smaller proportion of absolute default among women affected with gonorrhœa than among those affected with syphilis (18 against 27 per cent.).

Cost.—Reverting to the ratio of absolute default in all forms of venereal diseases and for both sexes, you will remember that it reached 38 per cent. of the total, representing approximately 26,000 persons.

The estimated annual cost of venereal disease schemes at present may be stated as follows:—

GRANTS (ESTIMATES) FOR YEAR 1928-29.

England and Wales	£308,750
Scotland	62,000
Total Grant	£370,750
Add one-third as local authority contribution	123,583
Total Cost	£494,333

Thirty-eight per cent. of this would represent approximately £188,000; but further information is required before we conclude that this proportion of the total expenditure is wholly unproductive. Ultimately, of course, the purpose for which it is incurred miscarries, through cessation of treatment before a non-infectious stage is reached. But the effect of treatment is progressive, and attenuation, both in infectivity and virulence, are probably quite definitely related to its duration and efficiency. Meanwhile, no distinction is shown between the patient who defaults shortly after treatment is begun, and him who continues until it is approaching completion.

Causes of default.—A further element of uncertainty, in assessing the proportion of cost lost through default, arises from inadequate information regarding the causes which produce it. Can these be disintegrated and each group considered in relation to their several needs? Has anyone, indeed, analysed the causes of default, and the social and civil status of the defaulter? Much defaulting we are all prepared to believe is due to lack of knowledge, and an undeveloped sense of social responsibility; much to indifference to an infectious condition unaccompanied by active discomfort; much to culpable carelessness; but how much of it arises from lack of home facilities for carrying out instructions; from

clashing hours of work with hours of treatment centres; from change of place of employment or residence; from distance from treatment centres, and intercurrent illness? All these—and I have no doubt many other reasons for default—require to be known before methods for dealing with its several forms can be adequately considered. In other words, the defaulter requires description, as well as definition.

The Policy of Local Authorities.

In the development of schemes for treatment, to which the Report of the Royal Commission gave rise, you will remember the many discussions which arose regarding the proposal to establish ablution centres. We do not hear of them now although no one, I think, questioned their value in specified circumstances, or had any doubt that portions of civilian populations might, in time, be trained in their effective use. But they failed ultimately to gain general support, because, I think, of the conviction, rarely, it must be admitted, reaching articulate expression, that, whatever might be their immediate utility, they would act as a hindrance to social evolution and the better control of the sex instinct.

For unless the historian misleads us, sex morality is a late acquisition of civilisation; while physiologist and psychologist alike insist that the most recently acquired functions and habits are the least stable, and most readily thrown out of control. Apply both statements to the illustration supplied by the confirmed courtesan, on the one hand, and even the most noted libertine, on the other, and the contrast goes a long way in support of the view that woman abandoned polyandry at a much earlier period than man abandoned polygamy, and that, in regressing, woman travels much further back in human history, and consequently sinks to a lower scale of social development than does man in like circumstances.

And so also man, with his more recently acquired, and in consequence less stabilised, standard of sex morality, would have accepted the facilities of the ablution centre the more readily, if, during boyhood and adolescence, he found it among the established features of the life surrounding him*.

I do not suggest that the British public argued in this way, but it would at least explain the disfavour with which the ablution centre was ultimately enshrouded.

Compulsory Treatment. — The ablution centre then was the first false start in administrative procedure for the control of venereal diseases, and to my thinking the second is compulsory treatment. With regard to this proposal, I suggest that it can be discussed adequately only if we consider it in relation to the whole field of disease—and, by implication, of mental deficiency as well. It is true that, for the moment, the proposal is restricted to a single group of persons, the treatment defaulter, whom, as we have seen, we may define but have not yet described.

But just because of this restriction it would become selective in operation, and for this reason, administratively dangerous. In the suggested parallel of compulsory removal to hospital, in certain acute infectious fevers—where the infective period is self-determined and mostly of short duration—notification places all affected persons on an equal footing to begin with, and isolation for the purpose of preventing spread—not treatment for the cure of disease—is the primary purpose of removal. There the parallel breaks down.

I have said that we may define the defaulter, but the advocates of compulsion have not explained whether default from the completion of tests (as in group II of table II) is to be bracketed with group I or with group III. Further, would not the introduction of the principle of compulsion to treatment imply, not only a wide departure from the methods of administrative medicine, but also traverse the whole relationship of medicine to disease?

Notification.—If, by reason of the limitations formerly alluded to, the main body of those in general practice is to be excluded from taking part in any scheme of compulsory treatment, if a high standard of efficiency is to be maintained, need local authorities remain entirely passive in presence of the results illustrated by the tables, and which many regard as indicating a real and urgent need for power to deal with?

The question, as it appears to me, is: *At what point any movement in advance on the present position will meet with least resistance and gain most support?*

When the Royal Commission considered the question of notification they expressed the opinion that better results might at first be obtained through education and the provision

* The "Dreadnought" and other similar preventive packets and appliances are subject, *mutatis mutandis*, to the same criticism as the ablution centre.

of facilities for diagnosis and treatment. But they also said, "that the situation may be modified when these facilities have been in operation for some time, and that the question of notification should then be further considered." They also thought it possible that, when the general public became alive to the grave dangers arising from venereal diseases, notification in some form would be demanded.

Out of the maze of contradictory views regarding the effect of notification there emerges one clear issue on which, I think, there will be common agreement among the members of this Society at least. In presence of positive evidence that a following generation is suffering from transmitted disease, controversy should cease and action begin. Such evidence is supplied by the congenitally syphilised child, and those who contract gonococcal ophthalmia at birth, or immediately afterwards. Here the door seems to me to stand wide open, as no one, I imagine, would question the right of the State to take action for the protection of the oncoming generation from causes of race-deterioration which are so well established. Were either of the conditions just indicated accepted by law as affording reasonable ground for believing that infectious disease exists in the domicile of the parents—which no one here doubts—the parents of such children would come under the ordinary operations of the Public Health Act.*

We may appeal to experience as a guide here. In the early stages of the evolution of schemes for the reduction of infant mortality—and long before venereal disease was regarded as coming within the range of local authority action—gonorrhœal ophthalmia in infants became notifiable (in Glasgow in 1911), not as a frontal attack on venereal disease, but as ancillary to a scheme of child welfare. Five years ago a proposal took shape, in the informal draft of a bill, to develop the movement thus begun by including the parents of such children and of those who were congenitally syphilised, on the lines I have indicated, and again its purpose was defined as *for the further protection of infancy and childhood*. Were Parliament invited by this Society to approach the question from this angle, a way out of the present conflict of views might be reached, and the education of the general public advanced in the direction suggested by the Royal Commission.

While, therefore, I regard compulsory treatment as not only an invasion of individual liberty, but as impracticable in the absence of the general practitioner from the scheme, I believe that, when evidence exists that disease is being transmitted to children by their parents, public sentiment would support a proposal to bring them within the ordinary provisions of the Public Health Act.

* Section 45 of the Public Health (Scotland) Act, 1897, reads:—"The medical officer may . . . enter and inspect any house or premises . . . in which he has reason to believe that any infectious disease exists or has recently existed, and the medical officer may examine any person found on such premises with a view to ascertaining whether such a person is suffering from any infectious disease" etc.

Dr. R. A. Lyster.

Practical Prevention of Venereal Disease.—It will be noticed that I have been placed in this discussion in a position midway between two extremists. You have just listened to Dr. Chalmers who represents the strong opposition which exists against the introduction of compulsory notification and treatment in connection with venereal diseases. You have heard from him the very serious objections that can be raised against such proposals and many of you are probably inclined now to regard these objections and difficulties as insuperable.

On the other hand, you will soon be listening to an equally convincing case in favour of compulsory notification which I have no doubt will be presented to you as the logical and inevitable sequel of the present system of treatment without prevention.

An Alternative to Notification. — I am here to offer to you and to the public generally a sound, scientific and sensible plan whereby these loathsome diseases can be prevented rapidly and with certainty. By the adoption of scientific methods of prevention the public could be spared, on the one hand, from the present enormous expenditure on treatment and propaganda work and would be saved, on the other hand, from the much-dreaded and actively debated compulsory notification.

In the fight against disease generally, one is accustomed to have to combat gross ignorance. Ignorance is a great opponent of public health work and is the greatest obstacle in the way of preventing diseases, but in the case of most diseases it is the only serious obstacle. The ordinary campaign is a matter of explanation, education and slow progress. In the case of venereal diseases, unfortunately, we leave the comparatively calm atmosphere of

should be contemplated. They even criticised our clauses before they had been drafted.

During our deliberations and while we were exerting our best efforts to mellow clauses down to make them more or less palatable to hot or tepid objectors, circulars were broadcast, letters to the editor appeared and various other means were adopted to alarm the womenfolk into believing that the female population was going to be menaced by unfounded accusations at the hands of infected and aggrieved males. It was definitely stated that the police were to be requisitioned to assist the public health department to hunt out suspected women, and that the real object of the Bill was not only to introduce compulsory notification but to hound prostitutes from pillar to post. These points are mentioned, among many others that were employed, to indicate that a red-hot and prejudiced agitation was constantly simmering round us.

No less a personage than Lady Astor was persuaded to come to Edinburgh to declaim against the Bill. Needless to say, other able women subsequently stood on the same platford and urged the need for the Edinburgh Venereal Diseases Bill. The women were by no means ranged on one side.

The findings of the Trevethin Committee provided us with a very powerful argument for attempting to deal with venereal disease in a way that we, as administrative officers, knew was likely to provide a good object lesson in connection with a comprehensive area.

Our centres in Edinburgh undertake by arrangement to deal with cases of venereal disease from several counties within a considerable radius of the city. The Trevethin Committee arrived at the conclusion that an attempt might be made to deal with such a well-organised area before any national scheme was attempted.

Fortified with that opinion we felt somewhat confident; but we never for a moment suspected that all our hard work—and it was no light task to draft the clauses so as to render them as innocuous as possible—would be so unceremoniously turned down.

For several years our clinical medical officers had worked like Trojans to make their scheme as perfect as possible. Their low percentage of defaulters proved how thorough that work had been.

We had appointed a highly-qualified lady almoner to visit and re-visit defaulting or bad attenders. Over and over again she had confessed herself disheartened and worn out because her best efforts appeared to fall on deaf ears.

We felt that some authority was needed to give her power to say to defaulters: "If you refuse to complete treatment or continue it until you are free from danger to others, you will be compelled by law to do so."

She felt, as we all felt, that in the majority of cases the possession of that power to say "You will be compelled" would result in submission, just as it does in our daily administrative practice.

It is regrettable that the power we sought to deal with defaulters was misinterpreted to imply an interference with the liberty of the subject. Surely the administrative officer who has been able to handle outbreaks or sporadic cases of other dangerous infectious diseases could be trusted to deal tactfully with those who came under the category of defaulters. The clinical medical officers know the serious defaulters. Long before an individual lapses into the defaulter stage every possible effort has been made to persuade him to resume treatment. It is only when he or she shews an utter disregard for voluntaryism that threats of compulsion would be employed.

I am convinced that threats would rarely be put into operation by legal measures. Moreover, why confuse the issue by pretending that compulsory treatment of acute gonorrhœa means subjecting the body to "medical or surgical treatment." Can it be seriously declared that irrigation of the urethra and bladder with a weak solution of permanganate of potash is classifiable under the somewhat terrifying term of surgical treatment? It is a simple procedure, and painless; but because it calls for patience and self-sacrifice in the direction of systematic attendance there are not a few who will not take the time or trouble to present themselves regularly for lavage. Many can be talked over and persuaded to renew their visits to the centre, but a percentage with gonococci still issuing freely from the urethra fail to come up to the scratch.

It is such defaulters whom we want to teach a salutary lesson by letting them know definitely that we have the power to make them rid themselves of infection. It is regrettable that some of our opponents try to impede us by dragging in the side issue of standard of cure. Let us leave the sticklers to fight that

out. Our determination should be to render the infected person as innocuous as possible to others.

Preventive medicine will never advance very far if the liberty of the subject is going to be the protector of infection spreaders, especially gonorrhœa spreaders.

Every medical officer of health knows only too well that the liberty of the subject doctrine, if literally interpreted, would spell ruin to many of the activities directed at prevention.

Public health officials in every part of the country have carried through many more delicate administrative complexities than those referable to venereal disease defaulters.

Attempt has been made to compare dental, adenoid, rheumatic and cancer defaulters with those of venereal disease (Annual Report of the English Ministry of Health). The unfinished medicine bottle in the cupboard has also been cited as an illuminating example of defaulting. Is it seriously suggested that dental backsliders do any harm to the citizens at large beyond disturbing them with yells of pain? Where does the spread of infection enter into the comparison?

We have everyday before us glaring instances of defaulters. A man leaves a trail of infection behind him, or a female sows a minor outbreak of gonorrhœa in her wake. We knew the individuals. We said in our Bill: "Anyone suspected or known to be spreading," or words to that effect, should be asked to provide a medical certificate to the effect that he or she was free from infection, or, alternatively, we asked them to present themselves for examination and, if need be, treatment at a municipal centre.

We are not so mealy-mouthed when we are dealing with tuberculosis or any other infectious disease. Of course, the argument that venereal disease cannot be compared with acute infections will be advanced. But the administrative officer knows no difference where prevention of spread of infection is concerned, especially when he has to deal with such subtle diseases as gonorrhœa and syphilis.

Another point that demands consideration has reference to the parents who have passed gonorrhœal ophthalmia or syphilis to their children. No "liberty of the subject" consideration is given to the notified baby on the one hand, or to the syphilitic child brought to the welfare clinic, on the other. They are immediately placed under suitable treatment. The known disseminators of infection, one or other parent, may and often do refuse examination or treatment. The fact that the parents are suffering from a dangerous transmissible disease and cannot be placed under appropriate treatment is contrary to the spirit and teaching of preventive medicine.

It is galling to the administrative officer, after he has tried every form of persuasion without success, to be calmly informed that he must wait until the parents come to their senses, and that no form of compulsion should be considered. That form of argument does not face facts.

Scotland is determined to bring this vital and national question to a head.

I sincerely hope my colleagues in England will also shew a resolute front. There will always remain a weak link in the chain of prevention as long as we allow ourselves to be persuaded that voluntary methods alone will successfully cope with the spread of such soul-destroying and body-wrecking diseases as gonorrhœa and syphilis.

The problem of dealing successfully with venereal diseases is not one that can be solved by dialectics. Hard facts must be resolutely faced. The sights we see at the clinics, the after-effects of neglected treatment we encounter, and the stories we hear about domestic discomfiture only accentuate our determination to pursue this question of better control to its logical conclusion, because it is directed at the preservation of health and the prevention of many serious after-effects.

DISCUSSION.

Dr. A. S. M. Macgregor (Medical Officer of Health, Glasgow) said:—It will be impossible to enter into anything like a full discussion of this problem. I shall endeavour briefly to explain why the Corporation of Glasgow and most of the surrounding local authorities, in common with Edinburgh, are dissatisfied with the present position, and are promoting further legislation.

In Glasgow, the venereal diseases appear to be increasing, if the augmented numbers attending the centres bear this interpretation. After the peak year of 1920, the yearly number of new cases gradually fell, there being a slight increase in gonorrhœa, and a marked drop in syphilis. Recently, however, the numbers have increased. During the first nine months of last year, 3,550 new cases attended, while for the same period of the current year this number was increased by 200 infected patients. The reason for this increase is not at all clear. Supporters of the voluntary system will no doubt argue that the more the patients the greater the success of the scheme.

An aspect of the matter which prevents any feeling of complacency is an undoubted increase among those who cease treatment prematurely. The figures for defaulters in 1927 were 34 per cent. in the case of syphilis, and 68

per cent. in the case of gonorrhœa. Patients in these proportions defaulted before completing a course of treatment, and are in number considerably in excess of those for previous years. From the point of view of transmission of infection, the significance of default, of course, varies, but in far too many cases this is due to carelessness and indifference, associated with lack of clamant symptoms, and there is a strong impression that many of those who default in the earlier stages of the disease belong to the class of libertines who find the centres convenient for their purpose. For instance, among 1,775 defaulting male patients, 581 were suffering from a second or subsequent attack; again, at one of the centres, more than half of the total cases treated (both syphilis and gonorrhœa) had previously undergone a course of treatment, with cessation of symptoms, and had returned after an interval, for treatment of further symptoms, which they attributed to re-exposure to infection. There exists, clearly, a mass of partially-treated infection in the community.

It is quite evident that the difficulties encountered in the present system of complete freedom do not show any tendency to diminish. On the contrary, I believe that there is growing up a tendency to accept too easily the facilities provided, and that a completely free and unfettered régime is tending to breed a casual outlook on venereal disease. Everything humanly possible has been done by way of propaganda, general and individual, to arouse a sense of responsibility among those who contract these affections. In spite of this, default is increasing, and there is evidence for thinking that the entire absence of any regulations applicable to the control of a serious infectious disease is helping to create an opposite tendency in the public mind.

The measures supported by Glasgow and its neighbours are not very dissimilar to those advocated by Edinburgh, as they comprise notification of defaulters whose disease is in a communicable form, and involve the continuance of treatment until the patient can be declared free from infection. The proposals also embrace children suffering from syphilis and newly-born children affected with ophthalmia due to gonorrhœa; and the parents of such children would also come within the scope of the measures suggested.

I need not enlarge upon the details of such regulations as it might be feasible to adopt, as the question at issue is the expediency of departing at all from a purely voluntary and secret system of treatment. The compulsory treatment of infectious defaulters is a necessary part of any scheme involving notification.

Whatever view may be taken, it is essential that there should be full discussion and admission of the difficulties and weaknesses inherent in the present system. Looking at the matter from a broad standpoint, administration is finding itself in a dilemma. There are two possibilities, either (*a*) the assumption of a measure of control over defaulters; or (*b*) the frank teaching of self-disinfection. In this connection the Scottish Board of Health in their last annual report, dealing with lectures on venereal diseases and their prevention, say: "The spread of truth and knowlelge as regards means of prophylaxis should not exclude reference to such methods of early or preventive treatment as are generally agreed to be effective."

One of the reasons why the exercise of any control over those affected with venereal disease is viewed askance is the difficulty of framing specific enactments or regulations which would afford some measure of control, without being so drastic as to imperil the confidence of the public in a scheme which must remain essentially voluntary in character. Many critics believe that any such attempt would end in concealment of disease, that treatment would be late rather than early, that patients would forsake the centres altogether, and that venereal disease schemes, unable to stand such rough usage, would crumble to pieces. To these and other theoretical objections there is no answer but by way of experiment, and it is the opinion of those whose views I am endeavouring to interpret, that a trial should be made, for the reasons stated, in an area where complete facilities exist. The Royal Commission on Venereal Diseases stated: "That the situation may be modified when the facilities have been in operation for some time, and that the question of notification should be again considered." The Trevethin Committee concluded against compulsory notification, but added, "It may well be that measures for dealing with defaulters might be justified in certain areas." The view here put forward is that this justification now exists. It is, at any rate, advisable that this important problem should receive continued and full consideration.

Dr. T. Drummond Shiels, M.C., M.P., expressed agreement with Dr. Lyster that prevention of venereal diseases by disinfection was a method which should be available in the endeavour to stamp out those diseases. It was a method used in the Navy and the Army with success for many years. At the same time, he could not agree that disinfection alone would be sufficient to wipe out venereal diseases or even to bring them within manageable limits, because it would not in itself be effective in tackling what were the real difficulties associated with the problem. The great majority of patients who attended a venereal disease clinic were keen and anxious to get better, but it must also be recognised that there was a very substantial number who used the clinics—provided at great expense to the country—who failed to pursue the treatment sufficiently long. In Scotland the figure for defaulters for 1927 was no less than 51 per cent., and among the patients there was a minority who were careless both of themselves and others, and a further group who were weak-minded and incapable of realising the responsibility on them to consider their own health or that of their fellows. In Edinburgh, while the voluntary system had been given every chance by means of following up cases in as quiet a way as possible and by preserving secrecy, there had been a large percentage of failures. The Edinburgh Corporation applied to Parliament for a Bill to enable them to ensure that anyone starting treatment should continue it until cured, and that those affected should undergo treatment. The Bill aroused a great deal of both support and opposition. There was in that case, as in others, a great deal of sentiment, prejudice, heat and passion introduced which were out of place in the discussion of a scientific matter. It would, however, be agreed that whatever the result the promotion of the Edinburgh Bill would do good by bringing the subject to public notice and departing from the hush-hush policy which had been one of the obstacles in dealing with it. The main argument against the Bill was that the method proposed by Edinburgh would not succeed in reducing the extent of the diseases because the fear of being compelled to continue treatment or the fear of being compelled to attend if disease were known to exist would result in a diminution in the numbers coming forward and would drive the diseases underground. The question which gave rise to most difficulty was the suggestion that persons known to be spreading disease should be compelled either to produce a certificate that they were free of infection or to undergo treatment. That was held to create an infringement of personal liberty—a matter on which the British public was exceedingly sensitive. It seemed that, having regard to the arbitrary measures which were taken in other diseases, similar action should be pursued in relation to venereal diseases. The Bill did not ask for compulsory notification—a subject on which opinion was not quite so definite. Members of the medical profession in Australia, where the scheme had been tried, were at first mostly of the opinion that on the medical side it did not work particularly well because there was the difficulty that if the patient was a regular patient of the medical man he did not care to notify, especially against the patient's will, because he might lose not only the patient but the patient's family. Another difficulty was that sometimes a patient would give a false name and address. According to later reports, however, the system was now working much better and the medical profession were becoming accustomed to it; in fact, the opinion was unanimous that the compulsory powers for treatment were of the very greatest value, as reflected in the improvement noted in the statistics dealing with the diseases. In Dr. Drummond Shiels' view, it was only a matter of time for public opinion in this country to be educated to regard venereal diseases in the same light as any other disease, and if a person had a disease which was not only a danger to himself but to the community, that person should be compelled to take measures for his own cure.

Dr. A. Vernon Davies, O.B.E., M.P., dealing with the Parliamentary attitude towards the question, said that while they were all naturally anxious to stamp out venereal diseases in the quickest possible way, there had to be borne in mind the old maxim that Parliament could not legislate in advance of public opinion. He was a strong opponent of the Edinburgh Bill, which had met with very strong opposition in the House of Commons and from the Ministry of Health and the British Medical Association. In the House of Commons the matter had to be looked at more from the point of view of the public than from the standpoint of the medical man. Personally, he was convinced as a medical man that the Edinburgh Bill would be a hopeless failure if it passed into law. The Edinburgh figures showed that the number of defaulters was being reduced every year; why not, therefore, continue with the present work? The liberty of the subject was a very vital thing in public life, and the public were getting more and more suspicious of beaurocratic interference. His view was that the duty of the medical man was to make the cases non-infective and not to carry out curative treatment. As regards the methods adopted in the Navy and in the Army, he could not agree that the circumstances were comparable in any shape or form, neither could he agree with the estimate of Dr. Lyster as to the degree of the prevention obtained, as men were often drunk and unable to take proper precautions. To be successful, compulsory treatment would have to be national, and if it were possible to secure it throughout the country all well and good. In that case there would be public opinion behind the movement. Another point which had to be borne in mind was that there existed a very strong body of religious opinion in the country which could not be ignored.

Sir George A. Berry, M.P., thought it possible to combine the two factors—prevention and cure. The public needed educating as to the necessity for treatment, and it remained for the Society to convince the public that further legislation was necessary.

Dr. H. Wansey Bayly, M.C. (Hon. Secretary, Society for the Prevention of Venereal Diseases) held that immediate self-disinfection was almost a complete preventive against infection. Medical views as to when a patient should be considered free from infection were widely divergent, and until a recognised amount of treatment was decided upon by the medical profession it would be simply a question of luck as to whether an individual received a certificate in a fortnight or in ten years. It appeared to him that it would be a very difficult matter also to arrive at a decision as to compulsory treatment, and he was inclined to take a half-way view and offer the suggestion that treatment should be compulsory during the actively infectious period. He expressed complete disagreement with nearly all that Dr. Vernon Davies had said. Every meeting which he had addressed, he added, had been in favour of education in preventive methods.

Dr. J. J. Buchan (Medical Officer of Health, Bradford) was firmly of opinion that the medical profession generally would be stimulated by some compulsion placed upon them. Defaulters were far more common in the patients of the general practitioner than amongst the patients of the clinics. General practitioners at present were extremely glad to have notification of defaulters; they felt they were provided with a powerful lever to be able to threaten notification to the medical officer of health in recalcitrant cases. A stage had now been reached when a step forward should be taken, as proposed by the Edinburgh Bill. On October 1st, 1927, Germany introduced throughout the whole Reich compulsory notification and treatment. It was a useful experiment which was showing this country something, and the Edinburgh effort would show something also. Dr. Buchan expressed the hope that medical officers of health would do their best to push the proposal forward.

Lieut.-Colonel F. E. Fremantle, O.B.E., M.P., referring to the Parliamentary situation, said that there were instances where the Government was giving the lead to public opinion, and it had to be remembered that Government had to legislate ahead—but only slightly ahead—of public opinion. There was behind public opinion throughout the country a very large background of moral if not religious objection to dealing with venereal diseases, which could not be looked upon in the same way as other diseases. Nevertheless, having regard to the gravity of the problem, it could not be left alone. The way to get over the difficulties was to have scientific experiments and to see whether or not they were successful. Edinburgh, with all its authority and all its machinery for dealing with the cases and following them up, had come forward with a scheme which they were prepared to put to the test. Now it appeared that Edinburgh and Glasgow were prepared to go together with a joint scheme, and Colonel Fremantle expressed the hope that the Society and the British Medical Association would assist in putting that scheme forward.

At the conclusion of the discussion, Dr. Chalmers proposed, Dr. J. J. Buchan seconded, and it was unanimously

RESOLVED that the Council of the Society be asked (*a*) to ascertain the views of the Branches in reference to the compulsory treatment and compulsory notification of venereal diseases, and (*b*) to consider whether any scheme of action can be recommended in reference to the parents of children infected with venereal diseases.

Ut Ita Dicam.

(Being Comments, apropos and otherwise, on Sundry Matters.)

A Remedy for "Smoak."

Nothing new under the sun. Except the New Year (and happy may it be). Even that is not new, since it comes every year, and like Christmas, fortunately only once a year. This is apropos a pronouncement of Sir John Evelyn, famed as a diarist but perhaps less well known as an essayist and publicist, on the subject of the smoke nuisance and its prevention. Entitled "Fumugium; or the Inconvenience of the Aer and Smoak of London Dissipated, together with some Remedies humbly proposed," it is dedicated to His Majesty, gracefully, in these words: "It was one day, as I was walking in Your Majesty's Palace at White Hall (where I have sometimes the honour to refresh myself with the sight of Your Illustrious Presence which is the Joy of Your Peoples hearts) that a presumptuous Smoak issuing from one or two tunnels near Northumberland House, and not far from Scotland Yard, did so invade the Court that all the Rooms, Galleries, and Places about it were fill'd and infested with it; and that to such a degree, as Men could hardly discern one another from the Clowd and none could support, without manifest Inconveniency. It was not this which did first suggest to me what I had long since conceived against this pernicious Accident, upon frequent observation; but it was this alone, and the trouble that it must needs procure to your Sacred Majesty, as well as hazard to Your Health, which kindled the Indignation of mine against it, and was the occasion of what it has produc'd in these Papers. Sir, I prepare in this short Discourse an expedient how this pernicious *Nuisance* may be reformed; and offer at the present Inconveniency; but (that removed) to render not only to your Majesties Palace, but the whole City likewise, one of the sweetest and most delicious Habitations in the World; and this, with little or no expence; but by improving those Plantations which Your Majesty so laudably affects, in the moyst, depressed and marshy grounds about the Towne, to the Culture and production of such things, as upon every gentle emission through the *Aer*, should so perfume the adjacent places with their breath; as if, by a certain charm, or innocent *Magick*, they were transferred to that part of *Arabia*, which is therefore styled *Happy*, because it is amongst the Gums and precious spices."

The scheme proposed by Evelyn involved the planting of enormous areas with sweet-brier, woodbine, jessamine, musk, lavender, etc., to contest against the smell of the smoke. Not a true preventist, Evelyn, apparently, believed that the smoke nuisance must inevitably continue, but that the sweet-scented air would act as a kind of anæsthetic and make it less noticeable.

Health Books for the People.

This gem I found in a delightful book, "Unknown Surrey," by an author of the name of Donald Maxwell, which on account of the Local Government Bill and the innumerable and endless but, I hope, worthwhile meetings it has entailed, is one of the few books I appear to have had any opportunity of reading for some time. One other that I have had down from the shelf, largely because it struck me as having a certain apropos to the Bill, is Dr. Stella Churchill's "Health Services and the Public,"* an admirable and extraordinarily concise and reasonably priced guide to what is practically an unknown region to the bulk of the population. Of the making of books on health subjects for the people there appears to be no end; most of them written and published entirely as a result of a total misunderstanding of the position and in complete ignorance of the psychology of the public. The belief that there is a demand and a market, I am convinced, has its origin in the prominence given in the specialist press to talk of health education and propaganda and in the lay press to health topics. The first gives the impression that the propaganda business, being a statutory thing and official, must have all the ratepayers money behind it: the impression given by the second being that the people are yearning for health education and all that propaganda can tell them about floating kidney, staying at home when they sneeze and the superior claims of savage culinary methods. Proof that the impression is wrong does not appear to the publisher until he finds it necessary to enter upon the statement of sales submitted to the author that 500 copies of the health volume have been sold for pulping; nor to the author until the publisher has answered his enquiry as to what "sold for pulping" means. A noteworthy thing about the impression is that it never

* London: Noel Douglas, 1928, pp. 266. Price 7s. 6d. net.

appears to strike anybody within the circle of those who are concerned in health education of the people. Off-hand I cannot think of anyone in the health service who has produced for publication anything on the lines of the general health handbook for the people that flows in a steady stream from the Press and ends, if lucky, as a "remainder," or if not in the vats of the paper pulper. No, *Sir*. Such as know the field of public health and health propaganda; who consider what the people should be taught and can be taught, recognise the futility of the volume with the introduction about the body as a machine and chapters on the skin and cleanliness, digestion and so forth *and* six dismal illustrations. If they have the urge or are urged to contribute to the literature of health propaganda in a popular way, out of their knowledge, they choose the subject upon which they recognise teaching is required in order that a foundation may be provided. On that they write and, in general, succeed in supplying something not only readable by and informative to the people, but that is a stimulus and a guide for wider teaching.

Dr. Stella Churchill's Book.

It was Dr. Stella Churchill's "Health Services and the Public," that suggested these thoughts, because though it must be grouped with the popular health handbooks, it is definitely not of the type of volume that that description suggests. On the contrary; it treats of one of the basic subjects in the field of health education, knowledgably, as it would, of course, being by one who knows it and can look at it from the expert side as a one-time servant of a local authority as well as from that of a member of a local governing body. What strikes me particularly about the treatment is the entire absence of the more or less disgruntled note that has appeared to me to sound in books relating to the public services, prepared for the guidance and information of the people by political and other organisations, whose outlook on life is darkened by a sort of despairing desperation. Dr. Churchill is, of course, critical in places with regard to various of the arrangements she explains, and she is outspoken at and about people and things. She is not hopeless about it, however, and she analyses whatever it is she criticises with knowledge and reasonably, before she delivers her blows. This I am bound to say is one of the things that made me like her book; two other features that made it attractive being the freshness and unconventionality of its plan and the pleasant way in which it shows how the scheme as it exists now has developed and evolved. Like most people who are pleased to think they are something of thinkers and philosophers, a touch of history in my reading matter gives me the impression that I am not without profundity. Dr. Stella Churchill has introduced exactly the right amount to induce the proper feeling, and has done it in a way that will make her book not only attractive but really helpful.

Joseph Priestley.

I regret the death of Dr. Joseph Priestley intensely, because his passing means a further obliteration of the impressions earliest received on entering the service, and taking part in the work of the Society. That was in the days when there were two honorary secretaries. Priestley was one and Herbert Jones the other, when I joined up, and while they both filled me with awe they puzzled me too because I never could understand exactly how the arrangement worked, why it should work, and why, in fact, it did work with such admirable smoothness. Priestley always impressed me as an ideal secretary. There was a vast amount of important work to be done actually, and he always seemed to be doing an enormous amount of work of the extremest importance. He knew all about everything that was going on and was always tactful, helpful and kindly, even to newcomers such as I was. I never lost the awe and respect originally inspired for Priestley. Always for me he wore a sort of halo, and it was the beginning of a new and unknown order of things for me, and I feared for the Society when quite suddenly he ceased to take any part in the proceedings. His death after a comparatively short period of retirement from the post of medical officer of health of Lambeth, which he had occupied for so long, so acceptably to everyone in that borough, councillors and public alike, was quite unexpected To all who held him in affection and who had wished for him, as I did, many years of pleasant rest after a long period of hard and useful work, his passing will mean real regret. He was one of a group of men whose work has meant much to the Society, and as the years pass, time withdraws more and more of them from the group. It should not withdraw them from our memory, and if it does not, Priestley, as he should, will remain there.

P.

The Central Council for Health Education.

By HENRY KENWOOD, C.M.G., M.B., F.R.S.E., D.P.H., Chairman, Central Council for Health Education; Emeritus Professor of Hygiene and Public Health in the University of London; Past-President of the Society of Medical Officers of Health; and W. W. JAMESON, M.A., M.D., M.R.C.P., D P.H., Professor of Public Health, London School of Hygiene and Tropical Medicine.

In these papers, which were delivered in the form of addresses to the National Association of Insurance Committees at a meeting held in London in October, 1928, Professor Kenwood and Professor Jameson so concisely and convincingly describe the genesis of the Central Council for Health Education and so clearly set forth the ideals at which it aims, that it has been thought appropriate that they should be given a place in the pages of the official journal of the Society—the originator of the Council.

PROF. KENWOOD.

THE object of the Central Council is to advise and assist local health and education authorities and insurance committees in the work of health education, and to secure for this purpose the help of all bodies engaged in research in preventive medicine and in the diffusion of knowledge on health matters.

You will note, therefore, that the Central Council is not a body which has been formed to diffuse health-knowledge itself, but rather to assist others in doing so, and to co-ordinate all such activities, to the end of securing a well-balanced scheme of public health education.

There is no need for me to talk to you upon the importance of the education of the masses in health matters—it would be a case of preaching to the converted; and you and all your insured persons would welcome the greatest possible reduction in medical sickness benefits by a measure which will so certainly aid in the prevention of sickness. This prevention has an exceptional value when it relates to the section of the community which comes within the operation of the National Health Insurance Acts. *They* are the backbone of the community and of the State, and sickness not only impoverishes *them*, but the State also to an exceptional degree.

You are in the unique position of having the machinery at work which could be utilised in the dissemination of health-knowledge to nearly fourteen millions of workers. It is not surprising, therefore, that we turn to you with outstretched arms.

Our object is the prevention of sickness—the main aim of the National Health Insurance Acts—and as we succeed so will the cost of medical benefits be reduced; yet, although so many treatment benefits are provided by the National Health Insurance Acts, no "prevention benefit" is provided. Therefore, there are no specified powers conferred upon you to spend money on health education; but I am confident that the Ministry of Health will recognise the desirability of providing adequate funds for that purpose; and I am glad to see that, last year, your National Association received and approved a resolution in favour of this.

No public cause can grow into strength unless it is carefully nursed by publicity. There is not lacking evidence that the public appetite for health education is developing, and that this growing concern for knowledge is bearing fruit. It is an appetite that grows by what it feeds upon—if the right kind of food is provided. The right kind of food is that which is carefully selected, satisfying, stimulating and easily digested; and this food must be given in suitably measured and regular doses—pure and free from such impoverishments as fads, conjectures and "counsels of perfection."

Whether we depend upon the spoken word, the printed word, or both, to get our message across we must teach the facts of healthy living from the practical and personal standpoints, and emphasise not only those particulars which make for good health but also those that make for the appreciation of good health. This is no easy matter, inasmuch as it so often runs counter to age-old customs and habits and is handicapped not merely by public inertia but (as it is still far from an exact science) occasionally by the self-complacent criticism of others. Yet the progress made, even within the brief period of the past ten years, is impressive and encouraging, and the voice of the

health-propagandist cries no longer in the wilderness. The subject already commands a big public which realises the importance of better health, even from the economical standpoint. But there is a section of the community which will not come to us. We must go to them. This section is a diminishing quantity; but even at the present day it amounts to big figures. Only the press has reached this section. But *you* can reach it also.

If then it *must* be the right sort of health-food that we offer to the public, the question will arise in your minds as to whether we are a competent body to advise upon the selection and preparation of that food, or, if necessary, to select and prepare it ourselves? My answer must be that we have done all that is possible to secure a general confidence in us.

Let me tell you something of the Central Council for Health Education. It started in this way:—

Some years ago a deputation of the Society of Medical Officers of Health submitted to the Minister of Health a number of proposals in reference to the education of the people in health matters. It was suggested that this work should be made an obligation of all local health authorities, that the necessary expenditure should be sanctioned, and that a central body should be set up to co-ordinate the activities of all those organisations who were willing to assist local authorities in this educational campaign. Mr. Neville Chamberlain gave the deputation a sympathetic hearing, although he was unable to accept all their suggestions, but he indicated that they might hope for early sanction of expenditure by local authorities on health education work. This sanction was forthcoming shortly afterwards in Section 67 of the Public Health Act, 1925.

It is the offspring of the Society of Medical Officers of Health. Now, whenever individuals devote their life's work to the study and practice of a *branch* of medicine, they are termed "specialists." Therefore, we specially qualified health-officials, who have made the study and practice of hygiene and preventive medicine our life's work, may claim, without prejudicing what reputation for modesty we possess, to be the *specialists* in hygiene and preventive medicine, with an exceptional acquaintanceship with the health needs of the people. But the Society has set up a central body, upon which local health and education authorities and national health insurance bodies are represented, with power to co-opt other advisory members with special knowledge and experience, whenever desirable—and there is no eminent authority whose assistance cannot be counted upon.

The Minister of Health wishes us well and has appointed a representative to attend the meetings of the Central Council, thereby conferring upon us an authoritative status.

What have we achieved so far, during our first year of existence, that will support our claim for usefulness?

Better Health, our monthly publication, has a circulation exceeding 120,000. The Minister of Health (the Right Hon. Neville Chamberlain, P.C., M.P.) has written to us as follows: "Your journal has as its object the dissemination of knowledge in non-technical terms, that those who run may read. It is being carried on in close association with the public health workers on the one hand and with the local authorities on the other. It is designed to proclaim a gospel of health to all engaged in the teaching of the young; to incite all in responsible positions as employers and leaders to encourage the way of health; above all, to tell individuals to practise it. These are aims which should command universal approval, and in so far as your journal succeeds in attaining them it will deserve well of the whole community."

We have advised and assisted many local health authorities and insurance committees in the development of the health-education schemes.

We have organised services of press-publicity, and are making a collection, for the guidance and convenience of those who are organising "Health Weeks," "Health Exhibitions" and special lectures, etc.; and the Ministry of Health has made a valuable contribution to our motion pictures, posters, leaflets, etc. We are in the position to lend lantern slides to lecturers and to advise as to where others may be borrowed.

A panel-list of specially gifted and experienced medical men as popular lecturers is being prepared.

We are consulting with Sir George Newman upon short health-talks through the wireless and we have secured the approval of the General Medical Council and the Ministry of Health to the broadcasting of health articles in the public press. We do not under-estimate the great value of the public press in health-education and we realise that this service to a good cause may always be counted upon. Already the public press has been a very great instrument in the dissemination of health-knowledge, and

n demonstrating to us that it is possible to *write intelligibly and entertainingly even upon* the most intricate subjects.

As advised by our Editorial and Publicity Committee, we have offered suggestions upon many posters, leaflets, motion pictures, etc., and we have set the official seal of our approval (either with or without modifications) upon much material submitted to us. The endorsement of a responsible Medical Society was required before the commercial showing of a film dealing with venereal diseases was permitted. The Ministry of Health nominated us for this responsible judgment, and the film—"The Dangers of Ignorance"—has met with much success.

We have arranged conferences upon health-education.

What have we done, as yet, to assist *you* who have to do with national health insurance work?

Very appropriately we have given you a good representation upon our Central Council, and we have already rendered some useful assistance.

We have conferred with representatives of approved societies in the matter of co-operation and assistance, and suggested that appropriate health leaflets should be issued by them and distributed along with the insurance cards and other communications; and we have expressed the desire to arrange an annual conference with them to discuss the subject of health-education among the insured population.

Several of the large friendly societies have expressed their wish to co-operate with us, and the Central Council furnishes to them each month an appropriate health article for insertion in their journals.

The Societies in membership with the National Conference of Friendly Societies have been invited to become associated with the Council in the general scheme of health education.

If, in addition to our main function of acting as an advisory body, we are asked to prepare leaflets, etc., and to supply these at little more than cost price, the statements will be as accurate and as well-judged as it is possible for us to make them. But they can never be beyond carping criticism. For instance, we cannot avoid in a leaflet upon cancer, the possibility that in the opinion of A it is too alarming, and the opinion of B it is not alarming enough; and surely when indifference or carelessness in the early seeking of medical advice is known to be responsible for much unnecessary suffering and mortality from the disease in question, it *would be foolish to issue a leaflet which failed to impress strongly* the evil consequences of neglect.

It will be appreciated that the fullest work of the Central Council must be a matter of development, and the extent and value of this development must depend upon the amount of encouragement and support that we receive.

The Society of Medical Officers of Health has been meeting the expenses of starting its child—the Central Council—in life. Although this child is only a year old, its progress has been so considerable, that its mother, never strong financially, fears that she may not be able to carry the baby. Although the greatest economy is practised the Council needs some "benefit" which can be counted upon yearly.

We ask for an annual subscription of a guinea from every insurance committee and society which wishes us success in our efforts to meet a very real want, and which may be likely to use us; and we propose to supply a copy of our monthly journal *Better Health* to those committees and societies who become annual subscribers. Already many local health authorities, insurance committees, friendly societies, etc., have sent us subscriptions. It has been suggested also that the approved societies may find it possible to co-operate in securing the distribution of *Better Health*.

The work of educating the masses cannot be done without spending money; but it is remarkable what good results can be achieved from a small expenditure, when good judgment, care and economy are brought to bear. Until the Ministry of Health enables you to meet the small expenses justified by your interests in health-education, I realise that you lack the means for embarking upon a general campaign, and therefore the incentive to devise your scheme. To what extent your local insurance committee will co-operate in conjoint schemes with one or more local health authorities (who are already charged with health-education powers) will be unfolded later on; but it seems to me that such a linking-up and collaboration would be a wise course to take in most cases—a special conjoint committee for the purpose of health-propaganda being constituted.

Later on I believe that the panel doctors will become the health educators of your insured workers. That will be the ideal arrangement. But we have a long way to go before that goal is reached.

If you are satisfied that in the Central Council for Health Education you have a body which can pronounce with authority upon all health matters, and can offer valuable guidance and assistance in respect to health-education, no matter what course you adopt, we invite you to make use of us in the great cause in which we can co-operate with advantage.

PROF. JAMESON.

The education of the public in matters relating to health is no new idea. It is necessary to go back to the days of Moses to inform ourselves of some of the earliest efforts at mass instruction and if we turn to the books of the Old Testament we shall find set out some of the most remarkable health teaching ever recorded—teaching which, if it had been followed by other nations through succeeding centuries, would have saved the world a good deal of unnecessary suffering.

The history of health education is less pleasant to read after the fall of the earlier civilizations, and in the mediæval period conditions in most parts of the world must have been singularly unpleasant. Indeed, it was not till the beginning of last century that a real endeavour began to be made to stimulate public interest in health and particularly in the importance of a sanitary environment. Voluntary associations began to be formed for the express purpose of informing the public of the more obvious evils that existed, especially in our great towns, and of creating a volume of public opinion against the continuance of such dangers to health. It is worthy of note that in those days efforts were directed mainly towards stimulating the educated middle and upper classes. The power of remedying evils lay chiefly in their hands. The general mass of the people remained ignorant and without any form of education, and no organisation existed capable of voicing their feelings. The condition of affairs that existed as late as 1861 (just nine years before a compulsory system of elementary education was introduced) is well illustrated by the fact (recorded by Sir George Newman) that in that year a commercial firm assumed the title of "Bug Destroyers," and the head of the business announced that he worked for "the upper classes only," and that he had noblemen's names, the first in England, on his books. From 1870 onwards more and more voluntary educational work was developed and real endeavours began to be made to "get at" the huge mass of the people and to make them realise the importance of health and the possibility of preventing many of the disabilities from which they suffered. It is, of course, characteristic of this country that anything good, especially in health work, we may have to show has been commenced by voluntary effort and only adopted by official bodies once its success has been more or less established. We cannot be too grateful to our voluntary organisations; but it is not right that they should bear the whole burden, hence statutory authority has been given to various authorities to enter the field of health education.

It is peculiarly interesting to observe that the first official bodies given this statutory power were insurance committees. I need hardly recall to you that the main purpose of the Insurance Act of 1911 was to provide for the prevention as well as the cure of sickness, and that insurance committees were empowered to make provision for lectures and the publication of information relating to health. It was conceived that this national health insurance should be something more than a means of dealing with sickness and disablement, and that a close link should be forged between the new authorities about to be set up and the older established health personnel. It is not always easy to carry out to the fullest extent the best intentions of some of our legislation but the possibilities here are great and I venture to think are only now beginning to be realised.

Rapidly following on the Insurance Act of 1911 came the Tuberculosis Regulations of 1912, which in their turn empowered local authorities to provide, publish and distribute information regarding tuberculosis and the precautions to be taken against the spread of the disease. Similar powers with regard to venereal disease were given by the Regulations of 1916, and with regard to maternity and child welfare in 1918. Then came the Public Health Act in 1925, with its welcome section 67. So that now more or less general powers have been granted to local authorities to enable them to deal comprehensively with all forms of health education. But you will remember that the insurance committees—with their 14 million insured persons, their 15 thousand medical practitioners and their technical staffs—were first in the field.

Side by side with these official bodies stand the voluntary associations, more powerful and more active to-day than ever before. What an enormous machine we possess, capable, under adequate control, of doing almost any service

in the interests of the public for whose benefit it was all devised.

It is very necessary at the present time that the people should receive instruction in health matters. Great ignorance still prevails among large sections of the population, not excluding persons of good education, as regards the simplest processes of the healthy human organism, to say nothing of disease itself. Even those whose prospects of long life are not affected by adverse economic circumstances are apt to squander their health. It must not be forgotten that there has been during the past generation a very rapid advance in *medical* science and in its practical application in the prevention of disease. There has been a still more rapid advance in the development of our public medical services and in the growth of health legislation. Public opinion has not kept pace with all these advances, and without an understanding and enthusiastic public we cannot reap the full measure of success. Well thought out schemes of public education are necessary unless we are to leave the formation of public opinion to irresponsible, even if well meaning, faddists, whose efforts, if left uncontrolled, will end only by making the public distrust everything served up to it under the guise of health education.

Now this movement is world-wide. It is not either a product of American advertising methods or an outcome of British sentimentality.

In Germany, since the War, developments have been rapid and a very large part of the work is undertaken by the equivalent of our health insurance organisation. The "sickness funds," as they are called, have given popular instruction in health by means of lectures, the distribution of printed matter of all sorts and the display of various exhibits. In 1925 Germany's first "health week" was organised in Berlin jointly by the "sickness funds" and the municipality. The success of this led to other local efforts and in the Spring of 1926, a national health week was established. In connection with these "weeks" the "sickness funds" have decided to produce and to lend health exhibits on an extensive scale.

Many of the periodicals published by specialist organisations are subscribed to in large amounts by the "sickness funds," and recently the Central Union of German Sickness Funds brought out a monthly journal of its own, under the title of "Health." The circulation of this journal is now about half-a-million. In 1927 the larger funds agreed to take a number of copies equivalent to about 15 per cent. of their membership, whilst the smaller funds gave a similar undertaking on a basis of from 10 to 12 per cent. of their membership. Copies of the journal are sent to sick members and, in addition, arrangements are made, either by employers or the workmen themselves, for the circulation among insured persons of large numbers of these periodicals. In Germany, health education is regarded as good business by the health insurance organisations.

The same is true with regard to many of the more enlightened life insurance companies. Perhaps the most noteworthy example is the Metropolitan Life Insurance Company of New York. This Company has a huge number of policy holders, most of them paying weekly premiums. The Company's collecting agents are trained in popular health instruction and in various ways they endeavour to interest the policy holders in health matters. A very large sum is expended annually in this and in other similar ways, but the Company is satisfied that the money is well spent, for it claims that its policy holders show a greater reduction in mortality than does the general population over a similar period. In addition, the Company has induced many thousands of its clients to submit themselves to periodical medical examination—obviously the best means at our disposal for the detection of the beginning of disease.

The Sun Life Insurance Company of Canada is another Company that spends large sums annually on health education. This Company also makes a considerable annual grant to the Canadian Medical Association for the purpose of enabling medical men possessing special knowledge to visit the more outlying parts of the Dominion to give instruction to their less fortunate colleagues in the most recent advances in medical science. The other week a party of—I think—over thirty medical men from Canada and the United States attended a Tuberculosis Conference in this country. I understand that the cost of this visit was paid for in large part by this Insurance Company. Then, at any rate, one large insurance company in this country is responsible for the publication of some very useful pamphlets on health matters and is endeavouring to co-operate in every possible way with local authorities in their schemes of health education.

I think we may be quite sure that, if these large companies, whose business it is to show profits, are satisfied that health education means financial gain in the long run, we need not doubt the soundness of our own campaign.

May I add that in countries with very little money to spend on health work it is commonly held that the education of the public is the method likely to give the best results in the shortest possible time.

There is no one body upon which the whole responsibility for the conduct of health education should rest. Success can be achieved only by co-ordinated effort.

We require first of all persons possessing expert knowledge for the preparation of propaganda material. This is necessary to ensure accuracy, and in work of this sort we must never deviate from the truth, for here, as indeed in all other things, truth will prevail over fiction, however attractive the trappings of the latter may be made. I am far from saying that the man with expert knowledge is necessarily the best qualified person to interpret that knowledge to the public, but he makes an excellent proof reader.

In the second place there is need for persons skilled in the art of presenting all this material to the public—good popular lecturers, poster experts, pithy writers. Some people can do these things naturally, but I believe a good many can be trained to do them. Journalists and advertising specialists can help us here.

In the third place it is highly desirable that the work generally should be supervised by some independent body of experienced people, such as the Central Council for Health Education, whose function it is to co-ordinate the efforts of others and to see that one aspect of health education is not un to death at the expense of others equally important and that the whole field is reasonab'y well covered. The chaotic condition into which propaganda work was rapidly slipping was evidence of the need for some such body.

Finally, and most important of all, we need the active and willing co-operation of all the great organisations and institutions in close touch with the people—insurance committees, approved societies, county or municipal authorities and last, but not least, the press. With their help all things are possible, and there are signs that this help is forthcoming.

It is very important that health education should be given by persons in close everyday contact with the people to be educated. Thus in our schools the individual best able to teach the rules of healthy living is the class teacher—not some special teacher whose entry upon the stage would be apt to make the children feel that the maintenance of health depended upon the possession of some special knowledge denied the ordinary mortal. Then, amongst the great mass of the adult population, insurance committees, approved societies, religious bodies, trade unions and employers of labour seem most likely to have available means of easy approach to their various adherents and supporters. All these bodies or persons are directly interested in the physical or spiritual welfare of their people, and it seems the most natural thing in the world that they should make themselves responsible, to some extent, for certain parts of a general scheme of health education.

No one, of course, has greater opportunities for good than has the medical practitioner, who spends much of his time in the homes of the insured. In the past the training of our medical students has touched far too lightly upon the value of preventive methods and the necessity for their application in practice. The medical student, after his preliminary purely scientific training, deals almost entirely with sick people, either in the hospital wards or in the out-patient departments. He rarely sees patients in their own homes. He knows and learns very little of the economic circumstances and environment of those who will later on constitute the huge majority of his patients. The result of all this is that he leaves his medical school, impressed with his duty as a healer of the sick and not as a missioner of health. This defect is fully appreciated nowadays in official quarters and efforts are being made to re-mould the medical curriculum in the light of present-day requirements. All this takes time, but the work will surely progress. Many medical practitioners all over the country, realising the great part they can play, have willingly undertaken a considerable amount of lecturing work in schools and especially among their own insured patients. The Industrial Health Education Society has made great use of medical practitioners in its programme of health education among workers in industry. Than this no more hopeful sign could be detected. Such work wants developing to the greatest possible extent. An insurance medical service that makes due provision for this method of teaching will become a far more vital force in this country than anything we possess at the present time.

Let me quote Sir George Newman—in his report which recently appeared—"There can be no doubt of the inestimable value of the full and proper discharge of the educational duty of the insurance doctors. They are brought into close personal touch with seven million patients

every year, most of whom are suffering from illness at its beginning. The insurance system is the greatest instrument yet provided by the State for individual instruction in the principles and practice of preventive medicine, and it is of the highest importance that the opportunity thus provided should be fully used by every practitioner. The patient is particularly open and susceptible to advice of this counsel; and the medical practitioner is the best person in the world to give it. Incapacity and sickness are most largely due to the common ailments of indigestion, bronchitis and respiratory chill, dental decay, neurasthenia, "rheumatism," and minor injuries. The ultimate remedy for these conditions is to be found in a hygienic way of life rather than in the use of drugs. In a word, health "education" of the patient is more important than the medical treatment of his malady."

In spite of the small amount of money available for the purposes of health education in he possession of the insurance committees, a good many committees, do in fact, show a very active interest in the work. I do not know what figures have been obtained for this year, but last year of the 128 insurance committees in England, 75 undertook health educational work to some extent, while in 33 areas the amount done was considerable. Of the committees who had not done anything in the matter, 30 gave lack of money as the reason. Twenty-one committees arranged for special lectures, often illustrated by films and lantern slides; 12 arranged for lectures by insurance practitioners to persons on their panel lists; 42 distributed literature of various kinds and 25 took part in health weeks, exhibitions and such like. Certain Yorkshire Committees contributed sums to the British Empire Cancer Campaign on condition that the money should be spent on propaganda work. That is an excellent record of work, and when I turn to the agenda for this year's annual meeting I find evidence in the list of motions to be proposed as well as in the pages of the Report of the Executive Council that the question of health education occupies a prominent place.

Money is not the only thing necessary in the movement. We need also enthusiasm and the will to co-operate. I am convinced that before many years have passed the lines of demarcation between the public health service and the insurance service will largely have disappeared. This year you sent delegates to the Congress of the Royal Sanitary Institute at Plymouth (in spite of the fact that the Minister of Health refused to sanction delegates' expenses) and were responsible for the first meeting of the National Health Insurance Section. To that action I attach enormous importance. It seems to me extremely significant that the official insurance organisations should take part in the most representative gathering of health workers held in this country. To-day you invite two members of the health service to open the discussion on health education. I appreciate the compliment, but I attach far more importance to your invitation as a sign that we are really going to come together and put all our united strength into this worthy endeavour. I am encouraged in this belief by the concluding paragraphs of your President's most thoughtful address.

As one eminent writer has put it—"The State is not safe unless public opinion is enlightened opinion, and the task of converting public opinion into educated opinion is so vast as to require the best powers of us all."

AT the London School of Hygiene and Tropical Medicine, Dr. H. B. Newham, C.M.G., M.R.C.P., D.P.H., D.T.M. & H., the warden of studies, has been appointed curator to the museum. Dr. J. F. C. Haslam, M.R.C.P., D.P.H., has been appointed director of library services, and Mr. R. L. Sheppard, assistant director of library services. Both of these gentlemen will remain also in the service of the Bureau of Hygiene and Tropical Diseases, with whose concurrence the appointments have been made. Mr. C. C. Barnard, B.A., F.L.A., retains his post of librarian in the new organisation.

THE Metropolitan Asylums Board announce that a course of lectures and demonstrations (three months) on clinical practice and in hospital administration, will be given at the North-Eastern Hospital, St. Ann's Road, Tottenham, N.15, by Dr. F. H. Thomson, medical superintendent, on Mondays and Wednesdays, at 4.45 p.m., and alternate Saturdays at 11 a.m., beginning Monday, January 7th, 1929. This course complies with the requirements of the revised D.P.H. regulations of the General Medical Council. The fee is £4 4s. A course may, however, be taken under the old regulations, at a fee of £3 3s. Medical men desiring to attend the course are required, *before* attending at the hospital, to pay the requisite fee to the Clerk to the Metropolitan Asylums Board, Victoria Embankment, E.C.4, giving their full name and address.

The Morbidity and Mortality Statistics of Tuberculosis.

By ALFRED ADAMS, M.D., Ch.B., D.P.H.,

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The question of tuberculosis, particularly that aspect concerned with the causes of the decline in the mortality from the disease, has been the subject of a number of contributions at recent meetings of the Society and its Branches, and the following thoughtful paper by Dr. Adams, read at a meeting of the North-Western Branch, on November 11th, 1927, adds further interesting material to the discussion.

PROBABLY the most remarkable feature of the annual reports of the Registrar General for many years past, with the exception of the war years, has been the decline in the total death-rate for this country, and when this is analysed the item upon which most attention has been fixed has been the steady drop in the number of deaths from pulmonary tuberculosis. There has been a steady fall year by year, dating back almost as far as our statistics, and still continued in the present year; but a noteworthy feature which the curve displays has, I think, not had the attention drawn to it that it deserves, *viz.*, that in the earlier periods the decline was a very small percentage of the total, and that each drop now shown means an increasingly larger percentage of the previous year's total. If the present curve is continued for a very few years more it must soon reach a point at which it will cease to go down; in other words, the irreducible minimum will have been reached, as has occurred in the cases of scarlet fever and other easily quoted diseases.

Tuberculosis was at one time responsible for 12 per cent. of the total deaths in this country, and was easily first in the list of causes of mortality, but in 1925, it had dropped to third place, and was much behind heart disease and cancer, and practically level with pneumonia and bronchitis; I have little doubt that in a few years it will have fallen in the list below these two causes also, and take fifth place.

A comparison of the death-rates of these five diseases proves that this decline is greater in tuberculosis than the fall in the general death-rate, which may be attributed to improved sanitary conditions, so that there must be some other cause or causes affecting the tuberculosis rate particularly.

Another point I would like to stress is that the age at death has shown a constant rise; year by year we find that the life of the sufferer is tending to become prolonged, and this is shown by the steady move to the right in the curves showing the age at death of both males and females.

These facts taken together show that we are gradually obtaining a control over this insidious complaint, and one has only to attend any conference or committee dealing with the subject to realise the difficulties that arise in attributing the result to a definite cause or causes, as each authority or speaker contributes a different theory and no unanimity or reasonable grounds are put forward so far to account for the facts.

It is my intention to consider some of the theories to which have been attributed the results I have stated, as seen from the point of view of one whose work it is to supervise the institutional treatment of the tuberculous patient, and who sees him in an environment different from that seen by the medical officer of health or the tuberculosis officer.

Let us first consider some of the main causes to which improvement has been attributed.

On the charts usually shown illustrating the decline, one is accustomed to seeing milestones placed every few years, such as Public Health Act, 1875, Education Act, the discovery of the tubercle bacillus by Koch, the compulsory notification of tuberculosis, the passing of the Insurance Act, etc. We can add to this list indefinitely, or remove from it, but at no point does the curve display any variation from its remarkable course, excepting in the period of the war years.

The decline had begun before the passing of the Public Health Act, and it may have been aided by this, but there is no definite evidence of any great alteration which can clearly be attributed to this Act, further than that of the

general improvement in the national health.

That education is a factor of prime importance cannot be gainsaid—both the education of the public in elementary hygiene and sanitation, and more particularly the education of the patient, so that he may be a less serious source of danger in his home and to his fellow workmen. How potent a factor this has been it is difficult to prove, as education has been steadily increasing for a considerable number of years: but the decline long preceded legislation in this direction, and there is no evident period at which we can trace its effects. In our present state of uncertainty as to the date at which infection takes place, its path of entry, its incubation period, and whether pulmonary tuberculosis is a new infection or the re-awakening of an old infection, we find ourselves at a great disadvantage in endeavouring to assess the value of any new methods such as changes in legislation or of environment.

To what extent has the discovery by Koch of the tubercle bacillus in 1881 assisted us in the contest? Looking at the chart it provides a very suitable milestone to insert in an otherwise unbroken road, but there again, we fail to find an appreciable alteration in the curve as a result. In the differential diagnosis of our patients it is of the greatest value; for illustrative purposes in our platform campaigns it is again useful; but what has been its value towards prevention and treatment? I fear little. So long ago as the time of Hippocrates it was known that tuberculosis was infective, and we have only added to this knowledge that the infection is conveyed by this particular organism. When does infection really take place, and how long after do we get the first evident symptoms of disease? Until we can definitely settle these questions it will be difficult indeed to dogmatise on the effect of any remedy. Most of us believe infection takes place in infancy, and is caused by massive doses which overcome our natural or acquired immunity, and in favour of this argument the well-known statistics showing the small incidence of infection amongst workers in hospitals, etc., devoted to the treatment of advanced infective cases have been largely quoted, and confirmed by the figures obtained from statistics of marital infection among the relicts of those who have died of the disease; but it must be remembered that the death-rate from tuberculosis rose rapidly during the war years, and immediately after the war as rapidly declined. If all or the major part of infection took place in childhood, the deaths from tuberculosis should only now be showing the war increase as the children of the war years are just reaching the age of greatest susceptibility with the highest death-rate for the disease. There is no evidence in our statistics to support this view, but on the other hand, as the age at death during the war period did not vary from the normal, it points to either a diminished resistance or a greater degree of infection amongst adults during those depressing years.

It would be flattery to suggest that the work done up to the present in control of the sale of tuberculous milk has had a marked effect in reducing the mortality rates. The attention drawn to the subject has been beneficial in that the more gross contamination has been reduced, but the records of the analysis of samples of milk taken at our main stations show that the percentage of infected milk is unchanged.

The next suggested cause for consideration is improvement in social position, with which are associated low wages and poor food. Brownlee in his report drew a careful chart showing a fall in the price of wheat corresponding with the fall in the tuberculosis death-rate. Whether this is a case of *post hoc* or *propter hoc* is almost as difficult to decide as the question of the similar charts showing an increase in the importation of bananas and the incidence of cancer. It appears to me that too much stress has been laid on this factor. Our agricultural labourers receive the lowest wage of any workers in this country, and their dietary for themselves and their children is undoubtedly the poorest, yet their morbidity rate for tuberculosis is also the lowest. Further, although for the past six years we have had unexampled unemployment, with its attendant loss of wages, there has been no apparent alteration in the curve such as would have occurred if this had been the important factor it has been claimed to be.

Closely allied is the question of housing. It is unnecessary for me to remind you that tuberculosis is no discriminator. It penetrates with equal facility the palace and the slum, as well as the decent home. For many years improvement in housing has been heralded as the mainstay in our attack on tuberculosis, and figures have been produced showing a fall to one-third in the death-rate in districts where decent houses have replaced frightful slums, but it must be remembered that the population after re-housing is entirely changed; the new population is never the same as the dispossessed, who, in many cases cannot afford the better type of house, and in others do not desire it. Another striking argument against this hypothesis is that all over the country as far as our statistics date back, the fall in the female death-rate has been much more marked than in the male. Were housing the main cause of the trouble, under the factory legislation which improved the workshops and left the houses unchanged, the death-rate of the wage earner should have greatly declined and the housewife who spends her life in the home should have shown a stationary or increasing death-rate: the contrary clearly disproves this thesis. Further, the rise which occurred in the war years was followed by an increased fall immediately after the war when demobilisation was in progress, and the housing difficulty, with its attendant overcrowding, was most acute. There is no doubt that tuberculosis is fostered by dirt and darkness, and can best be combated by fresh air and sunlight, but the main point in housing is the conduct and character of the residents, and all forms of general sanitary improvement in its widest sense have shown beneficial results in the diminished tuberculosis death-rate as well as in that of other disease.

It is difficult also to furnish evident proof that the improvement in workshops has been a great factor in the production of a reduced rate. As previously pointed out, the rate has diminished much less among males than amongst females. Dr. Cox, in his annual reports has drawn attention to the low death-rate amongst the female operatives in the cotton trades in Lancashire where a large proportion at a susceptible age are employed, and where would otherwise be expected an increased rate due to the industrial conditions. In 1925, 100 males for each 76 females were notified as suffering from pulmonary tuberculosis there. It is, therefore, evident that there is some other factor than the working in factories which must enter into our calculation. On the other hand, I have frequently drawn attention to the large number of patients I receive from such outside occupations as policemen, tram drivers and conductors, sailors, etc., a condition of occupation which has been recommended as suitable employment for the ex-factory worker who is recovering from tuberculosis.

That the compulsory notification of all cases of tuberculosis has been of great assistance is well recognised; apart from our widely increased knowledge of the disease it has enabled the medical authorities to deal immediately with each individual case from the points of view of segregation, sanitation and education, and the work done in the past ten or twelve years must have considerably assisted in the results achieved.

A measure of the efficiency of the tuberculosis service in any area can well be found by comparing the total number of deaths registered as due to tuberculosis with the total notifications.

Many reasons combine to prevent earlier notifications, such as failure of the patients to consult a doctor until the very end of their illness; difficulties in diagnosis on the doctor's part, and neglect of sending notification forms where a positive diagnosis has been made.

It is interesting in this connection to notice that in the Lancashire area in 1918, 18 per cent. of the total deaths had not been notified, but in the years 1924-1925 this proportion had been reduced to 5 per cent. Comparable figures are being prepared for other areas which tend to prove that a fairly efficient system is now at work throughout the country, and that practically all known cases of tuberculosis are being notified promptly.

It might have been expected that with the improved diagnosis and compulsory notification of tuberculous suspects, and with the added promise of gratuitous treatment, the mortality and morbidity records for this disease would have shown an alarming increase; but there is no such evidence in the published graphs, and we can only conclude that any such abnormal increase has been compensated by a diminished incidence.

As a natural corollary of the compulsory notification came the development of the State services for prevention and for the treatment of infected persons. It is usual to classify these as dispensaries; domiciliary treatment; sanatorium treatment; after-care committees; and colonies—vocational and industrial.

The dispensary has been divorced from its earlier function of a treatment centre, where usually treatment consisted of issues of malt and oil, etc., and has developed the more useful function of a consulting physician's chamber where patients in doubt can come and receive examination by highly skilled men, and the general practitioner can refer his cases for diagnosis or suggestion for treatment; also it acts as a kind of sorting-house

where patients can be selected and recommended for institutional or other forms of treatment, and it generally supervises the home conditions of patients and contacts. It will, therefore, be seen that its duties have become more purely diagnostic and administrative. Treatment of the great majority of patients is entrusted to their panel physician under domiciliary treatment.

Institutional treatment is given to early cases where there is a prospect of recovery, and to advanced cases who would be a danger at home, or who have no suitable home in which to be nursed.

The after-care committee is formed for the purpose of looking after the patient on discharge from institutional treatment. How far this work is carried out I have never been able to discover, as I cannot remember any patient from my institution who has received benefit from it.

Colonies—vocational and industrial—have been largely before the public of recent years as a cure for our troubles, and I do not propose to devote much time to discussing their merits or demerits, further than to point out that they are enormously expensive and can only possibly deal with a fractional percentage of the number of tuberculous persons, and my experience is that the patient who does well in a colony would do equally well at home. That the organisation of this campaign has had beneficial results on the morbidity rates is, I think, undeniable, although in our lack of knowledge as to incubation period, etc., we cannot definitely mark any step in our chart at which this is proved.

Treatment has altered little in the past twenty-five years. Notwithstanding glowing accounts of new discoveries in our daily press and postal literature, have we advanced in treatment? Personally, looking back to my earlier days in one of the oldest institutions devoted to this work, I seem to find that our improvements have mainly taken the form of leaving matters more to nature and avoiding the products of the chemical and bacteriological laboratories which were then more prevalent. During the past fifteen years many cures have been proclaimed, ranging from drugs, vaccines, serums, etc., to different forms of surgical interference, but I only think that their diminished use has assisted more in the fall in the death-rate statistics we have been studying than their more extended use ever did.

Comparing our results of treatment now with those for many years past, we find that to-day, certainly, our records are at least as good as they have ever been, and I have no hesitation in thinking that the same remarks would apply to the domiciliary treatment, whether as previously undertaken by the tuberculosis officer through the dispensary or as now through the panel physician.

I think we have now dealt with most of the accessory factors which may tend to influence the spread of this distressing disease, and it remains to consider the two main factors—the seed and the soil.

It is a familiar axiom that the spread of disease can only be prevented by controlling exposure to infection. Without infection there can be no tuberculosis, and could infection be entirely controlled, tuberculosis would be completely wiped out in a lifetime.

We know also that certain epidemics tend to show alternating periods of increased and diminished virulence; small-pox in England to-day well illustrates my point. At present we have an epidemic of a form of modified small-pox in which practically none of the cases show serious clinical symptoms, although a general proportion of the population has failed to secure the desirable artificial immunity conferred by vaccination and has not been subjected to any previous attack, and any alteration in the racial or hereditary immunity if such exists, should lead to a greater susceptibility.

There is no evidence to be found that the tubercle organism has been going through a similar process of diminished virulence. Both laboratory experiments and clinical evidence in the case of acute lesions point to the presence in our midst of as virulent a type of organism as Koch discovered, and it is impossible from our records to obtain any evidence which would support any other theory.

I can only think of one other explanation of the facts as I see them, namely, that the soil is changing. Whether due to the improved general health of the people, or to the less frequent massed doses of infection, or to some other acquired or natural immunity, our race is becoming more tubercle resistant. Have we any evidence of this, further than our diminished death-rate? I think that when we come to a more detailed analysis of the notifications of tuberculosis with the study of the clinical history of the cases as we find

them, there is evidence of a gradual change through which we are passing.

In common with the superintendents of similar institutions I have found that the type of case we are called on to treat is becoming more and more advanced, and we rarely now see patients of the type who at the issue of the tuberculosis regulations were described as suitable for sanatorium treatment, namely, very early cases with little or no systemic disturbance and very limited physical signs. Gradually year by year since the war the proportionate number of cases in the Bii and Biii groups receiving sanatorium treatment has increased, although with the extension of institutional treatment and facilities for earlier notification and diagnosis one would have expected the contrary to have occurred, and on enquiry from tuberculosis officers we find that a similar complaint arises. The patients notified and immediately examined are showing an enormous increase of advanced cases. I have asked for figures from some of the larger cities and areas to illustrate this, together with their comments, and would like to quote one of the replies. Dr. F. N. Kay Menzies, Medical Officer of Health, London County Council, writes:—"I may say that the council has from time to time had under consideration the question of the relatively small proportion of early cases which are recommended for institutional treatment under its tuberculosis scheme, and also the question of the failure of private practitioners and hospital doctors to notify cases while in the early stages of the disease," and proceeds to give the figures contained in Tables I and II.

These figures are confirmed by those of the Lancashire County Council, and by the tuberculosis officers for Birmingham, Manchester, Liverpool and Warrington. Taking them altogether it appears that approximately 50 per cent. of the cases being notified to-day are found to be advanced cases, namely, stages Bii and Biii of the Ministry's classification.

For some time we were inclined to think that this delay was due mainly to neglect on the part of the general practitioner who first saw the cases, and in common with my colleagues I felt that this was a weak link in the chain; but a further enquiry into the individual cases reveals that a large number have only consulted their doctor for the first time at the date of notification, and although pathologically in an advanced stage of disease, have been able to carry on their work as usual without serious systemic disturbance.

TUBERCULOSIS—"NOTIFICATION" AND TREATMENT IN EARLY STAGE OF DISEASE.

TABLE I.

Showing the proportion of cases in each group or stage of the disease that received residential treatment under the Council's tuberculosis scheme during the years 1922 and 1924.

1922.	*Males.*	*Females.*
	Percentage.	*Percentage.*
Early cases (A and B1) ...	21	31
Moderate cases (B2)	50	51
Advanced cases (B3) ...	29	18
1924.	***Males.***	***Females.***
Early cases (A and B1) ...	19	28
Moderate cases (B2)	58	53
Advanced cases (B3) ...	23	18

TABLE II.

Statistics, obtained from Metropolitan Borough Councils, as to the number of patients unnotified until the disease was in its final stages.

Year.	*Total number of deaths from tuberculosis* (1)	*Number dying unnotified at death.* (2)	*Notified within one month of death.* (3)	*Notified within three months of death. (excluding Cl. 3)* (4)	*Notified within six months of death.* (5)
1921	5222	1637	674	571	504
		31·3%	12·9%	10·9%	9·7%
1923	3611	746	491	404	395
		20·7%	13·6%	11·2%	10·9%
1924	4229	938	561	440	377
		22·2%	13·3%	10·4%	8·9%
1926	4687	999	679	478	398
		21·3%	14·5%	10·2%	8·5%
Percentage dying unnotified or notified within 3 months of death. (*i.e.*, total of Cols. 2, 3, 4) ...		1921. 55·2%	1923. 45·4%	1924. 45·9%	1926. 46%

Just let me quote you a few typical cases to illustrate this:—

Dr. Sutherland writes me on this point:—"That there are a number of cases of occult tuberculosis intermittently infective is quite true. Recently I was asked to see a case where an acute hæmoptysis had caused the admission of a patient to one of the general hospitals. Up to the time of this the man had been going about his ordinary work, without any subjective symptoms of ill-health. Examination showed the existence of an extremely active and extensive pulmonary lesion, and the sputum contained large numbers of tubercle bacilli. Such a case as this has, of course, been a carrier for a year or more."

In 1922 I admitted a man who had been

through the war, re-engaged in the Royal Air Force, and had performed his duties without a single hospital entry. A few days before admission, after his ordinary physical exercises on the square, he reported that "he had a cold," and as there was slight pyrexia he was admitted to hospital, where advanced signs with cavitation were found in both lungs, and his sputum was loaded with tubercle bacilli. Under treatment he did well, and was discharged quiescent.

These cases can be multiplied indefinitely from the case books of any tuberculosis officer, but it is very difficult to say what proportion they bear of the total as it would vary in different areas. They are clearly cases of occult tuberculosis, namely, cases of gross pathological disease and practically no systemic disturbance and one wonders whether the number of these cases is absolutely increasing or whether it is only a relative increase due to a marked fall in the occurrence of the earlier type of case classed as groups A and Bi.

When considering the question of infection and education of the patient it is necessary to realise the tremendous extent of the danger of infection from patients of this type who, completely unaware that they are infective, live a normal life in their homes and workshops spreading broadcast the germs of the disease; but invariably sooner or later their resistance breaks down and they succumb.

I would like to refer briefly to another type of case. Calmette in his book describes a type "in which there is no objective sign of illness; well within themselves, almost always ignorant of their reacting to tuberculosis, and therefore not at all suspecting that they may be the source of a disease, they eliminate bacilli intermittently with their glandular secretions. These disseminators of bacilli and the bacilli which they scatter are so numerous that it is no wonder that in the cities the children up to five years are already contaminated in a proportion of 55 per cent., and that beyond 15 years scarcely 5 per cent. of the total population has succeeded in completely escaping infection."

To obtain evidence of the number of these cases, which I would describe as true carriers of tuberculosis, is extraordinarily difficult. I have endeavoured to obtain some views on this question, but without a systematic examination of a representative population it would be impossible; that such cases do exist I can again illustrate from my recent records:—

Mrs. B. (37), of good social position, was admitted by me in 1921 with no subjective symptoms. Her family history was good; until marriage she had perfect health. She had had six children. After the birth of the first she complained of a sudden pain in her left side, and her doctor called in a distinguished physician who diagnosed a clot of blood passing over the heart; evidently he feared embolus, and may or may not have found an infarct of the lung, but I have been unable to obtain his record. However, her convalescence was uninterrupted and the remaining five children were born normally. On no other occasion had she ever found reason to consult her doctor.

The first child died of tubercular meningitis, the second and third of tubercular peritonitis, the fourth developed symptoms of tubercular adenitis, and the doctor then thought it was time to enquire into the cause of so many infections in one family. Meantime the fifth child was being looked after by relatives as the mother stated she never took to this child, and it was adopted at birth by her sisters; the sixth child was three months old when I saw the patient.

She was a well-developed, robust, healthy woman, without a trace of symptoms of any sort, and it was only after a complete failure to find any other possible source for the infection of the children that she was examined and some slight physical signs found at her left apex with large numbers of tubercle bacilli in her sputum. I had her in sanatorium under observation for three months, during which period her fourth child died, but the mother showed no symptoms whatever of illness. She returned home where she has been since in apparently good health. The sixth baby has died, and the only child left is the fifth, whom she never nursed. This case, I think, well illustrates Calmette's "carrier." Whether her resistance will eventually be overcome by the disease is a question, but no doubt can arise as to the enormous danger incurred in the case of persons at a susceptible age with whom she comes in contact; and this family is also a good illustration of the so-called tubercular diathesis, or tuberculous family, where five children in one house died of tuberculosis, and the only survivor is perfectly healthy because not exposed to the same gross infection.

One point may well be raised here. Is this, and the type of case quoted by Calmette, a true carrier, namely, one with an increased

immunity to the disease and no pathological condition causing trouble, or do they eventually succumb to the disease as in the former type of case mentioned? There is no evidence to guide us in coming to a conclusion, but it is important that all engaged in preventing the spread of tuberculosis should bear in mind the enormous difficulty of finding such cases, of making them and their associates realise the serious danger that they constitute, and dealing with such as cannot be impressed.

Another lesson to be learned from these cases is that there is a great amount of immunity to tuberculosis among a growing proportion of our community, and apart from the effects produced by the measures I have previously discussed, the only other factor I can suggest as accounting for this is the development of an hereditary immunity. The statistics showing the morbidity and mortality rates among troops brought to France in the Great War, and quoted by Professor Lyle Cummins, of Cardiff, show that among races in which tuberculosis has been indigenous it was not a serious disease in the war, whereas among races who had not been immunised both rates were appallingly increased, and the type of disease was usually extremely rapid, resulting in early death.

That heredity is a factor of supreme importance is also proved by the results of Grancher's work in France, where he has removed large numbers of children from infected homes to ordinary houses of the same class, and found that in the children thus removed the morbidity and mortality rates fell much below those of normal children in the same homes; in other words, their resistance was actually increased. These results have been confirmed both by laboratory experiments and by various statistics, and I would refer you to the latest report of Dr. R. M. F. Picken, of Cardiff, for some new and interesting results and enquiries into this subject; also to a series of figures published in the *Journal of Tuberculosis*, showing the results of treatment in patients discharged from the Delamere Sanatorium, and divided into those with family history and those without where the same result was shown.

There is little question that the type of disease we are getting in this country is tending to become more and more chronic. As a student, my old teacher Professor Hill Abram used to classify clinically the types as acute pneumonic phthisis, acute miliary tuberculosis, acute or ulcerative pulmonary tuberculosis and chronic or fibroid tuberculosis—with a prospect of death in three weeks, three months, three years, and thirty years respectively, and there were cases in his wards to illustrate all these types, but our figures now show a move to the right. The acute pneumonic phthisis have almost disappeared. The acute miliary, under treatment, tend to join the ulcerative group, and the ulcerative are more and more being carried over into the chronic fibroid group with a resultant prolongation of life, and a better prospect of permanent arrest. This move to the right is not due to improved treatment, or to less virulence in the organism, so I think can be attributed mainly to an increased resistance on the part of the patient, assisted by improved environment and the institutional treatment supplied by the State.

We are now benefiting by the pioneer work done in voluntary sanatoria in the segregation and education of infective cases. A new generation is coming of age who have all the benefits of hereditary immunity, and have been saved from the massive infections which would have been caused by those patients, and the increase in the number of sanatoria supplied by local authorities will aid this work, more particularly if it will be realised that quite as important as the treatment of the early case is the segregation of the advanced case, and that the more of these who can be induced to remain in an institution till death, the more will our return infections continue to diminish.

AT the annual meeting of the Court of Governors of the London School of Hygiene and Tropical Medicine held on November 30th, 1928, in the Council Room of the British Medical Association's House, the Board of Management of the School reported substantial progress made towards the completion of the organisation of the School, of the building, and of its equipment. The work of the old school of Tropical Medicine, which was taken over in 1924, continues to make most satisfactory progress. Advanced courses in bacteriology and special courses in epidemiology and vital statistics, have been established. The Professors of Public Health, of Biochemistry, and of Chemistry as applied to Hygiene have been appointed, and will enter upon their duties next year. It is hoped that the building which is being completed in Bloomsbury to the design of Mr. Morley Horder and Mr. Verner O. Rees, will be ready for the formal opening next summer.

Experiences and Impressions of a Part-time Medical Officer of Health.

By JAMES BANNERMAN, M.B., C.M. (Edin.), Medical Officer of Health, Weardale Rural District Council.

In this, his Presidential Address to the Northern Branch of the Society, delivered at Newcastle-upon-Tyne, on October 12th, 1928, Dr. Bannerman touches upon a number of points in regard to infectious diseases which may well prove of value and interest to others than his part-time colleagues in the Service.

THIS address is an attempt to show that in many of our sparsely populated rural areas with small rateable values, public health need not suffer through being in the hands of one of the local doctors. My sphere of usefulness as a part-time medical officer of health is that extensive, wild, hilly and scattered area, in the neighbouring county of Durham, known as Weardale. This area comprises about 98,000 acres, measures about 22 miles from east to west and 12 miles from north to south, and contains a population of some 9,200 inhabitants. Much of the district is barren moorland. My appointment does not carry with it a living wage so I have to depend mainly for my livelihood on a general country practice, having my public health duties as a side line. In association with my appointment as medical officer of health I also have charge of the Stanhope and Weardale Joint Isolation Hospital, which can accommodate about 24 cases of scarlet fever and diphtheria.

I thought that a brief résumé of some of the experiences gained, the lessons learned, and the mistakes seen and made in these offices, regarding infectious diseases, might possibly be not altogether uninteresting, and perhaps a little helpful, to at least some of our younger members.

SCARLET FEVER.

This disease occasionally presents difficulty in diagnosis to the careful and experienced practitioner; for the careless or inexperienced man there are ample opportunities of coming a cropper. The undoubted mitigation in severity of scarlet fever during the last 25-30 years has not rendered accurate diagnosis any more easy. I have found the syndrome of headache, sore throat and vomiting, with pyrexia, all coming on simultaneously on the first day, of great help, remembering that, the younger the patient, the less likely are you to find headache pronounced, and the older the patient, the less likely are you to get vomiting. Nowadays the pyrexia is undoubtedly often slight and of but short duration. The initial convulsion which one reads of is not, I think, often seen now. The old-fashioned scarlatina anginosa, with intense brawny infiltration round the sides of the neck, which we used to meet with, is now, I fancy, very rare.

In regard to the rash of scarlet fever, coming out on the second day, by far the most important feature is its two-fold character. There is (1) the uniform flushing of the skin, and (2) the super-added deeper punctate appearance of the inflamed papillæ. Most of the mistakes I have seen have been due to this characteristic *dual* feature of the rash having been overlooked. The punctate appearance of the inflammatory redness in the throat and soft palate are equally typical. The circum-oral pallor with flushed face, without any punctate element, is also helpful. The examination of the whole body should never be omitted, as some typical rash may be found on thighs and legs when absent elsewhere. I am not inclined to attach much importance to the early white strawberry tongue of the text-books, as it is so apt to be mistaken for the white furred tongue of many other febrile illnesses and gastro-intestinal toxæmias; moreover, it is often gone or disappearing when the case is first seen. But the later raw red strawberry tongue, as seen from the fourth day onwards, is of considerable value in diagnosis.

In the matter of differential diagnosis, I have found it helpful to bear in mind the following: — Prodromal rashes of certain other diseases, *e.g.*, diphtheria, measles, chicken-pox and small-pox; the erythematous rashes of external irritants, drugs, serum injection, enemata, dietetic idiosyncrasies, and what we call, for want of a better term, simple erythema with no obvious cause. In all these conditions the lack of the punctate element is of the utmost significance.

Late Diagnosis.—After a few weeks, particularly if the case has been a mild one, it may be a matter of some difficulty definitely to label the case as scarlet fever. Pin-hole desquamation is not in itself sufficient in the absence of appropriate or suggestive history. Peeling between the fingers is often helpful. The presence of a nasal or ear discharge, or recently enlarged glands, or albuminuria, may be a help. The transverse line of staining sometimes found on the flexor aspect of a joint, especially the elbow, I have more than once found useful.

Complications of Scarlet Fever.—There are various but in my experience the commonest are adenitis, otitis and rhinitis. Any rise of temperature during convalescence should make us at once think of these three conditions. It is rare for adenitis to suppurate; I have had but four cases needing surgical interference. Otitis may be catarrhal and not of serious import, or it may be wildly purulent and correspondingly serious. In regard to otorrhœa, I may be a heretic according to modern standards, for I have not gone in for the insufflation of boracic or other powder solely. With an intelligent, reliable nurse, who will not use any force, I consider gentle syringing to be sound treatment. My custom is to mop out with wool, fill up the ear with peroxide for a few minutes, mop out again with wool, then gently syringe with warm sterile or boracic lotion, followed up by another mop. In intractable cases a few drops of diluted rectified spirit instilled after syringing, and occasionally the substitution of weak perchloride for boracic syringing may be helpful.

As to mastoiditis following on otitis, I am a profound believer in the efficacy of Heath's early incision immediately behind the auricle and right down to the temporal bone. I have done this on some six occasions with invariably good results. It is a simple and sound operation, though doubtless not entirely approved of by our specialist friends, seeing that anyone can do it. Lately I have been rather more heroic in my surgery of mastoid suppuration, and in the last two cases (one of which was following scarlet fever plus measles plus cervical gland abscess and double pneumonia—a fairly hefty combination) I gouged freely into the mastoid antrum to ensure adequate drainage, and both cases made a good recovery with perfect hearing. I have more than once noticed a septic tonsilitis occur as a precursor to an otitis.

The treatment of rhinitis I have often found most disappointing. I pin my faith chiefly on mopping out and douching with peroxide followed by weak corrosive lotion.

These complications are certainly fostered by overcrowding of wards, for on two occasions when my little hospital had its accommodation unduly taxed by an epidemic of scarlet fever, I had a very rough time with gland, nose and ear complications. Arthritis in scarlet fever I have always found a trivial incident. Actual nephritis, apart from transient febrile albuminuria, has been rare in my series of some 500 cases, there having only been three with definite nephritis. Whether or not this is due to our keeping all cases warmly clad, in bed, and on a milky diet, for three weeks I cannot say. The so-called cardiac complications of scarlet fever I am inclined to consider mythical, and I have never had a post-scarlatinal chorea.

"Is isolation hospital treatment of scarlet fever necessary or justifiable?" is a question that one sometimes hears asked. My answer is distinctly in the affirmative, for in my experience in Weardale, the provision of an isolation hospital has definitely lessened the number of cases per annum, owing to there being fewer secondary cases in the same house once the primary case has been removed to hospital. It must surely be admitted that the children are more hygienically and rationally looked after in hospital than they could possibly be in their small and crowded homes, whilst the supervention of any of the complications of the disease can be infinitely better attended to in hospital than at home.

I had but little experience of return cases until recently, when I struck a bad seam, and had to face a little criticism from some rather ignorant busybodies. Two of these return cases were interesting as being due, evidently, in one case, to the occurrence, and in the other to the recurrence, of ear discharge after the primary case had been sent home apparently quite well and free from infection. It is difficult in these return cases properly to apportion the blame between the hospital and those responsible for the disinfection and cleaning of the home. There is also to be remembered the possibility of the second case contracting the disease *de novo*, especially when there has been an epidemic

in a village. My belief is that however careful one may be, one is bound to get an occasional return case. That being so I have little sympathy with any suggestion for shortening the usual stay in hospital.

An interesting case of infection by fomites occurred in an isolated hamlet near Blanchland in 1923. Scarlet fever had occurred in a dwelling-house on Tyneside, and a married woman was removed to hospital suffering from the disease. Her child, who had never had scarlet fever, was promptly sent to some relations near Blanchland, as there was no one at home to look after it. An adult, 33 years of age, in the Blanchland house, started with scarlet fever four days after the arrival of the child from Tyneside. The child, herself, did not develop the disease.

On two occasions I have, I think, been instrumental in checking an epidemic of scarlet fever, by systematically examining all the children in the village school. On the first occasion, I found nine peelers and had them promptly excluded; on the second occasion there was a single culprit spreading the infection. I consider this is a procedure which the country medical officer of health can often follow with advantage.

DIPHTHERIA.

There are pitfalls in the diagnosis of diphtheria from the naked eye appearance of the throat. Sometimes one is surprised to get a negative swab report from a case with apparently a typical diphtheritic membrane; and, on the other hand, one occasionally gets a positive report from a case which clinically resembled a follicular tonsilitis. The presence of an inflammatory zone surrounding the exudate is strongly in favour of diphtheria. I am inclined to attach considerable importance also to the characteristic "mousey" odour which is often present in diphtheria.

The occurrence of prodromal erythematous rashes, quite independent of serum administration, may occur early in the disease, and give rise to difficulty in diagnosis. I have twice had such a case sent into hospital labelled as scarlet fever. These erythematous rashes are usually of a dusky type, tending to be patchy, and not definitely punctate. The languid or bowled over condition of the patient along with a pulse rate showing more elevation than does the temperature curve are helpful signs.

I have had no experience of intubation in laryngeal diphtheria—when one has not got a resident medical officer I think tracheotomy is the preferable operation, and in the few cases where I have had to do a tracheotomy I have been amply satisfied with the efficacy of the operation. As to the method of performing a tracheotomy, my plan is to make most carefully an exact mesial incision through the skin and all soft structures, without trying to differentiate, right down to the trachea, starting from the level of the cricoid, while fixing the parts most steadily with the fingers of the left hand. When the trachea is exposed, a vertical mesial plunge or stab incision is made into the upper part of the trachea. Then insert the top of the knife handle into the tracheal wound and rotate it to a right angle. This opens the trachea and gives immediate relief to the stertor, after which the outer tube can be gently inserted and fixed with tapes round the neck. I prefer nasal tube feeding after a tracheotomy, but I have seen cases, when this could not be carried out, do perfectly well with mouth feeding.

Antitoxin dosage is a matter on which there is a diversity of opinion. I believe the gigantic doses so often recommended are very unnecessary. An ordinary mild case, provided it is seen early, does very well, as a rule, with 4,000 units, and I rarely use more than 8,000. It has hitherto been my custom to inject the antitoxin into the loose subcutaneous tissue on the front of the abdomen, as the child can then lie on its back comfortably without any pressure on the site of the injection. I now give it intra-muscularly into the vastus externus, as Dr. Goodall informed me recently, at the meeting of the British Medical Association at Cardiff, that there is undoubtedly more rapid absorption with the intra-muscular method as compared with the subcutaneous administration.

SMALL-POX.

We had an interesting outbreak of small-pox in 1902, initiated by a vagrant unvaccinated navvy who came into our workhouse with confluent small-pox and died. He had bad delirium, and whilst the nurse in charge went to sleep in her chair he escaped from the ward and wandered away outside for half a mile attired only in a rather scanty shirt. The disease spread through certain men, who had assisted with the interment, disobeying instructions given them regarding their clothing, and assisting the nurse in the burning

of the bedding, etc. These men gave rise to a quite lively epidemic in the village. One great lesson I learned from this epidemic was that an emergency tent hospital is a thoroughly unsatisfactory proposition and a very expensive one as well.

During the recent prevalence of small-pox in this part of the country, I had the misfortune to mistake an extremely mild case of small-pox for chicken-pox, with rather disastrous consequences, as a contact subsequently developed small-pox in a nursing home in Newcastle, involving a diagnostic consultation with our Secretary.

On this occasion the paucity of the eruption, the small amount of induration and the fact that the patient felt perfectly well, all helped to lead me on to the thin ice. But the distribution was fairly typical and I went wrong through not concentrating my attention on distribution. The patient had also had slight but still definite prodromal symptoms. It cannot be too often emphasised that the most important points to keep in mind, in the differential diagnosis of small-pox from chicken-pox are:—(1) Distribution or eruption; (2) occurrence of prodromal symptoms; (3) The condition of the patient in regard to vaccination; (4) the degree of induration in the papules, tested by taking up the skin between the thumb and finger, and *not* by pressing the skin against the frontal or other bone, and (5) the rate and progress of eruption, remembering that in small-pox the entire rash takes a comparatively short time to develop, contrasting with the crops of chicken-pox occurring over four or five or more days.

And although distribution of eruption is undoubtedly the most important point, still in cases modified by previous vaccination one may, I believe, get a case of genuine small-pox with little or no rash as far down as the front of the wrists and ankles.

Recently I have had a somewhat unexpected and startling experience in connection with the re-vaccination of contacts of a case of small-pox. Five of these re-vaccinations were successful in children ranging up to 11 years of age, all of whom had been successfully re-vaccinated 2½ years previously. The marks in these recent re-vaccinations were rather smaller than the ordinary result of a vaccination, but they all showed a definite vesicular condition with surrounding inflammatory hyperæmia. Three of these children had a single such mark, and two had two marks out of three insertions. I cannot explain why all these children re-acted again after such a short interval. The facts are now in possession of the Ministry of Health.

TYPHOID FEVER.

I have little to say in regard to this disease. We do not see so much of it as we did 25-30 years ago. Two small outbreaks with which I have been concerned were of interest. In one a patient who had been in a large general hospital with a fractured femur, where typhoid broke out in the same ward, brought the disease home with her and promptly infected various of her relations who were nursing her. I got a very favourable impression as to the efficacy of anti-typhoid inoculation in this outbreak. The other interesting epidemic was one where the affected individuals had all been drinking water which was grossly contaminated by a defective privy closet; once this water supply was stopped there were no further cases.

CEREBRO-SPINAL FEVER.

Of this disease my experience has been but small. In 1916 and 1918, during the Great War, we had two outbreaks at isolated farm houses in the Blanchland district, where a soldier, who had recently been in a military hospital, had been home on furlough. In the first case the bacteriological proof of the visiting soldier being a carrier was inconclusive; but in the second case Dr. Hill, the County Medical Officer of Health, had the man tracked to Aldershot where he was found to be a carrier.

In conclusion, I thank you for your kind attention to these few simple observations of a country doctor. I have had neither the time nor opportunity to give you anything more erudite or involved, and I trust that in speaking to you from the clinical rather than from the administrative side, I have not altogether disappointed you.

THE next congress of the Royal Institute of Public Health will be held in Zürich from May 15th to 20th, 1929, under the Presidency of The Lord Meston of Agra and Dunnottar, K.C.S.I., LL.D., Chancellor of the University of Aberdeen. Full particulars may be obtained from the offices of the Institute, 37, Russell Square, London, W.C.1.

The Society.

Reports, Proceedings and Announcements.

SPECIAL COUNCIL MEETING.

A special meeting of the Council was held at the house of the Society, on Thursday, December 6th, 1928. The President (Dr. J. Howard-Jones) was in the chair, and there were present, Professors Bostock Hill, Kerr, and Jameson, Lt.-Cols. F. E. Fremantle, M.P., and G. S. Parkinson, Drs. Snell, J. J. Buchan, Wilshaw, Pringle, Paterson, Picken, Pearce, Linton, Tapper, Annis, Puddicombe, Milligan, Porter, Brackenbury, Wood, Gibbons Ward, Fenton, Lyster, Eustace Hill, and Stella Churchill.

The minutes of the last meeting having been approved and signed, apologies for absence were received from Drs. Stirk, G. F. Buchan, Mussen, Baker, Bertram Hill, and Cates.

Incapacitation Resulting from Official Duties.—Dr. Kerr drew attention to the refusal of Gateshead Corporation to grant any sort of compensation to Dr. W. J. Fordham, T.O., who had contracted encephalitis lethargica in the discharge of his official duties in 1924, and whose health had since progressively declined so that he had recently been required by the Corporation to resign his appointment. Dr. Kerr reported that representations by the B.M.A. and the Society had been without effect, and that the Corporation had rejected a proposal to make a compensation grant to Dr. Fordham. On the suggestion of Dr. Brackenbury, it was agreed to ask the B.M.A. to consider what further action can be taken in this matter in co-operation with the Society.

Scale of Salaries.—Notice was received from the British Medical Association that following correspondence with the Ministry of Health the associations representing Local Authorities are now willing to participate in a conference with representatives of the B.M.A. and the Society of Medical Officers of Health in regard to the salaries and terms of employment of medical officers in the Public Health Service. The Council approved the acceptance of this invitation in the terms of a letter dated November 24th, 1928, from the B.M.A., to the Ministry of Health.

Conditions of Service under Local Authorities.—A letter was received from the Secretary of the Royal Commission on Local Government inviting the Society to submit evidence on (*a*) conditions of appointment (*b*) methods of recruitment, and (*c*) organisation of departments, as affecting medical officers employed by Local Authorities. It was agreed that it be referred to the officers of the Society to arrange for submission of evidence in this connection.

Local Government Bill, 1928.—Discussion of the Local Government Bill, 1928, was opened by Dr. Brackenbury, who reported various resolutions in reference to the Bill adopted by a Committee of the British Medical Association. After consideration of these resolutions, and of various preliminary representations forwarded by Branches and Groups of the Society and others, it was agreed to appoint a committee for detailed consideration of the Bill. The following were elected to serve on the Committee, The President and Editor (*ex officio*), Professor A. Bostock Hill, Lt.-Col. F. E. Fremantle, M.P., Drs. J. J. Buchan, Lyster, Fenton, Picken, Snell, Tapper and Churchill. It was agreed that the committee should meet on Friday, December 14th, at 2 p.m.

The Council then adjourned.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society, on Friday, December 21st, 1928. The President (Dr. J. Howard-Jones) was in the chair and there were present, Drs. E. H. Snell, Porter, Eustace Hill, Wilshaw, E. Ward, Stirk, Baker, Puddicombe, Milligan, Brackenbury, Paterson, Jolly, Pringle, Stella Churchill, Gibbons Ward, Tapper, Linton, Bertram Hill, Fenton, and Naylor Barlow, Lt.-Cols. F. E. Fremantle, M.P., and G. S. Parkinson, Professors A. Bostock Hill, H. Kerr, and W. W. Jameson.

The minutes of the last meeting having been approved and signed, apologies for absence were received from Dr. A. K. Chalmers, Dr. Picken, Dr. Joseph, Dr. Mussen, Dr. E. G. Annis, Dr. R. A. Lyster, Dr. W. A. Muir, Dr. J. J. Buchan, Dr. G. H. Pearce, and Dr. R. Veitch Clark.

Superannuation of Health Officers.—Letters were received from the Sanitary Inspectors Association, the Women Sanitary Inspectors and Health Visitors Association, and the College of Nursing asking the Society to arrange for a deputation to submit to the Ministry of Health the joint memorandum in reference to the superannuation of health officials adopted at the recent conference and since approved by all the bodies concerned. It was agreed that the Ministry be asked to receive the deputation early in the New Year.

Representation of the Society.—Dr. Thomas Orr was appointed to represent the Society on the National Milk Publicity Council, in place of Dr. H. J. Milligan, who asked to be excused re-election on account of pressure of other engagements.

Midwives Departmental Committee.—Dr. R. A. Lyster reported that he had duly given evidence before the Departmental Committee on the working of the Midwives Acts, in accordance with the draft approved by Council, and that he had been asked by the Chairman to express the thanks of the Committee for the help he had given on behalf of the Society while under examination for a period of over five hours.

Local Government Bill.—Dr. J. Fenton reported on the action taken by the Special Committee appointed to watch the progress of the Local Government Bill.

In view of the progress of the Bill in the House of Commons, the Committee had already forwarded the following submissions to the Minister of Health and to members of the Parliamentary Medical Committee, *viz.*:—

1.—That Clause 5 (2) should be amended to read "subject to the provisions . . . shall stand referred to the public assistance committee, *or to any other committee of the council, as the council shall decide*, and the council before exercising any such functions . . . the matter in question."

2.—That Clause 5 (3) should be amended by omitting from lines 24 and 25 the words "on behalf of and subject to the general direction and control of the public assistance committee."

3.—That Clause 13 (1) should be amended to read "As from the appointed day the council of every county and county borough and of every other local authority may recover from any person . . . pay."

4.—That Clause 13 (3) should be amended at line 12 to read "average daily cost, *during the preceding financial year*, per patient," etc.

5.—That a sub-clause should be added to Clause 15 stating that in the application of Clause 4 to London there should be included in Clause 4 (1) a reference to the Public Health (London) Act, 1891.

6.—That Clause 15 (*c*) should be amended to read "the London County Council *shall* make arrangements . . ."

7.—That Clause 21 (2) should be amended to read "Every scheme under this section shall provide . . . town clerk of the county borough *or the medical officer of health* such general powers . . .

8.—That attention be drawn to the fact that the procedure indicated in Clause 45 (3) has in the past been found to be of little value in dealing with defaulting authorities.

9.—That Clause 46 (1) and (4) should be amended to provide that every medical officer of health be appointed under the Public Health (Officers) Act, 1921.

10.—That medical appointments under Clause 47 should also be made under the Public Health (Officers) Act, 1921.

11.—That it be pointed out that Clause 46 as a whole leaves too much power to a recalcitrant or reactionary council.

12.—That the opinion be strongly expressed that the discontinuance of percentage Grants must seriously retard and restrict the development of certain public health and kindred activities.

13.—That it should also be urged that if Block Grants are substituted for percentage grants, then the Minister of Health should have power to earmark that portion of the grant which is to be allocated for health services.

14.—That in reference to Clause 68 (1) and the Second Schedule, the Society would wish to support the claim of those bodies concerned with propaganda and educational work requiring central administration, for continued assistance from the Exchequer.

15.—That attention should be drawn to the failure of Clause 86 to provide sufficient means of ensuring efficient health administration in the absence of percentage grants.

16.—That the Tenth Schedule (p. 122, line 35) should be amended in line 35 to provide some other adapted title than "Poor Law Medical Officer," *e.g.*, Public Assistance M.O."

Dr. Bertram Hill enquired if Paras. 9 and 10 of the report would ensure security of tenure for those medical officers of health who also held assistant posts under other Authorities. On the motion of Dr. Charles Porter, it was agreed to urge that every medical officer of a Local Authority should be appointed under the Public Health (Officers) Act, 1921. It was further agreed to ascertain if Clause 3 of Third Schedule (P. 105) sufficiently safeguards the right hitherto retained by the Minister of Health to sanction the terms of appointment of medical officers of health.

Subject to the above reservations the report was approved and adopted.

Encroachments on Private Practice.—The special committee appointed to consider the Interim Report on Encroachments on the Sphere of Private Practice by the activities of Local Authorities (issued by the Private Practice Committee of the British Medical Association) submitted resolutions for adoption by the Council. After a prolonged discussion, it was agreed by twelve votes to seven, to adopt the following amendment moved by Dr. E. H. Snell, *viz.*,

That the Society of Medical Officers of Health welcome the indications contained in the Report which suggest that there is an earnest desire on the part of medical men in private practice to associate themselves with the public health services. At the same time they wish to point out that it is not possible to define a scheme of a cut and dried character which is equally applicable to all parts of the

country. This is clearly brought out in the results of the investigations of the Medical Secretary and after all, it must be fully recognised that the final determination of the form of the scheme adopted will rest with the Local Authorities subject to the approval of the Ministry of Health.

Dr. Brackenbury promised to report to the B.M.A. Private Practice Committee certain objections to this report which had been pointed out during the course of the discussion.

The Council then adjourned.

ORDINARY MEETING.

An ordinary meeting was held at the house of the Society, on Friday, December 21st, 1928. The President (Dr. J. Howard-Jones) was in the chair.

The minutes of the last meeting having been approved and signed, the following candidates were elected to the Society, *viz.* :—

As Fellows :—

Chell, George Russell Haines, M.R.C.S., L.R.C.P., D.P.H.; Crystal, Caroline Rose, M.B., Ch.B. St. And., D.P.H.; Davidson, Andrew, M.D., Ch.B. Glasg., D.P.H.; Fallon, Myles Fitzgerald, M.B., Ch.B. Belf., D.P.H.; Henegan, Mary Kathleen, M.B., B.S. Durh., D.P.H.; Keddie, James Alfred Grant, M.B., Ch.B. St. And., D.P.H.; Langston, Edna Isabel, M.B., B.S. Lond; Lowenfeld, Marguerite F. J., M.R.C.S., L.R.C.P.; McIntosh, Dorothy Frances, M.R.C.S., L.R.C.P., D.P.H.; Tucker, Donald Leslie, B.A. Cantab., M.R.C.S., L.R.C.P., D.P.H.

As Associates :—

Canning, David Dunlop, M.R.C.V.S.; MacGregor, W.T., M.R.C.V.S.; Ross, James Gordon.

A number of nominations were received for the January election.

There followed a discussion on "Mental Hygiene." The openers were Dr. Ralph Crowley, Dr. Edward Mapother, and Dr. Letitia Fairfield. Other speakers included Dr. Leonard Williams (Barking), Dr. R. H. Vercoe (Chelmsford), and Dr. C. T. Maitland.

At the close of the discussion (which will be fully reported in PUBLIC HEALTH) the President cordially thanked the openers for their interesting addresses.

THE METROPOLITAN BRANCH.

President: Dr. J. B. Howell, M.O.H., Hammersmith.
Hon. Secretary: Dr. James Fenton, M.O.H., Kensington.

A meeting of the Council of this Branch was held at the house of the Society on November 9th, 1928, the President occupying the chair. There were present fifteen members of the Council.

The minutes of the last meeting were read, confirmed and duly signed by the chairman.

The Hon. Secretary reported the appointment of Dr. F. D. Ross-Keyt as Medical Officer of Health for Stoke Newington and of Dr. C. F. White as Medical Officer of Health for the Port of London; these two gentlemen were formally appointed to the Council of the Branch.

The Council had before them a report of the meeting of the Maternal Mortality Sub-Committee of the Branch, held earlier in the afternoon, stating that attention had been given to Ministry of Health Circular 934, respecting the enquiry to be made into maternal deaths, and to the enquiry form and explanatory note which accompanied the circular. The Sub-Committee confirmed their interim report to the Branch of July last and made the following further recommendations :—

(*a*) That the President, the Hon. Secretary, Dr. Kay Menzies or his representative, Dr. Joe and Dr. Maitland Radford be appointed to serve upon the Maternal Mortality Sub-Committee of the Branch, and that Dr. Maitland Radford be asked to act as Hon. Secretary to the Sub-Committee.

(*b*) That London medical officers of health should be asked to submit to Dr. Maitland Radford a copy of each completed maternal mortality enquiry form forwarded to the Ministry. This procedure will enable the Sub-Committee to collate the statistics and evidence for London and prepare an annual report which might be of use to the Ministry of Health, the London County Council, the borough councils and the members of the Branch. It was felt that this action was desirable in London where the maternity and child welfare, midwifery and hospital services are provided by different authorities.

The Sub-Committee also reported that they had taken into consideration the question of the steps which might be taken in London to secure greater co-operation between midwives and ante-natal clinics, and had referred this matter to Dr. Hewat, Dr. Young and Dr. Fenton in order that these members might prepare a report for submission to the Council of the Branch in December.

The Sub-Committee's report was adopted by the Council.

The quarterly meeting of the Branch followed, there being present thirty members.

The minutes of the annual meeting of the Branch were read and confirmed.

Dr. J. B. Howell delivered his Presidential address on "The Production and Distribution of Milk," and was accorded a hearty vote of thanks.

The Hon. Secretary reported receipt of an invitation from Messrs. J. Lyons and Company to visit that firm's newly-erected laboratories in Hammersmith Road. He also stated that the Company had offered to place a room at the disposal of the Branch for the purpose of holding the next Branch and Branch Council meetings upon the occasion of that visit. It was agreed that the invitation be gratefully accepted; that the visit be paid on Friday, January 11th, 1929, and that the visit be preceded by a meeting of the Branch and Branch Council in the library on the Company's premises.

Anthracite Coal Demonstration.—On November 30th, 1928, some twenty-five members of the Metropolitan Branch gathered at the Hotel Metropole, London, as the guests at luncheon of Amalgamated Anthracite Collieries Limited. In the absence of the Rt. Hon. Lord Melchett, Sir Alfred Cope, K.C.B., another member of the directorate of the company, took the chair and proposed the toast of "The medical officers of health of the Metropolitan area." In the course of an interesting review of the advantages and merits of anthracite, Sir Alfred referred to it as Nature's smokeless fuel, and the only fuel of that type produced without treatment. Anthracite was obtained from collieries in South Wales and Scotland, the annual output of the former amounting to 5,000,000 tons (of which no less than 70 per cent. was exported, mainly to France and America) and of the latter to some 500,000 tons. Of the quantity remaining for home consumption only one-half was used domestically, despite the distinctive qualities possessed by anthracite, which was a hard, clean, very hot-burning and constantly hot-burning fuel containing upwards of 90 per cent. of carbon, a low ash content of 3 per cent., and moisture to the extent of only 2 per cent. Anthracite proved an ideal and effective heating agent for open and closed stoves and independent boilers for hot water, and its demands on storage space were less than those of any other fuel on the market at the present time.

The President of the Branch (Dr. J. B. Howell), in conveying to the Company the thanks of the guests for the opportunity afforded them of discussing the utility of anthracite as a smokeless fuel, displayed an intimate knowledge of the subject acquired at first hand in his own home town. As medical officers of health the ideal at which they aimed was the smokeless city, and if some such fuel as anthracite could be used generally it would go far towards the solution of the smoke problem and the betterment of the health of the people.

Dr. J. S. Owens, the well-known authority on matters pertaining to atmospheric pollution, contributed some interesting data on conditions in London, from which it appeared that in 1915-16, the amount of impurity deposited per square mile amounted to 400 tons, a figure which fell steadily until 1921-22 when it reached 284 tons. Thereafter, curiously enough, it began to rise again, and since then there had been no appreciable improvement. Exactly similar results were reported from Glasgow. While industrial smoke could be prevented, it had been computed that two-thirds of the smoke in London came from the domestic fire. Clearly there was need for further improvement, and this could be secured largely by the use of smokeless fuel.

Major P. A. Richardson and Mr. A. P. Florence of Anthracite Radiation Limited, dealt with various types of apparatus suitable for the burning of anthracite, while Dr. R. Lessing, Member of the Fuel Research Board, referred to the disadvantages attending the use of bituminous coal, and urged the need for education of the public in the use of smokeless fuel as a factor in securing a purer atmosphere.

Dr. Charles Porter returned thanks to the several speakers who had provided expert knowledge and views on various aspects of the smoke abatement problem. He professed great interest in the apparently extraordinary movements in the London and Glasgow figures, quoted by Dr. Owens, in regard to atmospheric impurity, and suggested that if atmospheric pollution were regarded as a guide to national prosperity instead of a mere indicator of the extent of a nuisance, an explanation would readily be found. In the year quoted by Dr. Owens as returning a low figure, work was short, factories were silent and their chimneys smokeless. The increase in the pollution coincided with the occurrence of improvements in trade prospects, and as he accepted the truth of the saying that "where there's muck there's money," he was not disinclined to hope that, pending the wider adoption of smokeless fuels and methods, the pollution figure would steadily increase. Having regard to these views it was not surprising to find that on the question of domestic *versus* industrial chimneys Dr. Porter expressed himself as not convinced that the former were, as commonly alleged, the chief of the smoke nuisance producers.

Professor A. Bostock Hill said that the gathering that day might be looked upon as a post-graduate course in smoke abatement, and it was a pleasure to come into contact with those who were doing practical work in relation to an

important aspect of the problem. The smoke pall must be got rid of, not only to prevent a vast amount of ill-health, but to secure that greater degree of health which pure air would bring with it.

After lunch a demonstration of stoves, boilers and other apparatus suitable for the burning of anthracite coal was given, and members availed themselves fully of the opportunity of discussing with the experts present many points of practical importance from the public health point of view.

THE YORKSHIRE BRANCH.

President: Dr. Cyril Banks, M.O.H., Nottingham.
Hon. Secretary: Dr. G. H. Pearce, M.O.H., Batley.

A meeting of this Branch was held in the offices of the Halifax Building Society, Halifax, on October 26th, 1928, the President occupying the Chair. Ten members and five visitors were present.

Apologies for absence were received from eleven members of the Branch and from Alderman Dr. Branson, Chairman of the Halifax Health Committee.

His Worship the Mayor, Alderman A. Whittaker, a Director of the Halifax Building Society, and Sir Enoch Hill, Managing Director, welcomed those present.

The minutes of the last meeting, held on October 18th, 1928, were read, confirmed and signed.

Dr. Banks delivered his Presidential Address, entitled " The Work of Building Societies in relation to Public Health," which will appear in an early issue of the Society's journal. At the request of the President a discussion followed, Drs. Angus, Bates, Francis, Wellburn and Mrs. Heynemann, M.B. (visitor), taking part.

Tea was kindly provided by the Directors of the Building Society, to whom a vote of thanks was unanimously accorded on the proposition of Dr. Wellburn, seconded by Dr. Angus.

A further meeting of the Branch was held at the Education Offices, Calverley Street, Leeds, on November 29th, 1928. The President occupied the Chair, supported by Drs. N. C. Beaumont, J. J. Buchan, J. Buck, H. A. Channon, A. Dick, T. Gibson, D. W. Heynemann, J. Johnstone Jervis, A. Massey, J. Mair, E. K. MacDonald, L. Pick, W. Steven, R. Thornley, N. Tattersall and Drs. L. V. Broadhead, H. Keighley, J. Prior (visitors), together with the following coroners: Messrs. W. Bentley, Pontefract; C. J. Haworth and H. B. Gill (Deputy), Wakefield District; J. G. Hutchinson, City of Bradford, President of the Yorkshire Branch of the Coroners' Society; E. W. Norris and A. C. Ackroyd (Deputy), Huddersfield and Halifax.

The minutes of the last meeting held on October 26th, 1928, were read, confirmed and signed.

Apologies for absence were received from Drs. W. B. Hill, Moore, Pickup and Fleming.

A letter was read from the Executive Secretary of the Society, dated November 19th, as follows:

> At a recent meeting of our Council attention was drawn to the custom existing in some areas of the medical examination for superannuation of local government officials being entrusted to the medical officer of health. I am directed to notify you that in the opinion of the Society such an arrangement is not desirable. In the first place, a medical officer of health, as specialist in hygiene and preventive medicine, is not so competent to make these examinations as practitioners engaged in clinical work. In the second place, it sometimes places the medical officer of health in an invidious position to have to make an adverse report on the health of a colleague with whom he is working. For these reasons we hope that, if occasion arises, you will advise your local authority to employ a private practitioner for superannuation examinations.

It was unanimously resolved that all members of the Branch be recommended to act in accordance with the views of the Council of the Society.

The Hon. Secretary reported he had been informed by the Executive Secretary of the Society that action had been taken with respect to two instances where the words " Fellow of the Society of Medical Officers of Health " had appeared for many years after the names of medical practitioners in the Medical Directory, although their membership of the Society had ceased.

Reference was made to the Local Government Bill, 1928, and it was noted a special meeting of the Council of the Society to discuss this Bill would be held on December 6th and 7th. The representatives of the Branch were instructed to take such action as may appear to them desirable when attending the meeting. It was arranged that this Bill and the Interim Report of Alleged Encroachments on Private Practice by Public Health Authorities should be put down for discussion at the next meeting of the Branch which, it was resolved, should be held in Leeds on Friday, December 21st, instead of the 28th, in view of the Christmas holidays.

The Hon. Treasurer was instructed to pay the account, amounting to £4 7s. 6d. for the Branch President's badge.

Mr. C. J. Haworth, B.A., LL.B., H.M. Coroner for the Wakefield District of the West Riding and the Honor of Pontefract, introduced a discussion on "Abortion from the Medico-Legal Standpoint," which was continued by the following coroners: Messrs. Hutchinson, Bentley and Norris, and by Drs. Buchan, Jervis, Steven, Bates, Heynemann, Beaumont and Pearce. On the proposition of Dr. J. J. Buchan, seconded by Mrs. Heynemann, M.B., it was resolved that in the opinion of this meeting of medical officers of health, general practitioners, and coroners, it is desirable in the interests of public health that all deaths of pregnant women before the completion of the normal period of gestation should be reported by the local registrar of deaths to the local coroner for his consideration, and that this resolution be sent to the Council of the Society with a view to it being submitted to the Ministry of Health and brought before the Committee on Maternal Mortality now sitting.

It was the view of the meeting that, whilst in the large majority of cases the coroner would not hold an inquest, such being unnecessary, it would provide (1) means through which the professional abortionist could be more readily discovered, and (2) result in the spread of information amongst pregnant woman as to the grave dangers to life associated with abortion, attempted in many instances by the woman herself or others.

It will be noticed that the suggestion is that the report to the coroner should be made by the local registrar. This was deliberately done to prevent the possibility of the practitioner becoming involved. It was further suggested that all practitioners be required to enter on their death certificate the fact that the woman was pregnant, if known.

The voting was fourteen in favour and three against. A number of those present had left the meeting before the vote was taken.

On the proposition of Dr. Buchan, seconded by Dr. Jervis, a hearty vote of thanks was passed to Mr. Haworth for his interesting opening. The President expressed the great pleasure it gave the Branch to welcome members of the Coroners' Society. Mr. J. G. Hutchinson replied, and it was generally agreed by members of both professions that the meeting had been a successful one.

A meeting of the Council of the Branch preceded that of the Branch.

THE SOUTHERN BRANCH.

President: Dr. Percy Moxey, Chief Clinical T.O., Southampton.
Hon. Secretary: Dr. H. D. Kelf, Assist. M.O.H., Hants. County Council.

A meeting of this Branch was held at Winchester on November 2nd, 1928.

The President occupied the chair, and there were present: Drs. Druitt, Hart, Kelf, Livingston, Lloyd, Shed, Simpson, and Messrs. J. S. Roberts and E. S. Taylor (Dental Officers). Apologies for absence were received from Drs. R. A. Lyster, T. Stirling, and W. Bruce Young.

A letter was read from the West of England Branch with reference to the Wheatley Memorial and the Hon. Secretary reported that a reply had been sent to the effect that the Southern Branch had taken no steps officially and had left it to individual members to act as they desired.

Considerable time was devoted to several clinical cases shown by Drs. Druitt, Hart, Livingston, Moxey and Simpson. They included pseudo-hypertrophic muscular atrophy, multiple exostoses, sub-acute arthritis of foot, rat-bite fever and pulmonary tuberculosis. A most interesting afternoon was spent in discussing these, and a hearty vote of thanks was passed to the members who had brought and described the cases.

A meeting of the Branch was held at Southampton on December 7th, 1928, the President, who had been invested by Dr. Lyster with the newly-acquired emblem of office, occupying the chair.

Sixteen members were present. Apologies for absence were received from Drs. B. L. Lloyd, A. B. Shed, and W. Bruce Young.

Dr. H. C. Maurice Williams, Assistant Port Medical Officer, Southampton, gave an interesting account of the daily routine work of the port medical officer, including the medical inspection of aliens, disinfection of ships, rat destruction, and inspection of imported meat. He also referred to the many regulations and orders, issued by government departments, dealing with port work, and submitted for inspection numerous specimen forms used in connection therewith. An interesting discussion followed, and a hearty vote of thanks was accorded to Dr. Williams for his address.

A letter was read from the Executive Secretary with reference to the Local Government Bill, asking the Branch to forward to the Council of the Society, any suggestions in connection

with the Bill which they considered should receive consideration. Dr. Lyster mentioned some of the most important changes in the public health service foreshadowed by the Bill, and after a brief discussion the general opinion was that longer time was needed to discuss the subject. Dr. Lyster promised to deal with the Bill in more detail at the next meeting.

A long discussion took place on the B.M.A. Interim Report in reference to encroachments on the sphere of private practice by local authorities, referred to the Branch by the Council of the Society. In the first place, the use of the word "encroachment" was deprecated, as the work of public health authorities was laid down by statute. Dr. Livingston related the essential part of the discussion which took place at a meeting of the Winchester Division of the B.M.A., held on December 5th, 1928, when it was suggested that a joint advisory committee would assist in the co-operation with private practitioners. Dr. Wilshaw emphasised the necessity for action by the Society, and after most of the members had spoken the following resolutions were passed:

(1) That the employment of general practitioners in the public health service as part-time officers is not generally feasible or financially sound.

(2) That in the opinion of this Branch there is very little, if any, encroachment on the domain of the private practitioner, and that every effort is made to see that no work which usually could be done by the general practitioner is done by public health officers.

THE NORTHERN BRANCH.

President: Dr. J. Bannerman, M.O.H., Weardale R.D.
Hon. Secretary: Prof. Harold Kerr, O.B.E., M.O.H., Newcastle-upon-Tyne.

A meeting of this Branch was held in the Central Station Hotel, Newcastle-upon-Tyne, on November 23rd, 1928, the President occupying the chair. Thirty-three members were present. Apologies for absence were received from the President of the Society and seventeen members.

The minutes of the meeting held on October 12th, 1928, having appeared in PUBLIC HEALTH, were taken as read, confirmed and signed by the chairman.

The President feelingly referred to the death of Dr. James W. Smith, formerly Medical Officer of Health, Ryton-on-Tyne, which occurred suddenly on November 21st, 1928. He said that Dr. Smith was one of the oldest members of the Branch, and one of its staunchest supporters. The deceased member was always very thorough in his work, and had a most charming personality. In illustration of his keen interest in matters clinical, Dr. Bannerman mentioned the fact that in spite of his age Dr. Smith attended a post-graduate course only about a year ago. The President said the members of the Branch had for several years been Dr. Smith's guests at luncheon at the annual summer meetings.

Dr. Bannerman moved that the Hon. Secretary write and convey to the members of the family of the late Dr. Smith the deepest sympathy of the Northern Branch.

Dr. T. Eustace Hill in seconding the motion said that he had been associated with Dr. Smith since 1892. He was an ideal part-time medical officer of health, and had a very thorough and practical knowledge of his work. The deceased, he added, was a most genial member, and the medical profession in the North of England was very much the poorer by his death.

The motion was carried in silence, the members standing.

The President also referred to the serious illness of Dr. S. J. Clegg, who had recently returned from Durban, South Africa. Dr. Clegg was on the Newcastle-upon-Tyne Health Department Staff from 1911 to 1923.

Dr. Bannerman moved, and it was agreed, that the Hon. Secretary write a letter to Dr. Clegg conveying the sympathy of the Branch, and wishing him a speedy and complete recovery.

The Hon. Secretary submitted a letter from the West of England Branch inquiring what action, if any, the Northern Branch had taken in regard to the Wheatley Memorial. It was agreed that, in view of the financial position of the Branch, no joint subscription be made, but that, since some donations had already been sent from this area, the fund be commended to the attention of the individual members.

A letter was read from Dr. W. J. Fordham in which he thanked the Branch for electing him an Honorary Life Member. The Hon. Secretary informed the members as to what had been done up to the present by the Society in regard to Dr. Fordham's claim for compensation on account of incapacitation, and the Gateshead Corporation had, so far as he knew, not arrived at any definite decision yet. The Gateshead Division of the British Medical Association had taken this matter up vigorously. Dr. T. Eustace Hill said he had had an interview with the Chairman of the Public Health Committee and the Medical Officer of Health of Gateshead regarding this case, and they appeared to have little or no sympathy towards Dr. Fordham's claim on the Corporation. It was decided to await the decision of the Corporation concerned, but in the meantime members were again urged to use any influence in their power with members of the Council.

Dr. C. G. R. Goodwin, Medical Superintendent, Barrasford Sanatorium, was elected a Member of the Branch.

Dr. E. H. Snell addressed the Branch, choosing as his subject, "Reminiscences." He was followed by Captain G. S. Elliston, who cheerfully bore the brunt of the succeeding "ventilation of grievances."

There followed an adjournment for the Annual Dinner, which was enjoyed by forty-five members and guests. This has always been an extremely pleasant function, but this time, if possible, the pleasure of the function exceeded that of its predecessors. It may have been due to the fact of Dr. Snell's presence and perfectly delightful speech, but there is no question that the standard of eloquence reached an exceedingly high plane. Incidentally it may be said that several of the "Proposers" and "Responders" achieved their maiden efforts. The toast list was as follows:—

"THE KING," proposed by the President.

"PREVENTIVE MEDICINE," proposed by Dr. James Hudson (B.M.A. Representative on the Northern Branch Council of the Society). Responded to by Dr. E. H. Snell.

"THE BRITISH MEDICAL ASSOCIATION," proposed by Dr. J. A. Stirling, D.S.C. (M.O.H. Hartlepool). Responded to by Dr. Robt. Forbes (Hon. Secretary, Gateshead Division of the British Medical Association).

"OUR GUESTS," proposed by Dr. G. A. Dawson (M.O.H., Darlington). Responded to by Captain G. S. Elliston, M.C., M.A., (Executive Secretary of the Society).

"OUR WOMEN COLLEAGUES," proposed by Dr. J. A. Charles (Asst. M.O.H., Newcastle-on-Tyne). Responded to by Dr. Isabel Lane (a Maternity and Child Welfare Medical Officer, Newcastle-upon-Tyne).

"THE PRESIDENT OF THE NORTHERN BRANCH," proposed by Dr. W. H. Dickenson, O.B.E. (T.M.O., Newcastle-upon-Tyne). Responded to by the President.

THE NORTH-WESTERN BRANCH.

President: Dr. F. T. H. Wood, O.B.E., M.O.H., Bootle
Hon. Secretary: Dr. G. W. N. Joseph, M.O.H., Warrington.

A special meeting of this Branch was held in Manchester, on November 30th, 1928, the President occupying the chair. Twenty-four members were present. Apologies for absence were received from Drs. Adams, Brindley, Buchanan, Fraser and Sharp.

The proposed Wheatley Memorial at Shrewsbury was considered, and it was resolved that this Branch agrees with the proposal that some specific part of the Memorial be established by and identified with members of the Public Health Service; and that a contribution of twenty guineas be made from the Branch funds for this purpose, and that each member of the Branch be asked to contribute the sum of ten shillings towards the project.

The Local Government Bill, 1928, was considered and it was resolved that the Council be asked to consider the question of the proposed alteration in the administrative arrangements for the registration of births and deaths, with a view to recommending that this work should be undertaken by medical officers of health. It was also resolved that it be a recommendation that the Minister of Health should be given powers in the Bill to apportion the annual block grant to local authorities between health services on the one hand, and the remaining grant-aided services on the other.

The Interim Report from the British Medical Association Committee on Public Health Encroachments on Private Practice, was discussed, and the following amendments to the recommendations of the Committee (B.M.J. Supplement, November 3rd, 1928, p. 188) were suggested:—

That clause A III (*a*) be amended to read:—"That the most advantageous method of making the domiciliary part of such provision would be by means of an insurance system."

That in clause III (B) (*c*) the last four lines be deleted and the following substituted: "and the practitioner making such an examination should furnish a report on the case wherever possible to the practitioner engaged for the confinement or liable to be called in by the midwife if required or when no such arrangements have been made to the medical officer of health of the district."

That in Clause V the word "possible" be deleted and the word "expedient" substituted therefor.

That Clause VI should be deleted as impracticable on the grounds that there cannot be reasonable continuity in most cases if the service be distributed as widely as possible among those private practitioners willing to undertake it.

That Clause VIII be deleted as impracticable.

THE HOME COUNTIES BRANCH.

President: Dr. F. T. C. Linton, M.O.H. Tunbridge Wells.
Hon. Secretary: Dr. W. A. Muir, M.O.H., Gillingham.

The third meeting of the 1928-1929 session of this Branch was held at the house of the Society on December 7th, 1928.

The President occupied the chair and thirty other members attended.

Apologies for absence were received from Drs. Milligan, Belam and Gordon.

The minutes of the previous meeting, having appeared in PUBLIC HEALTH, were taken as read. Professor Bostock Hill then invested the President with his badge of office.

The Hon. Secretary read a letter from the Executive Secretary requesting the Branch to forward at an early date, observations or suggestions in connection with the Local Government Bill, 1928, and the Report of the British Medical Association on Public Health Encroachment on Private Practice.

Dr. Porter, Hon. Treasurer, submitted the financial statement and balance sheet for the year ending September 30th, 1928. Drs. McMaster and Tapper were appointed auditors, and the statement was approved and adopted. The President voiced the thanks of the Branch to the Hon. Treasurer for his services during the year.

The Hon. Secretary submitted Circular 934 on Maternal Mortality and drew attention to the accompanying explanatory note.

Professor Bostock Hill introduced a discussion on the British Medical Association's interim Report on Encroachments on the Sphere of Private Practice by the activities of Local Authorities. He spoke of the persistent opposition of the curative branch of the profession to the preventive section throughout many years, and recalled the obstacles raised when the public health service endeavoured to obtain notification of infectious diseases. Throughout he adopted a critical attitude towards the general tenor of the Report of the Private Practice Committee and emphasised that many of its recommendations were impracticable and impossible of fulfilment. He expressed the opinion that it was unfortunate that the Report had ever been published.

An interesting discussion followed in which many took part, including Drs. Greenwood, Nash, Mc Master, Williams, Willoughby, Williamson, Holroyde, and Tapper. The following resolution, proposed by Professor Bostock Hill and seconded by Dr. McMaster, was carried unanimously:

Whilst the members of the Home Counties Branch are anxious to do all in their power to promote amicable professional relations with their colleagues, they desire to put on record their entire disagreement with the general tenor of the Interim Report (Encroachment on the Sphere of Private Practice by the Activities of Local Authorities) of the Private Practice Committee of the British Medical Association.

Dr. Tapper drew attention to information recently issued by the Meat Traders' Federation to their members in relation to caseous lymphadenitis occurring in imported sheep carcases. No advice had, however, been sent by the Ministry of Agriculture to local authorities. It was proposed by Dr. Willoughby and seconded by Dr. Tapper:—

That the Council of the Society be asked to impress on the Ministry of Agriculture the desirability of local authorities receiving instructions at the earliest possible moment with regard to diseased conditions in animals imported for human consumption.

Dr. McMaster mentioned that fat from tuberculous animals was being imported as inedible grease and might find its way to margarine factories.

THE EASTERN BRANCH.

President: Dr. A. N. Stevens, M.O.H., Gt. Yarmouth.
Hon. Secretary: Dr. A. M. N. Pringle, M.O.H., Ipswich.

A meeting of the above Branch was held at the Guildhall, Norwich, on Wednesday, December 12th, 1928.

Present: Drs. Stevens (President), Pringle (Secretary), Soothill, Ruddock-West, Colvin-Smith and Shepheard.

Discussion took place upon the Local Government Bill and general approval was expressed of the Report of the Committee of the British Medical Association appointed to consider the Bill.

The Branch considered that section 4 (i) should be amended so as to be mandatory.

It was felt that clause 5 (ii) should be amended so as to render it possible for an Authority to delegate its functions to a Committee or Committees other than the Public Assistance Committee.

The Branch was unanimously of opinion that all transferred Health functions should be referred to the Public Health Committees of Authorities.

Poor Law Hospitals should become City Hospitals under the control of the Public Health Committee with or without co-opted members. It was felt that the large number of Tuberculosis cases in these hospitals was an additional argument in favour of transfer to the jurisdiction of the Public Health Committee.

The Branch gave a good deal of thought to the Block Grant proposals in the Bill, and whilst expressing a definite preference of the Percentage System, considered that the Minister (if adhering to the Block Grant System) should take powers in the Bill to secure that the funds available under the Block Grant System should contain a proportion definitely earmarked for the purposes of the Health services, so as to provide security for the adequate maintenance of existing services and to allow of their expansion.

The Branch considered the Interim Report of the Private Practice Committee of the British Medical Association on the alleged encroachments on the sphere of private practice by the activities of Local Authorities.

The Branch deprecated the hostile tone of the Report, and expressed the unanimous opinion that any diminution in Private Practice, consequent upon the Health Activities of Local Authorities, is more than counterbalanced by the numbers of cases referred from Centres to Private Practitioners for treatment.

NAVAL, MILITARY AND AIR FORCE HYGIENE GROUP.

President: Surg.-Cdr. S. F. Dudley, O.B.E., R.N.
Hon. Secretary: Lt.-Col. G. S. Parkinson, D.S.O.

The Annual General Meeting of the above Group was held on Monday, November 8th, at the house of the Society.

Letters of regret for absence were read from Col. Howard-Jones, and Dr. McMaster.

The Hon. Secretary gave a short sketch of the papers and discussions for the coming session and stated that the title of the Presidential address was "Herds and Individuals," and that the address would be delivered in January, 1929.

The President before vacating the chair referred to the papers read during the past year, and thanked those who had been kind enough to read them.

It was proposed and seconded that a letter should be sent from the Group to Col. Howard-Jones to congratulate him on being elected President of the Society, and also that a letter should be sent to Col. Henderson who was about to sail for India, wishing him a safe journey.

In referring to the new President, General Barrow said that he knew the Group felt that they were particularly fortunate in obtaining the services of so distinguished an officer as Surg.-Commander Dudley. Surg.-Commander Dudley then took the chair, and having thanked the meeting for all that had been said about him called on Dr. Hutt to open the discussion of "Tuberculosis in Cattle."

Dr. Hutt read a short but most interesting paper, a good discussion following, in which several distinguished visitors took part. Dr. Hutt replied after which a vote of thanks was carried with acclamation.

WHOLE-TIME NON-COUNTY M.O.H. GROUP.

President: Lieut.-Col. Herbert Jones.
Hon. Secretary: Dr. K. E. Tapper, M.O.H., Bromley, Kent.

A meeting of this Group was held at the house of the Society on November 17th, 1928. The following members were present: Drs. McMaster (Chairman), Cave, Corfield, Dupont, Herington, Horsburgh, Macdonald, Matthews, Paterson, Tapper, Vercoe, Williams and Williamson. Apologies regretting inability to attend were received from fifteen members.

Dr. McMaster skilfully summarised the position as dealt with in Ministry of Health Report No. 45 (The Co-ordination of the Public Health Services in the Counties of Essex, Hampshire, Gloucester and West Sussex), and also the provisions of the new Local Government Bill now before Parliament. An interesting discussion followed in which all present took part.

The following resolution was passed unanimously:—

That the Non-County Group recommend to the Council of the Society that, when the Council have before them the

provisions of the Local Government Bill, now before Parliament, they will take into consideration the recommendation of this Group, placed before the Council on September 20th, 1928, and at the same time give their special attention to Section 46 (1) of the Bill, it being the opinion of this Group that, where such appointments are made "otherwise" under that section, the provisions of the Public Health (Officers) Act, 1921, should apply.

The Group also considered the British Medical Association's Interim Report on Encroachments on the Sphere of Private Practice by the Activities of Local Authorities.

THE MATERNITY AND CHILD WELFARE GROUP.

President: Prof. A. Louise McIlroy, Professor of Obstetrics and Gynæcology, University of London.

Hon. Secretary: Dr. Margaret Emslie, 18, Weymouth Street, Portland Place, W.1.

A meeting of this Group was held in the Royal Free Hospital, Grays Inn Road, London, on November 24th, 1928, when forty members were present, the President occupying the chair. Apologies for absence were intimated from Drs. Greenwood and Sutherland.

The Chairman asked that a vote of sympathy be passed with Dr. A. Bernfeld, the Assistant Secretary, who had just met with a serious accident, and this was agreed. Dr. Grace Calver (Mrs. J. H. Hadfield) was nominated to act as Assistant Secretary in her place pending the retirement of the Hon. Secretary.

The subject of "Ante-natal Methods in regard to Disproportion" was then discussed in a series of papers by Mr. Eardley Holland, Dr. Annie McCall, Prof. F. J. Browne, Mr. Aleck Bourne, and Mr. Lane-Roberts, followed by a number of other speakers. The discussion dealt chiefly with the relative virtues of trial labour at term, followed by immediate Cæsarean section if necessary, as compared with induction before term, as methods of dealing with pelvic disproportion. A very full report appeared in the medical press in the week following the meeting, and may be referred to by those to whom the subject is of practical importance in connection with the conduct of ante-natal clinics.

The thanks of the meeting were conveyed to the speakers on the motion of the chairman, who most ably summed up and completed the discussion.

A clinical meeting took place in the Out-patient Department of the Royal Free Hospital on the following day, when Dr. H. Chodak Gregory demonstrated a series of cases of mental deficiency, and the President described her methods of examining and investigating ante-natal patients. Both these demonstrations were greatly appreciated.

The Annual Dinner of the Group was held in the Criterion Restaurant, London, on December 14th, 1928, when there was a small attendance of twenty. The chief guests were the President of the Society, Dr. Eric Pritchard, Dr. Wm. Paterson (Chairman of the Maternity and Child Welfare Sub-Committee of the B.M.A.), who were welcomed by the Chairman and by Dr. Nash, who proposed the toast of "The Guests." Dr. Eric Pritchard, in reply, pleaded for a greater keenness in those entrusted with maternity and child welfare work to secure thorough clinical training in the intricacies of child management, and suggested that improved facilities for post-graduate study would be advantageous and would be forthcoming if the demand existed. The majority of those taking post-graduate courses at the Infants' Hospital were practitioners from outside this country and not those doing the clinics.

The President of the Society thanked the Group for the work which it had done in reference to co-ordination of maternity and child welfare work with hospital work and in other matters, and expressed the opinion that of all branches of the public health service this was the one with the greatest responsibility, and the greatest opportunity. Dr. Wm. Paterson assured the Group of the benevolent interest taken in maternity and child welfare work by the B.M.A., and suggested that it would be of mutual advantage to the clinics and to the medical profession, if private practitioners, when suitable training had been secured, were encouraged to take a greater interest and share in the medical work.

The President of the Group made very kind references to the work of the Hon. Secretary, and presented her with a bouquet on behalf of the Group, which she had pleasure in acknowledging. After dinner the company gathered round the piano at one end of the room and a programme of music and "stories" was contributed by members of the Group and several of the visitors. The evening concluded with the singing of "Auld Lang Syne."

The Literature of Preventive Medicine.

ASPECTS OF AGE, LIFE AND DISEASE. By Sir HUMPHRY ROLLESTON, Bart., K.C.B., M.D., Hon. D.Sc., D.C.L., LL.D., Regius Professor of Physic, University of Cambridge. London: Kegan Paul, Trench, Trubner and Co., Ltd., 1928. pp. 304. Price 10s. 6d. net.

This volume in which Sir Humphry Rolleston discusses various aspects of age, life and disease, as seen by a general physician, is one of the series of books which is to form the Anglo-French Library of Medical and Biological Science under the Editorship of Dr. F. G. Crookshank and Prof. René Cruchet.

Sir Humphry has collected into this volume a number of papers on a variety of subjects allied to medicine. They have all been previously published and probably have been read by most of us in weekly or monthly journals, but we are glad to have them re-issued in more permanent form because they are essays which can be read again with profit and pleasure. One is surprised at the wide reading and erudition displayed and blended into a harmonious whole with much quiet humour. There are thirteen of these essays on such diverse subjects as the Meaning and Methods of Success; Irregular Practice and Quackery; Poetry and Physic; and Holidays. Students of preventive medicine will be specially interested in the essays on the Clinical Variations in Disease from the Historical Point of View, and that on Old Age, while the paper on the Medical Aspects of Tobacco will supply devotees of "My Lady Nicotine" with food for thought.

The bibliographical references appended to each chapter will be useful to those who desire to study any of the subjects further.

THE PSYCHOLOGY OF CHILDHOOD. By Mary Scharlieb, D.B.E., M.D., M.S. (Lond.), J.P. London: Constable and Co., Ltd., 1927. pp. 194. Price 6s. net.

Dame Mary Scharlieb's small volume on this subject is presumably designed out of sheer gallantry, to strengthen the resistance of the timid, old-fashioned and upright to the dangerous assaults of modern psychological thought. Those who prefer the older way will appreciate the kindly spirit and saintly purpose which tinge all we hear in these days from this venerable and gentle woman doctor.

REPORT OF THE PROCEEDINGS OF THE NATIONAL CONFERENCE ON MATERNITY AND INFANT WELFARE. Held under the auspices of the Central Council for Infant and Child Welfare, in the Guildhall, London, on July 4th, 5th and 6th, 1928. London: The National Association for the Prevention of Infant Mortality, 117, Piccadilly, W.1. pp. 186. Price 2s. 6d.

The verbatim report of the proceedings of this conference is a worthy little volume, and the subjects reviewed by many experts from every angle seem to have been chosen with a keen eye for what was topical and would lend itself to absolutely practical discussion. There is much for the administrator to read here—in the brief records of certain methods specially and successfully designed to combat a high infantile mortality in a variety of communities; in the striking discussion on the problems of maternal morbidity; in that which followed and carried one's thought a little further into the confusion of error which wraps the origins of maternal mortality; and in the attempt to describe the actual situation which confronts the unmarried mother and her child, hardly alleviated by an infinite variety of social experiments imagined on her behalf and supported by deficient and haphazard legislation. Among the lectures recorded, that of Professor Plimmer on "Modern Knowledge regarding Diet" is of importance to administrator and clinical officer alike.

In the Annual Reports.

SCHOOL MEDICAL INSPECTION DEFINED.—The expression "School Medical Inspection" is and always has been an inadequate description of the work. As a foundation, there is the fundamental physiological conception of prevention of defects in order to prepare and maintain the physique and mind of the child for education and citizenship. The medical inspection is only the initial arrangement to explore and unveil the condition of each child in order that the rest of the programme may be fulfilled with a correct regard to the facts of the case.—*Dr. G. A. Dawson, Darlington.*

SMALLPOX AND VACCINATION.—As regards vaccination no unbiassed person can fail to be convinced of its value. The way in which smallpox has singled out the unvaccinated members of households has been most striking. Among the patients not a solitary vaccinated child has been found.

Most of the adults have been vaccinated in infancy—though a few have been unvaccinated—and the majority were over forty years of age. In other words so far as the Lincoln epidemic is concerned people vaccinated in infancy have been protected for at least thirty years. Surely then to avoid an unpleasant disease like smallpox it is worth while to be vaccinated and re-vaccinated. Primary vaccination in an adult may cause considerable discomfort, but if performed on a healthy infant a few weeks old is of little moment. Successful re-vaccination, if the interval is not too long, produces slight inconvenience, but materially strengthens the immunity. In conclusion it may be stated that many of the smallpox patients have had the disease in a mild form, but not all. At the time of writing one death has occurred; the patient was an old man of eighty who had a hæmorrhagic rash in a semi-confluent form. Two young adults also had a semi-confluent rash, but recovered. One of them, however, will probably be permanently disfigured.—*Dr. H. Gordon Smith, Lincoln.*

UNCLEANLINESS IN SCHOOL CHILDREN.—Most of the work in combating uncleanliness and verminous conditions in school children has, in the past, been considered the duty of the school medical service, particularly of the school nurses, and I claim that the service has done the major portion of the work in remedying the conditions, but I do not consider that it is work which primarily concerns the school medical department. The prevention of uncleanliness and verminous conditions is intimately bound up with the education of the children, and this being so it is for the teachers primarily to impress upon the children the need for cleanliness. They are in daily contact with them, and so are in a far better position to see that they keep clean than are the school nurses, who cannot always be on the spot. The prevalence of verminous conditions in school children depends upon two factors, *viz*:—the school environment and the home environment. The effect of school environment can be demonstrated very easily. From my own experience, and I know it is not my experience only, the cleanliness of the children of a school varies in direct proportion to the amount of interest the teacher takes in hygiene. Home environment depends very largely upon the outlook of the mother on the subject of hygiene, but I would remind my readers that the outlook of the mothers of the present generation also largely depends upon the stress which was laid on the subject of hygiene in their schooldays.—*Dr. W. M. Ash, Derbyshire County Council.*

SLUMS AND SLUM MAKERS.—The three condemned areas (Lower Pilgrim Street, Prudhoe Street and Liverpool Street) have been completely demolished, and the majority of the tenants are housed in Leazes Dwellings and at Cowgate. A small residue who could not pay for the accommodation offered them (and who as a rule did not pay or paid very irregularly for that they already occupied) refused to budge, and every effort was made to get them other accommodation elsewhere, which they would not accept; these were ultimately evicted. They comprised the shiftless and entirely unsatisfactory type of individuals who provide the converse to the truism that slums make slummers. With the exception of a very small proportion, who have had to give up their new houses in the Cowgate district, owing to unemployment or remoteness from their work, most have settled down well, and proved excellent tenants; they have found satisfaction in the cultivation of their gardens, which are a great credit to the locality. To the children especially the transplantation from a slum to one of the healthiest spots in the city's out-skirts has proved a veritable revelation, and has provided them with the means of living wholesome, healthy lives. The losses in rents are almost negligible, and arrears are small; the latter are strictly comparable with those in other areas with a superior type of tenants who are suffering equally from unemployment. The most notable defect is that a small proportion of the colonists have not made any attempt to furnish their houses, having been accustomed in their previous slums to spend all the money they acquired upon other things than household plenishment. These no doubt will ultimately drift back to slums, but they are exceedingly few, and to the vast majority their new and so greatly improved surroundings have proved a real stimulus. There is no question that the municipal housing has had a wonderful effect in raising the domestic tone of large numbers of the "submerged tenth."—*Dr. H. Kerr, O.B.E., Newcastle-upon-Tyne.*

THE HEALTH LECTURER.—Kensington was the first local authority to appoint a municipal health lecturer; her work is thoroughly appreciated by the committees of the infant welfare institutions and other bodies, and the number of applications made for her services shows that she fills an important place in the public health service. The following statistics show the work done by this officer during the year 1927:—No. of persons lectured to, 12,026; No. of lectures given, 793; No. of visits paid to centres, 306; No. of special visits, 134. The great aim has been to awaken the interest of the mothers and to encourage them to ask questions, not only about their babies, but also in connection with themselves, older children, home management, cooking, etc. Controversial points are avoided as much as possible.—*Dr. James Fenton, Kensington.*

THE VALUE OF DISINFECTION.—There are two points I desire to emphasize in connection with disinfection. Simply to spray a room with formalin is of little value unless a thorough cleansing down with soap and water, wherever this is possible, is carried out at the same time. This is always explained to householders. The second point is that as regards the ordinary infectious diseases of this country, by far the most important factor in determining control is personal proximity and not the room or a material object. The duty of insisting on proper isolation of an affected child, which parents owe to other members of the community, is sometimes seriously neglected through an inadequate appreciation of this fact. —*Dr. James F. Blackett, Bath.*

THE PRACTISING MIDWIFE.—The conditions of service of a practising midwife are arduous. She is by no means a free person to conduct her business as she likes. She is subjected to continuous inspection and supervision; she has no fixed times of duty; she is not sure of a proper period of rest during any 24 hours so that it cannot be said that the life is wholly attractive in fact, I think it can safely be said that it has fewer attractions than most callings. I feel that the one solution to the problem of finding an adequate midwifery service is to assure that not only is the training complete and efficient but that the remuneration is such as to attract suitable candidates in sufficient numbers.—*Dr. W. M. Ash, Derbyshire County Council.*

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Editorial.

The Health of the School Child.

THE "Health of the School Child, 1927," is Sir George Newman's twentieth annual report* on the nation's school medical service. It contains not only a summary of the work done by the local education authorities during that year, but, what is more important, a true interpretation of the design and purpose of the whole scheme and concept of school medical inspection, the achievements already attained, and a homily on what remains to be accomplished by the health authorities in future years. The public health world always looks forward to Sir George Newman's reports for a graphic description of the ground gained and to be gained, and the 1927 report so far as these are concerned, may be looked upon as the best of the New Year gifts. In nine brief chapters the present state of the school medical service is reviewed.

The system in England provides for the routine medical inspection by school doctors of all children at the ages of 5, 8 and 12 years. Ailing or debilitated children at any age between 5 and 14 are also brought up under medical supervision. Children found to be suffering from physical or mental defects or disease receive treatment, either by their family doctors

* THE HEALTH OF THE SCHOOL CHILD. Annual Report of the Chief Medical Officer of the Board of Education for the year 1927. H.M. Stationery Office, 1928. pp. 204. Price 1s. 6d. net.

or in school clinics, hospitals or other institutions. "Following-up" and after-care are provided by school care committees and school nurses. In 1927, the nunber of "routine" children found to be suffering from physical impairment was 20·6 per cent. of the total examined, as compared with 19·8 per cent., 23·8 per cent. and 20·1 per cent. in the preceding years. Excluding minor ailments and dental needs, the morbid conditions of school life in order of frequency are eye defects, diseased condition of the mucous membrane, ear defects, malnutrition, deformities, tuberculosis and heart disease. In 1927, 82,968 children under 15 years died (as compared with 84,689 in 1926) and the causes of death were ascribed to, the respiratory system 26 per cent., prematurity and congenital defects 24 per cent., infectious diseases 15 per cent., diarrhœa and digestive defects 9 per cent., tuberculosis 6 per cent., other causes 20 per cent.

Sir George Newman shows that although there has been an appreciable decline in the total deaths under 15, the decline is more apparent for those under five than for those above five years of age. Quoting from the report: "The business of the school medical service is to get that burden of disease remedied, by its correct diagnosis and effective treatment, and those premature deaths postponed, by the prevention or diminution of their causes." As far as the first requirement is concerned, there has been a fair measure of success, but, so far, there has been a lamentable failure in preventing the occurrence of much of this disease, and the extent of this failure is mirrored in the record of the 83,000 deaths of children under 15 years.

In his report for 1926, Sir George devoted a good deal of attention to the pre-school child; in this report (1927) he draws particular attention to the end results of medical inspection, namely, the "leaver," who ultimately becomes the adolescent worker and the useful citizen.

Sir George Newman maintains that there are two practical tests by which "the final product" may be judged, namely, the degree to which the child, during his school life, has improved in health and can resist disease; and, secondly, with what success he has responded to the education provided for him. There are indications that the physique and the health of the child on leaving school are improving, but, for the present, there it stops, as the necessary co-ordination between the employer and the school medical service has yet to be established. Sir George Newman is anxious to see a greater development of welfare organisation, the training in health methods of welfare organisers and their co-operation with the school medical service. He states that "the nation's need remains the same. It cannot survive without strong and healthy young workmen, mentally alert, sober-minded, keen and diligent in business; and strong and healthy young women, domestically skilled, and able to become wise mothers and home-builders. We cannot get on without them, and somehow or other we must rear them. *They ought to be the product of our school system.*" It is the work of the school medical service to help the school system to provide the product, and there is not one word in the whole of Sir George Newman's report that does not give stimulus to every member of that service to do all that is in him to see that the assistance is rendered.

* * * * *

Safeguards in Diphtheria Immunisation.

PARTICULARLY since the occurrence of the Bundaberg affair, questions have been raised from time to time as to the safety of the prophylactic employed in this country. As it appeared suitable that some statement on the subject should be made, enquiries were set on foot into methods adopted with a view to ensuring safety. In this note some general information with regard to technique employed and tests applied is given, from which it would seem that there is complete reason for believing not only in the efficacy of the safeguards provided but in the absolute safety of the prophylactic itself.

The mixture almost exclusively employed in England is toxoid-antitoxin, though formalinised toxin or toxoid (anatoxin) has been used on a small scale. Both these materials and any other prophylactics imported into England are subject to the requirements of the Therapeutic Substances Act, which prescribe broadly that 5 c.c. must not kill a guinea-pig, but must produce a prescribed degree of immunity, and also that a percentage of all bottles must be tested for sterility by methods designed to detect the presence of aerobic or anaerobic organisms. At the Wellcome Physiological Research Laboratories, from which the bulk of the home-produced material is issued, a considerable number of additional tests have been imposed for some years past. To make a batch of prophylactic, toxin is treated with formalin and warmth until 0·1 c.c. is innocuous to a guinea-pig but the toxoid still retains high immunising value. The toxoid thus chosen is mixed with a small quantity of antitoxin and diluted to the point where the tendency to cause local or general reactions in sensitive people is reduced to the low level demanded by the English public. To avoid the accidental issue of toxin instead of toxoid, to which mistake one fatality abroad is attributed, a card-index is kept of all toxin and toxoid; the staff of the building in which prophylactic is prepared never have access to a distant building in which toxin is kept, and all toxoid used or discarded is accurately accounted for. All operations involving the handling of toxoid in making up the prophylactic must be signed for by the operator and by one other witness. A batch of many litres passes through its preliminary tests for non-toxicity and high immunising efficiency. From each batch ten guinea-pigs are then injected, five with 1 c.c. and five with 5 c.c. Each bulk container is tested separately. All the guinea-pigs must survive without any obvious disturbance of health for twenty-one days; the degree of immunity they have reached is then tested. Each guinea-pig, when tested weekly by the Schick method, from the third week after the injection must become Schick negative at the first or second test. In order to allow time for the growth and detection of any possible microbes present which may multiply after a time, despite the presence of antiseptic, the batch is kept in store for some weeks before the sterility tests are carried out. The prophylactic is now transferred through sterile measuring burettes in a sterile room to the small phials or bottles issued for use. From each different filling, further non-toxicity tests are made; thus, if the contents of a 2-litre bottle be distributed into phials holding 1, 10 and 25 c.c., a sample of each size of phial is taken and a dose of 5 c.c. of the contents is injected into a guinea-pig which must survive without symptoms for the ten days of observation. No reaction must be produced by 0·2 c.c. of a 1 in 5 dilution injected intradermally into a guinea-pig. A sample of each different size of phial is also tested chemically to ensure that phenol was added and is present. This extra test has been introduced since the Bundaberg accident.

Finally, the seven-day sterility tests imposed by the Therapeutic Substances Act are carried out on a certain percentage of all phials filled out. Without any breach of confidence it may be revealed that for some years after the introduction of the prophylactic in England none of the large batches made was issued until a number of individuals had been injected with it under the direct control of the medical men on the laboratory staff. The control exercised throughout impresses as being extraordinarily comprehensive and calculated to meet every danger which long experience in this work, and careful consideration of the various accidents which have been reported from abroad, can suggest.

It is interesting and even important and appropriate to note that if those who wish to be inoculated are prepared to put up with a fraction of the inconvenience caused by ordinary small-pox vaccination and do not demand that diphtheria prophylactic should produce in children no general, and practically no local, reaction, prophylactic of higher immunising power can readily be made available. Recent work with a modification of toxoid-antitoxin floccules, which is not liable to cause reactions, definitely raises hope that considerably higher immunity may in the future be achieved with two injections, or possibly one, than with the present customary three.

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Building Societies and the Public Health.

ELSEWHERE in this issue there will be found a most interesting paper by Dr. Cyril Banks of Nottingham, recording impressions received when he was Medical Officer of Health of Halifax—a town in which building societies appear to thrive. House purchase, through a building society, may not be the cheapest way of buying, but it is an easy and safe way, and it has enabled many thousands of the working classes and others, without much capital, to become owners of their home. Dr. Banks sees in this thrift-stimulating movement a definite uplift, for the owner-occupier develops house-pride, and this may be expected to result in civic pride, thus nurturing two virtues which every health officer delights to discover. In addition, there are other very practical consequences, since the owner-occupier takes care to prevent his asset from wasting through lack of repair. With him the sanitary inspector has no trouble; he is the ideal landlord. Moreover, he will carry out, in his own house, improvements in which he dare not sink his money when holding the house on a precarious tenancy. Health officers in country districts will at once recall the parallel instance

of the tenant-farmer who is willing to have a milk store in compliance with the Milk and Dairies Order, 1926, but dare not embark on expenditure upon the owner's property, when he may shortly receive notice to quit. The paper, however, deals only with house-ownership, and the several ways in which ownership of the house by the occupier may be expected to improve housing conditions.

As building societies exist for the purpose of enabling people to buy their own homes, they may be regarded, as Dr. Banks claims they should be, as allies in the war against disease. It is a view that, up to the present, has not been propounded in public health literature, and, as it is so obviously a product of experience combined with careful observation, it deserves consideration and, possibly, elaboration.

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Cancer and Cancer Research.

A LITTLE booklet under this title*, recently received, is a collection of articles which first appeared in the spring of 1928 in the *Liverpool Daily Post and Mercury*. The articles give a readable account of the origin and work of the Liverpool Medical Research Organisation, which was established some years ago at the instigation of Professor Blair Bell.

It is interesting to note that no public appeal was ever made for the work of this organisation; it was financed partly by private donors and partly by the fees obtained from the treatment of patients.

Prominence is, of course, given to the lead treatment of cancer, with which Professor Blair Bell's name is associated. The claims for its use are by no means extravagant, and it is stated that the present position of the lead treatment is that:—

"(1) Some cases appear to be cured by lead alone.

(2) In a number of patients the disease is arrested by lead alone.

(3) Many patients too ill to be cured may be greatly relieved of symptoms, such as pain.

(4) Accessory methods may advantageously be adopted in suitable cases. We and others have shown that the curative action of both X-rays and radium is considerably augmented by the previous injection of lead. Moreover, after surgical removal, great advantages seem to accrue from the use of lead to prevent recurrence by destroying small, undetectable groups of cells at the site of operation or elsewhere in the body."

The unfavourable results which have been reported by other workers appear to be due, it is alleged, to "incorrect methods, the treatment of unsuitable cases and the employment of unscientific procedures."

Apart from the description of the work of the Liverpool Committee, there are many valuable articles on the early signs and symptoms of cancer, and much other information concerning the disease which may be of value to the general public.

It is a significant fact that cancer is the disease which really proves interesting, if not terrifying, to members of public health committees, possibly because it is a disease, unlike infantile diarrhœa or diphtheria, with which they have had contact, and that they are aware from experience may prove fatal to persons of their own age. It is no doubt for this same reason that there is no difficulty in raising money for the prosecution of cancer research. The thanks of the public are due to the Editor of the *Liverpool Post* for giving the hospitality of his columns to the articles.

Between radium treatment, lead treatment and the earlier attendance of cases for surgical treatment, surely a considerable number of people are now being "cured" of cancer or, at any rate, having their lives so extended that, when death comes, cancer as the determining cause not unreasonably may be excluded.

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Public Health in the Federated Malay States.

IT is officially stated that during the first six months of 1928 there was a very considerable reduction in the number of cases and deaths from infectious diseases in the Federated Malay States, as compared with the corresponding period of 1927; the respective figures were 117 cases with 22 deaths, and 180 cases with 66 deaths. There was a slight increase in the number of cases of enteric fever. In Selangor ten cases of small-pox occurred during the half year; the necessary precautions were taken and spread prevented. These cases were the termination of the epidemic that occurred in 1927. Four cases of plague with four deaths occurred in the town of Ipoh during the first two months of 1928. The cases and contacts were isolated and inoculations were given with plague vaccine. Traps were set in the plague area and rats caught; none, however, were found infected. Live guinea-pigs were placed in houses, but none of these exhibited infection. Disinfection of plague houses and those around was carried out immediately. There was a general increase in the number of in-patients treated at hospitals in all States except Pahang. Malaria figured prominently among the admissions, and to this disease the increase was largely due. The number of sick treated out-door has increased steadily, this being largely due to the increased attention which has been paid to travelling dispensary work both by road and by river. The travelling dispensaries continued their good work, the dispensary launches "Pawang" and "Bomoh" having been of great value in reaching the populations of riverine villages. The "Bomoh" alone treated 11,386 cases during the six months under review.

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Influenza.

INFLUENCED by the rapid spread of influenza throughout the United States of America and Canada towards the end of last year, the Minister of Health considered it advisable to direct the attention of local authorities specifically to the matter in a circular (955), and to re-issue the memorandum (2/Med.) on influenza, which last appeared at the beginning of 1927. The amendments to the memorandum are not great, and mainly the object of the Minister has been to ensure, as far as possible, that local authorities and their officers should be made aware of the possibility of the introduction of the infection. Also he desired to issue a reminder that, in the event of an outbreak, the Minister's general sanction to the provision by local authorities of medical assistance has already been given. Happily, up to the present, there does not appear to have been any tendency to an occurrence of the disease in epidemic form, but the warning is not out of place, and authorities generally and their officers will continue to be on the look-out for any indications that cases are on the increase, as shown by the death returns or the notifications relating to such conditions as pneumonia.

* CANCER AND CANCER RESEARCH. A Series of Articles for the Lay Public. Compiled by a Scientific Committee of the Liverpool Medical Research Organisation. Manchester: Sherratt and Hughes, 1928. pp. 75. Price 1s. 6d. net.

Obituary.

WE record with regret the untimely death, on December 24th, 1928, at the age of fifty-two, of Dr. Thomas Edward Holmes, Medical Officer of Health for Nottinghamshire. After a period of work at a number of hospitals, he entered the public health service on the staff of the Nottingham County Health Department, where he was employed successively as assistant and deputy to the medical officer of health before being himself appointed to that office, with the duties also of chief tuberculosis officer and school medical officer for the county, in 1925. He was a Fellow of the Society of Medical Officers of Health, and of the Royal Society of Medicine. Extremely reserved in disposition, Dr. Holmes had a strong sense of the responsibilities of his post, and during his short period of service in Nottinghamshire he initiated many important developments in the health activities of the county. His death is greatly regretted by all who came in contact with him. Dr. Holmes leaves a widow and one child.

DR. JESSIE SMITH, assistant medical officer at Mansfield, has been appointed assistant medical officer of health for Exeter.

THE University of London (Department of Applied Statistics and Eugenics) announces a course of public lectures, illustrated by diagram and lantern slides, on the Current Work of the Biometric and Eugenics Laboratories. Syllabus: Jan. 29th, "A New Theory of Progressive Evolution," Karl Pearson, F.R.S., Galton Professor. Feb. 5th, "The Handicapping of Men by Diseases transmitted by but not developing in Women," Julia Bell, M.R.C.P., Galton Research Fellow. Feb. 12th, "The Rhodesian Man and his Relationship to other Types of Man," G. M. Morant, D.Sc. Feb. 19th, "Growth Curves in Women from Childhood to Old Age," Ethel M. Elderton, Fellow of the College, Assistant Professor. Feb. 26th, "Recent Work on the Genesis of Epidemics," Percy Stocks, M.D., Ch.B., University Reader in Medical Statistics. March 5th, "The Heredity of Albinism, illustrated by recent work on Albino Dogs and their Offspring," Karl Pearson, F.R.S., Galton Professor. The Lectures, which are open to the public without fee, will be delivered in the Theatre of the Laboratory, University College, Gower Street, London, W.C.1, at 5.30 p.m.

Building Societies and the Public Health.

By CYRIL BANKS, M.B., B.S., Lond., D.P.H., Medical Officer of Health, Nottingham.

Papers by Dr. Cyril Banks are generally attractive and not infrequently follow unusual lines. This is and does, and is certain to be read with extreme interest. It was submitted as a Presidential Address to the Yorkshire Branch on October 26th, 1928, while he was still Medical Officer of Health of Halifax, the home of building societies.

THE importance of building societies in relation to improvements in public health has not yet been sufficiently recognised. Probably many have the same attitude towards building societies as I had until I took up work in Halifax—an attitude only removed from complete indifference by a slight feeling of mistrust, the latter being induced in boyhood by certain unhappy occurrences chronicled in the newspapers of those days. Any suspicion has long ago been removed, and in its place is an interest which no one living in Halifax (the home of building societies) can avoid. Indeed, no thinking person can remain quite indifferent to this great movement once his attention has been drawn to the remarkable expansion of these societies in recent times.

During the last five years building societies have made as much progress as was made in the previous seventy-five years. In the year 1927 the total income of building societies in this country was over £103,000,000. The amount advanced on mortgage was over £55,500,000. The total mortgage assets stood at over £196,000,000 and other assets over £25,000,000. Probably not less than 2,500,000 homes have been acquired in this country through building societies' facilities since those facilities were created, and at this moment the number of houses which are being gradually paid for is given as about 600,000.

These stupendous figures induced Lord Birkenhead, when opening an extension of the Halifax Building Society's premises a few months ago, to say: "I am pleased to be here to-day if only to discover the most encouraging facts which have come to my notice since the year 1914." If these figures have aroused interest, the question may be asked: "What exactly is a building society?" According to Sir Enoch Hill, Managing Director, Halifax Building Society:—

> The constitution of the societies is based on the mutual service of two sections of the community. On the one hand there is a great army of members who have surplus funds which they wish to invest with the society of their choice; on the other hand there is a rather less numerous body of members who, while possessing some means, have not enough to attain the object they greatly desire—the purchase of a house which they can very truly call home.
>
> The monies of the investors are pooled and lent, with all due safeguards, to the houseless members. The investor secures an investment of gilt-edged quality—absolutely safe, yielding a good return in tax-free interest, and readily realisable whenever required; the borrower secures the home he needs on easy and favourable terms. A building society loan on mortgage is repaid by instalments which extend over a number of years.

The financial methods of the societies it is not my place to discuss; but the element of safety is important, and it is secured by the system on which money is lent. The valuations of property are not made upon famine or fictitious prices, but upon a very prudent basis, so that in the event (a rare one, it is understood) of the society being left in possession of a property, it would have an asset upon which the amount of the loan could be fully raised. It is this prudent valuation which is such a point of strength.

In what way does this work of building societies come within the range of vision of the medical officer of health or the sanitary inspector?

It has been the privilege of our generation to see a remarkable increase in the average length of life, a fact not only shewn in the vital statistics of our annual reports, but one which is reflected in very practical form in the figures of the life assurance companies, who for years past have found that people have not been dying off in the numbers which were to be expected from the life tables on which the companies were working. It is safe to assume that longer life means better health and, therefore greater happiness during life, and better all-round efficiency. All this is to the good, however we may look at it. It means that gradually we have been overcoming the evil effects which resulted from the overcrowding

and squalor associated with the removal of people from country to town during the early years of the mechanical era. There is much more to be done, many kinds of ill-health and misery yet to be conquered, many directions in which even yet we can see little hope of improvement. Yet on looking back over the past we have a great deal to be pleased about. This improvement in health which has taken place is certainly not due to any one cause. We, as members of the public health services of the country, pride ourselves that we have had something to do with it. The passing of the Public Health Act, 1875, marked a stage in the development of the health services which was rapidly followed by the provision of purer and more adequate water supplies, by better provision for drainage, sewerage, and removal of excreta and filth, by the concentration of effort against infectious diseases, by greater attention to the purity and wholesomeness of food, and especially by the greater care of infants and children. Of our infant welfare work and our school medical services we are especially proud. Indeed, there is no one of the many branches of our health services of which we can say that it has not in some way or other aided in this great improvement in the public health which has taken place. But not one of us, however enthusiastic, would say that the health services alone have brought about this improvement. To make such a statement would show the blindness of the enthusiast, and it may be that in some respects the contribution of the health services, useful as it has been, has only been a comparatively small one. Due regard must be given to other factors. *The higher standard of general education* and the *spread of knowledge* have given the masses a taste for a cleaner, healthier form of existence than the semi-savage conditions of the past. We must therefore include education as an important health agency.

Figures are available to show that the decline of tuberculosis has occurred side by side with *an increase in the real purchasing power of wages*, and from this we can suggest that anything which encourages thrift (I do not mean miserliness, but careful domestic budgetting) tends to improvement in public health. Building societies are the monuments of thrift, and where they stand they indicate that financial conditions hold sway that will lead to higher standards of living and therefore towards better communal health. In this way we can say that building societies are proving definitely useful in improving public health.

Turn now to the work of the sanitary inspector. He works with the object of improving those conditions in the housing of the people which, if neglected, lead to lower health. Among other things, he deals with leaky roofs, defective spouts, broken or obstructed drains, windows which will not open; he tries to get rid of old-fashioned and offensive privies and closets of insanitary type. He gets yards paved so that there is a sanitary surrounding to the houses. Any one of these defects may be urgently in need of correction, yet if the owner of the property be determined to obstruct the good work, months may elapse before the statutory procedure can be completed and the work carried out. The bad landlord is the cause of his troubles. The *owner-occupier* is not a bad landlord. He puts his house into good repair because he knows it will pay him to do so; it is not good business to let a house get into a bad state, and he knows it. He wants his house to last and he wants it to be comfortable and healthy, and so he keeps it well; his sanitary conveniences are usually free from *in*sanitary *in*conveniences. Let us then welcome the increase in owner-occupiers, for when every man owns his own house we shall need fewer sanitary inspections.

It is here that I see the real value of building societies. They are rapidly increasing the number of owner-occupiers and by so doing they are building up a community of good landlords who will not only keep their own homes in sanitary state but will take a pride in the town in which they have a stake, and will make for municipal improvement on a generous scale.

The sanitary inspector, however, deals only with housing defects of a gross nature. Investigators have turned their attention in recent years to the effects of the strain of working upon the mind and body of the worker. It is now recognised that work performed under good conditions is likely to be performed more efficiently than that carried out in unsuitable surroundings. Not only so, but the worker is carrying out his duties with less strain upon his mind and body, and consequently runs less risk of injury to his nervous system and the consequent disorganisation of the digestive and other bodily processes which follow nervous strain. In good conditions of work we include not only the more obvious things such as adequate space, light and ventilation, but such details as the height of the working bench in relation to the height and movements of the person, the handy arrangement of tools and

apparatus, the correct position of the light in relation to the work in hand, and a hundred and one similar details applicable to any particular task.

In this light consider the housewife as a worker, whose health will be affected by the conditions under which she labours, remembering that upon the maintenance of *her* health the happiness of the family depends. Picture a housewife catering for a large family, yet impeded in her tasks by defects which, small in themselves, are yet capable in their cumulative action of reducing her to that state, unscientifically but graphically described as "nerves."

Some of the little things that wear a woman out will at once occur to the mind of the mere male who in times of stress has lent a hand in the kitchen: the kitchen sink too high or too low, involving awkward technique when washing up; the oven, too high or too low, or placed on the wrong side of the range, with the door opening in the more unhandy direction; shelves insufficient or so placed as to be awkward of access; insufficient cupboards with doors that impede action when open; ovens which are not very bad cookers, but just not good enough; old-fashioned wash coppers that ought to be done away with and replaced by gas pans; and so on. All small, but so tiring in cumulative effect; too small to expect the landlord to remedy them; so small that we should never think of speaking of them to the landlord at all. The tenant housewife accepts them passively, but if her husband owns the house with what joy she sets herself to getting them remedied, usually at small cost, but with great pleasure on the completion. Her health, and so the happiness of the family, is increased. I make not the slightest apology for bringing to account these small things, because I am sure they are not so small as to be beneath notice. And I am confident that building societies, in making it easy for a man to own his house, are helping the woman to do her daily duties more efficiently and with less physical strain.

As health officers we deplore the smoke cloud that obscures the light of our towns, keeping off the ultra-violet rays which are so necessary to existence. As regards factory smoke we are doing a great deal to improve matters. But smoke from house chimneys is considerable, and we want to see smokeless methods applied by the housewife. With the development of solid smokeless fuel which can be used in ordinary grates we are perhaps getting within sight of our object. As an alternative, many householders are greatly attracted to the idea of scrapping the old kitchen range, tiling the recess and installing the gas cooker therein, so that fumes find an outlet. Apparatus for central heating and provision of domestic hot water takes the form of a coke-heated boiler fixed either in the basement or by the side of the gas cooker. This is a practically smokeless arrangement which has much to recommend it. But what landlord will do this for a tenant? Such an arrangement is almost unknown except in the houses of the owner-occupiers. It is therefore suggested that the work of building societies is destined to do much to clear the atmosphere of our towns. This may seem at first sight rather far-fetched, but it will bear investigation and thought, and it is put forward in all seriousness.

The subject is by no means exhausted, and if you will only think it over, you will, I am certain, find it full of interest. We are told over and over again that the health of the people largely depends on good housing. Enough has been said to show that one factor making for really good housing is ownership by the occupier. Building societies, more than any other agency, are making this possible, and I commend them to your notice, being myself convinced that in them we have allies, possibly unexpected, in the great crusade for better communal health.

DR. FREDERICK LEONARD KEITH, medical officer of health for Bethnal Green, has been appointed medical officer of health for Deptford, in succession to Dr. C. S. Thomson, who has been appointed medical superintendent officer of health to the city of Belfast.

MEMORANDUM 131A/T, recently issued by the Ministry of Health, contains an analysis of work done during the year 1927 under the schemes of local authorities for the treatment of tuberculosis, as shown in the returns furnished in accordance with memorandum 37/T. The hope is expressed by the Ministry that local authorities will find the information of use in considering whether their schemes for the treatment of the disease need revision in any respect in order to secure the most efficient arrangements and full value for the money expended for this purpose.

The Reform of the Health Services.

By PERCY MOXEY, M.B., CH.B., D.P.H., Chief Clinical Tuberculosis Officer and Assistant Medical Officer of Health, Southampton.

In the opinion of Dr. Moxey, President of the Southern Branch, the Public Health Service should be freed from local control and placed under the administration of the Ministry of Health. In this, his Presidential Address, delivered on October 5th, 1928, he advances a number of interesting reasons in support of his contentions.

THE growth of the Public Health Service during the last few years has been so great that one must consider whether our organisation as constituted is sufficiently good to get the best possible results from the system.

I should like to suggest—and probably many will agree—that the health of the population is its greatest asset, and that the protection of a community against disease is possibly as important as its protection against invasion; and consequently the members of its health army should be carefully selected and properly remunerated.

In the first place it is necessary for all entrants to the Public Health Service to possess the Diploma in Public Health, which entails a two years' course of study. Once one has entered the service as an assistant medical officer of health at a salary of £600 per annum there is no guarantee that one will, even after twenty years' service, be drawing much more; in fact, there are so many junior posts that the chance of rising to a much more lucrative position is not too certain, and, also, there is no security of tenure.

Contrast this with the Royal Naval Medical Service, which one can join immediately after qualification with a commencing salary of £410 per annum, plus allowances which form a substantial addition to the rates of pay. After three years this is increased to just short of £500, after a further three years to practically £600, and after a total of twelve years' service, granted that one has received the usual promotion, the pay rises to £772, and, with a further nine years' service, to £976, all these amounts being augmented by allowances which amount to roughly one-third of the pay. One has now presumably reached the rank of Surgeon-Commander, in which rank one must retire at the age of fifty, unless one receives further promotion, with a pension of £564 per annum. There is also a system of gratuities by which an officer can retire before he reaches a pensionable age; for instance, after sixteen years' service he can retire with a lump sum of £2,250.

My contention is that the Public Health Medical Service has quite as great a claim to consideration on these lines as any of the services, and I hope that in time this may be conceded and our service organised on national lines. The one great obstacle in the way of this is the system of local government, which has in many instances been found to be unsatisfactory, and it is quite possible that a more efficient and less wasteful system could be established.

I maintain that the Public Health Service should be entirely under the administration of the Ministry of Health, and in no way under local control, which so often tends to hamper our best efforts.

Medical men wishing to enter this service should become officers of the Ministry, with reasonable commencing salaries and annual increments, and would be posted by the Ministry to whatever areas they were required in. At present we have to engage in a more or less undignified scramble for posts under corporations and where local influence cannot always be excluded.

It would not be a difficult matter to organise the whole of the medical services on these lines, the junior men taking appointments in hospitals for infectious diseases and, later on, what are known as the omnibus appointments; and then, after so many years' service, proceeding as there were vacancies and according to their own inclinations to the more senior appointments of school medical officers, tuberculosis officers, port medical officers, or possibly medical officers of health of small areas.

Subsequently, according to the success achieved by them, they would be eligible for the still higher posts of medical officers of

health to large towns, county areas, or administrative positions at the Ministry, or if they wished to continue with clinical work there should be some highly salaried posts open to them. It is somewhat unreasonable that a successful clinician must give up his clinical work for administrative work, which he may be no good at and like less, in order to earn a respectable salary.

Retirement should be at an age corresponding to the position reached in the service; in the junior grades I should suggest fifty as a suitable age, in the more senior fifty-five, and in the higher posts sixty with very few exceptions. The movement of officers from one area to another would have many advantages and few disadvantages; this would apply even to the seniors, the possible danger of infection with local apathy being a very real one.

The whole of the system of promotion, etc., would be entirely under the control of the Ministry and, moreover, it would be possible under this system to move men from one area to another, to enlarge their experience and to increase the efficiency of the service. Furthermore, the senior medical officer in each area, whether county or town, would be directly responsible to the Ministry for his administration, and would be more or less a dictator as regards the necessary health measures in his area, subject always to the approval of the Ministry, instead of an adviser whose advice is frequently not acceptable in his present position.

There are numerous areas in the country where the collection and disposal of refuse is most insanitary, and better methods are urgently required; there are other areas where the method of sewage disposal is primitive and inefficient. Some authorities cut down expenditure on school medical work, tuberculosis work and so forth, to the irreducible minimum. All these anomalies would be removed with a more reasonable and up-to-date organisation of the health services, in which the medical officer of health would be an adviser with power to see that his prescriptions were properly dispensed and made use of. At the present time, apart from any direct opposition to suggestions of the medical officer of health there is often insufficient liaison between his department and others of the local authority.

I wonder in how many areas is the medical officer of health asked for his advice on the housing needs of the community. There are so many cases of overcrowding, of unhealthy and insanitary dwellings, that the life of the medical officer of health would be scarcely worth living if he pressed for the correct remedy. This is surely a national question and one in which a much wider view should be taken. The number of houses condemned as unfit for habitation is quite inadequate. You will find that for the whole country something under 2,000 houses are condemned yearly, yet as we are well aware large portions of our existing slums should be demolished. There are some authorities who have tackled this subject in a bold way and have destroyed whole areas of old, unsound slum property, and have substituted dwellings with all modern improvements. Incidentally, every effort should be made to have all the manufactures of a town in one area and as far as possible away from the dwelling-houses. Gas works, chemical works, and such like should not be permitted close to dwellings, and consent should not be given for the building of dwellings near such factories.

It is to be hoped that the National Health Insurance and the Poor Law activities will shortly be more closely related to our service, and also that the inspection of factories and investigation of unhealthy trades generally may with advantage come more directly under the control of the medical officer of health.

The health of seamen, in whom I believe there is four times the incidence of tuberculosis that there is amongst agricultural labourers, should be a matter under the investigation, control and advice of the port medical officer instead of under the Board of Trade as at present.

The allowance of 72 cubic feet of space per man in the sleeping quarters is criminally inadequate; this includes space for wash-houses and so forth, so that the sleeping capacity is considerably less.

At present the Ministry allows local authorities to expend a certain amount on health propaganda; it seems to me that this is the wrong method. The Ministry is in a better position to publish advice on health matters, and in order to obtain the widest circulation this should be published in the daily Press; one article a week, possibly in the Sunday papers, would be enough to commence with. At present education in health measures is largely undertaken by private enterprise. Simple health measures could

also be taught in all schools, health being quite as important as history or geography.

As an essential part of any re-organisation I would also suggest that the school medical service and the tuberculosis service should be separate departments under senior officers who would be directly responsible to the heads of their departments at the Ministry, and in no way under local control.

In school medical work there are many points for consideration. Our work on the mentally deficient is very half-hearted, which is only to be expected when you see the results of considerable expenditure on their education. Why waste time and money on the mentally deficient? Far better direct our knowledge and energies towards preventing their reproduction. A large subject and full of controversy, but the cost of mental deficiency in all its stages must represent an enormous sum annually and an enormous amount of suffering, a large part of which is unnecessary.

Have the educationalists yet grasped the value of the intelligence quotient, and do they promote their pupils according to this or merely according to age? And when one finds children with a very low intelligence quotient, would it not be advisable for them to leave school, say at twelve years of age? It would save considerably, and I am sure the teaching staff would welcome the removal of these difficult pupils. As regards the work of the medical officers in the schools, I would suggest that at times several of us should meet and go over a number of cases together. It would tend to our greater efficiency and to the limitation of fads.

I have met medical officers who have found "enlarged cervical glands, probably tubercular" in about 75 per cent. of cases; others who see tonsillar enlargement in the majority; and again some with very keen hearing who detect presystolic murmurs in a rather large proportion of cases. By going over cases together we could eliminate errors in our methods, and all for the ultimate good both of ourselves and also of the service.

In tuberculosis work I feel we have done very little. Most of the clinics tend to become swamped with a number of very doubtful cases. If we find definite cases, we are supposed by the Ministry to send them to their own Insurance practitioners for treatment, and the whole scheme seems wrong. A Tuberculosis Service should seek out the definite cases of tuberculosis, and take on their treatment in its broadest sense. By this I mean that housing, feeding, isolation, treatment and so forth should all form part of the scheme. What, for instance, is the value of sending a tuberculous patient to sanatorium for a few months and then returning him to a slum where there is overcrowding, insufficient money for food, no air and less hope. Should not permanent isolation of these infectious cases be an essential part of our programme? They have to live somewhere, and why not arrange for them all to live in one area, instead of spreading them throughout the community and broadcasting the infection? An attempt at this is being made at Papworth by Dr. Varrier Jones, who is an enthusiast, and the results are distinctly encouraging and indicate the direction we should take. This may sound very Utopian but I am convinced that we must move in this direction if we are to solve the problem of tuberculosis. Consumption can be prevented: then why not prevent it?

DR. GEORGE F. BUCHAN, medical officer of health for Willesden, has been appointed Lecturer in Public Health at Guy's Hospital Medical School.

AN important report recently submitted by the Distemper Research Committee to the *Field* Distemper Council and the Medical Research Council states that the Committee's investigation has reached a point when the knowledge acquired is capable of being usefully applied in practice to rendering dogs resistant to infection by distemper. The report adds that, with the object of providing dog-owners with the means of preventive treatment, they have invited a laboratory well equipped for the commercial development of these results to undertake the preparation of the vaccine used with a view to its distribution. As is only to be expected when a scientific announcement of such importance is made, great interest has been aroused amongst owners of dogs, and numerous enquiries made as to where the vaccine can be obtained. It is deemed advisable, therefore, to inform enquirers and others interested that the Wellcome Foundation are actively engaged in undertaking the conversion of the experimental laboratory processes into large-scale production, and in due course hope to be able to issue the vaccine through Messrs. Burroughs Wellcome & Co.

Ut Ita Dicam.

(Being Comments, apropos and otherwise, on Sundry Matters.)

Retirement of Dr. Lyster.

To me, anyhow, the piece of news that proved most astonishing last month was the announcement of the decision of Dr. Lyster to resign his appointment as Medical Officer of Health of Hampshire. There are many grounds for regret in this, not the least that he has been impelled to adopt this course for health reasons, and because he has felt the strain of his many activities. It is easy to believe of Lyster that he is suffering from overwork. His interests and activities are enormous, and largely because he appeared to possess, amongst other qualifications, the physique necessary to carry the weight, neither the Society nor any of the numerous bodies with which he associated himself ever hesitated to throw work upon him. The parts he has been given have always been fighting parts, and on no occasion has he failed to satisfy his backers, using every ounce of his weight and every atom of his great ability in the combat for the decision which he never doubted should be his. It is because he has always acted so, it may be believed, that he begins to feel the strain; and because he nerved himself to show no sign that those associated with him have been misled into believing that he felt no strain. Because there has been failure to note it, and since they had to wait to be told by Lyster himself, the sympathy extended must be all the deeper. Nowhere more than in the Society will that sympathy be so real and intense, for it has been on its behalf that he has laboured and fought most strenuously. During several years he was Editor of PUBLIC HEALTH, and only gave up that difficult post because he was called to fill the no less difficult but more highly honoured position of President of the Society. For himself, perhaps, it would have been better if he had let up on his activities and rested after the strenuous labours involved in the Presidency and the Editorship. Probably, however, he felt that his fellows would not allow him to do so, and therefore he kept on. Ground for believing that he would not be permitted to rest is afforded by what happened at the last meeting of the Council, when, despite the fact that—though I did not—there were some who knew of his resignation from his post and the reasons therefor, he was re-elected to represent the Society on the Central Midwives Board and the Institute of District Nursing. As Dr. Lyster did not protest, it may be taken that he feels himself capable of undertaking the work these offices involve and that, freed from the cares of office in the county, he will have more time and energy to devote to the interests of the Society in these two important bodies. The liberty he secures, Dr. Lyster, it is understood, proposes to make use of in developing his views and schemes relating to teaching. For many years he has been on the staff of St. Bartholomew's Hospital, and in the field that offers there he will no doubt find great opportunities for working out his plans. Into his retirement Lyster takes, in addition to their real sympathy for its causation, all the best hopes of his friends that he will avail himself properly of the rest he is securing and allow himself to obtain all the health benefits that the release from the strain of office should afford.

Dr. Boobbyer.

Another of our service recently passed into retirement to whom I feel reference should be made is Dr. Philip Boobbyer, late of Nottingham. It is several years since Boobbyer ceased to participate actively in the wider affairs of public health as represented in the work of the Society, limiting himself almost exclusively to the duties of his post in Nottingham. His period of service in that city was the long one of forty years. That he was a whole-hearted and devoted servant, working strenuously in her interests, the city fully recognised, and it was no mere formal appreciation that was expressed in the resolution passed by the health committee on the occasion of his last appearance at their meetings. Outside Nottingham there have been many who have recognised the value of Boobbyer's work and his contributions to the great progress made in preventive medicine. By those who knew him at the height of his powers and when he was still taking part in national and international work, he was recognised as a force. He was one of the big ones to whom everybody listened. Boobbyer, indeed, was a man one had to listen to. He was physically big and his voice was big. Being learned, he always had something valuable to say. Personally I have known few people who could be more interesting than Boobbyer. His store of knowledge on a variety of subjects, all of them basic of hygiene, was phenomenal, and there was no time inappropriate—morning, noon or night—for discourse upon any or all of them. Robust, full of energy and of knowledge, he was a great personality. That he was able to carry on for forty years in Nottingham cannot surprise anyone who knew him. That it has appeared appropriate that he should come out of harness I am convinced, though I have not seen him for some time, has been intensely surprising to him. Now that he has given up and determined to retire, it is hoped that he may rest, and the multitudes of his friends in the Society and out of it will join his health committee in Nottingham, in wishing for him many years of happiness in his retirement.

Occupational Disease.

The report of the Senior Medical Inspector of the Factory Department of the Home Office is one I never have any difficulty in reading from end to end. All the reasons for this are complimentary, directly or indirectly, to Dr. Bridge and his colleagues. The few that are indirectly complimentary are only so because of the existence of nasty streaks in my nature, and because I am unjustly and improperly, as a medical officer of health, denied any opportunity at all of sharing in what appears to me to be one of the most fascinating and worthwhile branches of preventive medicine. And now I can say something about the report. First, I find this one revealing, more definitely than any I have seen before, evidences of progress. The medical department appears to be well on the way to placing itself on a proper basis of organisation and—though it sounds like mixing the metaphors—getting on top of the work to be done. There is an authoritative note this time that I do not remember to have heard sound before. By this member of the staff or the next, investigations have been made that have got somewhere or that will lead somewhere. The place of the medical investigator of problems associated with industry seems to be securing recognition; the voice in which he speaks seems to have assurance and is being listened to by industry. To me these signs are exceedingly gratifying, not for any reason associated with professional pride, but because of the certainty that, as a result, industry and those engaged in it as employed and employer will gain tremendously. The directions in which work has been done, and in which there are developments, the report shows to have been extremely varied. Several new regulations and orders have been passed and have come into operation, notably under the Lead Paint (Protection against Poisoning) Act, 1926, and in respect of the prevention of dermatitis in bread baking, etc. Dust hazards have received a great amount of attention, and lead poisoning among pottery workers has also been specially investigated. The situation in this country, so far as lead poisoning is concerned, is steadily improving and, because of the work done and to be done by Dr. Overton of the Home Office staff, must continue to improve. Though the whole report of the Senior Medical Inspector does not run to many pages, a considerable part is devoted to a discussion of lead poisoning. This is extremely fascinating. Equally if not almost more fascinating is the part in which dermatitis is considered. Probably no occupational affections call for more attention than those in which the skin is involved. That they are receiving it is clear; as it is also clear that knowledge with regard to skin conditions, their causation and prevention is accumulating, mainly as a result of the work of Dr. Bridge and his colleagues. It is not only in respect of these, however, that additions to the store of knowledge are being made. The whole field of occupational disease is steadily coming under observation and research, and the day is not far distant when it will be possible to claim that the annual report of the Senior Medical Inspector of the Factory Department of the British Home Office is the most important addition to the literature of occupational disease in any year. By that time, perhaps, the report will be issued as a separate publication and will extend to rather more than twenty-five or thirty pages. By that time also I shall be more jealous than ever that opportunities for research in the directions indicated in the report are not offered to the medical officer of health.

P.

AT the invitation of the University of London, Dr. J. Howard-Jones, President of the Society of Medical Officers of Health, will deliver three public lectures on the Hygiene of the Mercantile Marine, at University College, Gower Street, London, W.C.1, on Fridays, February 22nd, March 1st, and March 8th, at 5.30 p.m. The chair at the first lecture will be taken by Dr. Charles Porter, Chairman of the Board of Studies in Hygiene in the University.

The Prevention of Dental Caries—Obstacles in the Path of Progress.

By J. SIM WALLACE, D.Sc., M.D., C.M. Glasg., L.D.S. Eng., Lecturer on Preventive Dentistry, King's College Hospital.

No one is better able than Dr. Sim Wallace to indicate the obstacles in the path of progress towards the prevention of dental caries, and in choosing this subject for his Presidential Address to the Dental Officers' Group he has provided food for thought for members of the health service other than those in his own particular branch.

THE Society of Medical Officers of Health is the greatest institution for the promotion of health in the kingdom, and the Dental Group is, I believe, recognised as one of its most important sections. Bearing upon this, you will remember that about ten years ago the immediate past-President of the Society, the late Dr. James Wheatley, noted "that we are in the fortunate position to-day of knowing how dental caries is caused and how it can be prevented," and continued: "I have no hesitation in saying that the discovery of the essential cause of dental caries will rank as one of the great advances of modern medical science, and that so far as its effect upon the health of the people is concerned, it will probably be in the first place." The important position of the Dental Group is further emphasised by the authoritative recognition which was given by the Council of the Society to the principles of prevention, now well established by the leaders of scientific thought in the dental profession.

How we have come to arrive at our present fortunate position is a long and interesting story, which, however, it is not altogether my intention to try to relate. I should like, nevertheless, to make a few remarks on some of the obstacles which have beset the path of progress during the last few decades. Well before the end of the last century the pathology and nature of dental caries were definitely established. To some extent also its etiology was known. Certain problems, however, remained unsolved and it can hardly be said that what we all wanted to know, that is to say, the cause of the prevalence of dental caries or how it could be prevented, had been elucidated. Yet the problem engaged the attention of many of our best research workers. It seems to me that the chief obstacles to progress resulted from the domination of erroneous assumptions, and looking for explanations in wrong directions. A few illustrations of this may suffice to make my meaning clear.

Some of you may remember, and others know, that the hereditary nature of dental caries was assumed to be such an obvious fact that the leaders of the dental profession took it for granted, and made such assertions as "the hereditary predisposition to caries is of the first importance."* Although the hereditary nature of the disease was really merely assumed, it was taken as a basis for argument, but no evidence was brought forward to show that there had been any alteration or change in the quality of the saliva or enamel, or indeed of any part of the tooth. Yet on account of the erroneous assumption of the hereditary predisposition to caries being taken for granted, it seemed to follow that this hereditary predisposition must result either from structural deficiency of the tooth or vitiated buccal secretions, and two schools of thought sprang up. Though well aware of the nature, the process, and the pathology of the disease, and famous for having established this, Miller believed that "the structure of the teeth plays the most important part as a predisposing cause of dental caries," and further said that "poorly developed, soft, porous teeth with many large inter-globular spaces, are highly predisposed to caries,"† but he really brought forward no evidence of this. On the other hand, Black made an elaborate and thorough investigation into the physical and chemical characters of the teeth,‡ and showed most conclusively that there was no association whatever between the quality of the enamel or the chemical composition of the dentine in the type of tooth claimed to be susceptible to dental caries, and in that which was assumed to be immune. This was confirmed also by the direct chemical analysis of the dentine of human teeth by Sir Charles Tomes in England.

* Black, G. V. Dental Cosmos. Sept. 1899, p. 829.

†Miller, W. D. Micro-organisms of the Human Mouth. p. 216.

‡Black, G. V The Physical Characters of the Teeth. Dental Cosmos, 1895, p. 367.

Neither have the exact and painstaking investigations into the chemical nature of the enamel given the slightest grounds for the assumption that this has degenerated or become in any way less "immune" to caries, or resistant to acid when this lies on its surface, as it does in the initial stage of caries.* Similarly the most painstaking microscopic investigation of the enamel by such distinguished workers as Leon Williams, Hopewell Smith and others, has failed to reveal any structural variations differing from those so frequently found in the teeth of prehistoric man and anthropoid apes, living in natural conditions and free from dental caries. Moreover, cells, blood vessels, nerves and lymph are not found in enamel.

Turning now to the idea that the vitiations of the salivary and mucous secretions might account for the prevalence of caries, we find a similar story. Elaborate and careful investigations have been made by numerous observers equipped with delicate apparatus, and diligent efforts have been made to detect such substances in, or qualities of, the saliva, as might possibly account for the prevalence of caries in some mouths, and for its absence in others. But here again little or nothing was found to throw light on the subject. Real progress was not, and could not, be made by such investigations since, as we now know, the prevalence of dental caries was due neither to changes in the teeth nor the saliva, but to changes in the nature of the food, more especially of the carbohydrates.

Then again, we have an obstacle to progress in the misinterpretation of laboratory experiments. Thus it was shown that saliva and mucus in the mouth formed an excellent medium for the proliferation of bacteria, and this seemed to arouse surprise that any of the teeth at all escaped becoming carious. Now that we know how caries is produced it is easy to see how misleading laboratory experiments may be, however illuminating when properly interpreted. Before it was appreciated that the first essential in the production of the acid to decalcify enamel was the *undue lodgment* of fermentable carbohydrates, it was not seen that phenomena occurred which could not be got in the mouth generally.

It was only in such retention areas where carbohydrates lodged unduly, *i.e.*, where there was a relative stasis of the saliva and carbohydrates, that there was an analogy to the laboratory experiments. This, however, being overlooked, the assumption was made that though generally the enamel was immune there must be "points of least resistance" which allowed caries to start at one place and not in others. This did not tally with the facts as revealed by direct reference to the sites of caries in its inception. It was, indeed, seen that caries started as a very general rule with consummate disregard for anything which might indicate defective structure or points of least resistance. Even in the same mouth the normal furrows between the cusps, the smooth enamel near the gum margin, and the equally smooth approximal surfaces of obviously perfectly normal teeth, quite frequently become decayed, while lower incisors, with the horizontal grooves associated with defective microscopic structure generally remain quite free from caries. Even in a single tooth, decay might be progressing at one point, and becoming arrested at another. It was, of course, quite impossible to find in the saliva an explanation of these phenomena. Since neither structural defects nor vitiation of the salivary secretion showed the least hope of solving the problem, the idea seems to have arisen that there might be something of a functional character to account for the assumed immunity to decay in some enamels and not in others. Much work has certainly been done in the hope of finding this, but all that has resulted is dismal failure to show it, as might have been foreseen by those who knew a little about the complex phenomena of immunity, and the equally complex medium in which it works. Moreover, as the first stage in the process of caries has long been known to be a penetration and decalcification of the enamel by acid, the problem presented was not a problem in immunity to bacterial attack, but a physico-chemical problem, and inasmuch as we do not speak of immunity to the destructive effect of acid on any part of the body when it penetrates and destroys it, why should we do so when it penetrates and destroys enamel?

Now though static laboratory experiments showed saliva to be an excellent medium for the cultivation of bacteria, the saliva in motion in the mouth is totally different in its effects, and its qualities and quantity are seen to take on an altogether different value. We now recognise that the primary function of the saliva is the flushing of the mouth and teeth, more especially when and after food is eaten, in such a way that the débris, which might otherwise be left and cause injury to the gums and teeth, will be washed away. Further, if this is not

* This subject was more fully referred to in PUBLIC HEALTH, August, 1928, p. 334, in a reference to the recent work of Messrs. Sprawson and Bury.

immediately successful, as in the case of some carbohydrate foods, the ptyalin liquifies the starch and facilitates the removal. Acids which might injure the enamel call forth a rapid flow of alkaline saliva, which does not digest but neutralises them and carries them away at once. The ropy mucus entangles food particles which otherwise might hang about the teeth, and carries them away in the semi-liquid and disintegrated state brought about by mastication. Sugar, which, should it linger about the teeth, would give rise to acid fermentation, similarly calls forth a copious flow of saliva which, with the active movements of the jaws, tongue, lips and cheeks, ensures its removal, except when the sugar is taken in a concentrated form without the fibre and acid which accompany it in all forms of natural vegetable food. About a quarter of a century ago, we introduced and showed the importance of certain accessory food factors, such as the physical nature of the food, acids, and stimulating principles, not because they were of any nutritive value, but because it was evident they helped to stimulate mastication and keep the mouth in a healthy state. The supposition that the primary function of the saliva was the digestion of starch, was easily shown to be untenable, and the idea that an important function of the mucus was the lubrication of a bolus of food, had to be discarded, because the process of mastication in reality is a disintegration of anything in the nature of a bolus and its reduction to a semi-liquid state in which the saliva, the mucus, and the suspended food particles are all churned up together. Of course, I know that so far very few physiologists recognise those facts, though long known in the dental profession, but as all predisposition to caries results from the undue lodgment of fermentable carbohydrates, it is obvious that the detergent action of suitable foods, together with the whole complex physiological mechanism for the maintenance of oral hygiene, is of the utmost importance. And although from a practical point of view we may know sufficient, further research is most desirable if for no other reason than to focus attention on the subject. The physiology of oral hygiene, however important we know it to be, is neither recognised nor taught, as far as I know, in any text-book of physiology. This is a subject upon which all medical students should be instructed, but they are not. Here then is another painful obstacle in the path of progress.

In recent years it has come to be recognised that the principles of biology give the only sure foundation for the instruction of the public in matters relating to their health, and of all the branches of biology, physiology is the most important. But when we turn to text-books on the subject, we find not only that oral and, indeed, alimentary hygiene are ignored, but even that the precepts derivable from what is taught, is positively conducive to oral malhygiene in general, and dental caries in particular. The general welfare of the body and of the teeth is, or may be, maintained by the same régime and environment, and the attempt to make dietaries or dictate modes of living for the prevention of individual diseases, is but the ridiculous method of the faddist. Of course, we know how it has come about that physiologists know so little about the hygiene of the mouth and teeth. Ever since a medical curriculum was instituted, the teeth were ignored and considered of little or no consequence to the medical practitioner. Together with the supposition that the teeth were unimportant, I am afraid the supposition that those who devoted their lives to the study of the teeth and their diseases were likewise considered unimportant, and what knowledge might have been gained from them was, and still is, ignored. Nevertheless, there has been great progress during the last hundred years in dental science. The progress has taken place through the operation of similar forces to those which have been instrumental in carrying forward other branches of science. Many of the individuals who have contributed to this progress have initially been educated medical men before they devoted their time and attention to matters especially relating to the teeth. The leaders in this, as in other branches of science, require to show to those best able to judge, *i.e.*, their fellow-workers, that they had in one way or another acquired more knowledge, or a better grip of their subject, than their contemporaries before they became recognised as teachers and leaders in their profession. The different branches of science often gain much from the progress of correlated sciences and it is rather absurd not to take advantage of the knowledge with which the leaders in the different branches of science provide us. Physiologists should surely benefit by recognising the conclusions of the leaders of the dental profession after the hundred years of scientific research, observation and accumulated knowledge which they have to their credit. Medical officers to some extent have done this already, even though they had to ignore the erroneous teachings of physiologists and dietitians in so doing.

Brilliant though the achievements of the outstanding figures may be, highly educated and professional in their conduct though the all-important section of the dental profession undoubtedly is, it must be admitted that the great majority take up the practice of the art merely as a means of gaining a livelihood, and that, often without a professional or collegiate education. This suggests another obstacle. From the money-making point of view the study of the principles of prevention is not attractive. Efforts to show how the incidence of caries can be reduced are sneered at or ignored by those who seem to hope that all such efforts may be unsuccessful. This section of the profession do not seem to want to know. They do not take the trouble to try to learn what is known. They keep on repeating: "We don't know the cause of caries." If when they use the word "we," they mean themselves and their like, then no doubt they are not far wrong, but if they mean the teachers and leaders of the profession in this country they are very sadly mistaken, and I am sure Messrs. Sprawson, Breese and Thomson, my distinguished predecessors in this presidential chair, will all agree with me in this.

A similar charge might be made with regard to the medical profession. Thus, a few weeks ago, the Editor of the *Medical Press and Circular*, who, unlike many of his contemporaries, has taken much interest in our work, wrote as follows: "While much thought has been given of recent years to these sources of infection and the many serious evils which may result from them, it is to be regretted that so little attention is devoted to their prevention. Dental disease and pyorrhœa are essentially diseases the ætiology of which is thoroughly understood. Adequate steps should be taken to turn that knowledge to practical account." Unfortunately, there is no pecuniary gain to be got from this, and actual obstruction to progress may unconsciously be the result.

Let me refer to another obstacle to progress. We have to contend with vested interests. We have tuck shops and confectioners, chocolate manufacturers, etc. *They* do not examine thousands of children's teeth, and show, as Dr. Wheatley did, how much worse were the teeth of children who consumed their seductive products. Nor do they recognise the teachings of such medical officers and others who have taken the trouble to pay some attention to the subject and are convinced that sugar "is the arch demon of dental decay."* No, they refer in their lavish advertisements to every passing fad that fits their purpose. When the craze was for nutrition they could easily bring forward so-called scientific evidence to show that in this they outstrip all other foodstuffs. Of course, they do not refer to the effect of over-concentration, of eating too much, or of eating between meals. When the value of sugar for children was a congenial delusion, they had no difficulty in advertising the fact that their products could not be surpassed in this respect. Judging from a large box of milk chocolate which I recently received, and which was no doubt distributed to the medical profession generally, it would appear that they have hit the nail on the head once again. This box was, of course, accompanied with some seductive literature to let us know that "our milk chocolate always did contain vitamins A, B and D." Together with this, the beneficent effect of the chocolate on the ossification of bones was displayed. The firm or firms issuing these advertisements are highly reputable. So now we need not bother about the distribution of vitamins in natural foods, or worry about the difficulty of getting children to take cod liver oil!

Economic considerations often restrict the natural choice of foods and lead to an undue consumption of cheap carbohydrates. Indeed, this is the chief cause of badly balanced dietaries, but money wasted on advertised carbohydrates only tends to impoverish the purchaser further, for all advertisements are costly, and the advertiser takes good care that the cost will be borne by the consumer.

This leads me to refer to the serious menace to public health of advertisements, especially those which appeal to the medical profession. Proprietary foods and drugs seem to be a gold mine to many commercial firms, and huge sums of money are annually spent on bringing their products before the profession and the public. Nine-tenths of the drugs are, no doubt, worse than useless, and incalculable sums are wasted on quack nostrums and proprietary foods, while chocolate and toffee manufacturers vie with each other in booming their own wares. Natural foods contain in the best form all the nourishment, salts, vitamins and accessory food factors, and together with a higher standard of living

* Dr. G. W. Fleming, Medical Officer of Health, Todmorden. "Are sweets good for children?" *New Health* April, 1927.

and cheap transport, we are abundantly supplied with the best foods the world can produce; nevertheless, our medical journals are chock-full of advertisements of these drugs and proprietary foods. Unfortunately, I believe many of these journals cannot be run as a commercial success without such advertisements, and any attempts to expose the inaccuracies and the harm done would no doubt be regarded as an encroachment on the time-honoured privileges of advertisers. At one time, an important medical association exposed the humbug of secret remedies, noting what they cost and what they contained, but for reasons I can only surmise, this seems to have been given up. How much the press is influenced by catering for these advertisements I do not know, but that some journals are, there is no doubt.

An even greater menace to free discussion comes from the influence of certain government institutions whose interest may lie in supporting the "don't know" school, for if it were admitted that we did know all that was necessary from the practical point of view of prevention, their occupation would be gone, and it would then be seen that there was no excuse for providing them with further funds. Here, incidentally, I might remark that although we know the essential cause of caries and how it can be prevented, there are many points of academic interest which provide material for investigation and research, such as would be much appreciated at scientific meetings. But, of course, the public should not be called on to pay for this. Criticism of government reports seems to be looked on as something in the nature of *lese-majeste*, and the publication of such criticism when this may be secured appears to be regarded as an unpardonable sin, however illuminating and helpful to progress it may be.

The last obstacle in the path of progress to which I would refer is the payment, or perhaps prepayment, of research, much of which may be ill-conceived or prejudiced and finished off with misleading inferences. There is really no need for any such encouragement of research, for in human nature we find the desire to know a dominating impulse. Different individuals are attracted by different subjects which lie in their way, and find in these the most absorbing interest; they revel in the search for truth and a monetary return is of little consequence. They seldom fail, however, to get preference in appointments which lead to material gain, and direct payment is often made to them for books, articles in encyclopædias, journals, etc., which they are privileged to write. Added to this, the prestige and the honours which their fellow-workers best able to judge, confer on them when their work has been verified or accepted, are surely sufficient, although voluntary financial rewards for work done, or for prescribed subjects which the donor would like to see elucidated are no doubt thankfully received. But this gives no justifiable grounds for government interference and taking money from the ignorant and perhaps impecunious poor to give it to a favoured few.

All the sciences have progressed rapidly without state subsidies. Politics and science do not mix well, and the best that the politician can do is to give science a fair field and no favour, as the leaders, or would-be leaders, are kept from going astray by their brother experts who alone are able to examine and criticise their work. Researches conducted under the control of committees or councils throttle the intellectual initiative which is the driving force of original research. Could we possibly expect to have had a Pasteur, a Semelweiss or a Lister selected by, and responsible to, the bureaucrats of the day? The introduction in recent years of an institution based on all favour and no fair field is highly detrimental to the best interests of progress. To what has happened in other branches, I need not refer. I will limit myself to illustrating this by what has happened with regard to the problems of dental science. A few years ago the *Medical Press and Circular* referred to the subject in the following words: "The Medical Research Council in consultation with the Ministry of Health seems to have been unfortunate in the appointment of its committee of inquiry on dental caries . . . It is a matter of regret that a committee should have been appointed exclusive of representative dentists, whose advice would have been of service in directing the course of the inquiry. Haply we shall find the War Office appointing a military committee to instruct the Navy in the way of manœuvring fleets at sea."*

It is difficult to see how the Medical Research Council, composed of politicians and medical men without special knowledge of the intricate problems which dental science presents, could be expected to guide research either in selecting committees, the giving of helpful advice, or the making of grants for research to particular individuals.

The progress which has taken place in one

**Medical Press and Circular*, Oct. 17th, 1923, p. 317.

branch of knowledge is apt to be but dimly appreciated by those concerned with other branches, and this is particularly the case with regard to dental caries and general medicine. Not knowing the wonderful progress made, some medical men seem to think that they can formulate theories of prevention just as well as dentists, even though a large number of our profession are not only specially qualified in dentistry but have also a medical qualification and brains besides. Indeed, one might say that disregard of the authoritative teachers in the dental profession is quite a serious obstacle to progress. When we read, for example, a statement that "the study of attacks made on teeth by particular agents of disease had proved relatively barren."* and note that this was made by a medical man in exalted position, we are apt to be struck with amazement at such impertinence or ignorance. What more fruitful result of such study could possibly be wished for than that "we are in the fortunate position to-day of knowing how dental caries is caused and how it can be prevented." Through the outstanding work of various scientific investigators from Leuwenhoek and Robertson to Pasteur and Miller, the chemico-bacterial theory, in other words the rôle of the attacking agent of the disease, was established, and for the last forty years recognised throughout the whole dental world. It is admitted, however, that progress has been made during these years, and this has greatly emphasised the importance of the attacking forces. Miller established the chemico-parasitic theory but, as we have seen, attributed the chief predisposing cause to defective structure of the teeth. He searched diligently for these defects but, it must be admitted, in vain; so did several others of the same school of thought, but although many variations and structural imperfections have been found, they show no special relationship to dental caries and, moreover, hypoplasia and such so-called defects as inter-globular spaces, are frequently found in the teeth of savages, in those of our cousins the anthropoid apes, and many other animals that are constantly free from caries. On the other hand, the school that claimed that the quality or thickness of the enamel or any variation in the dentine has little or nothing to do with the incidence of caries or the process, beyond possibly affecting its rate of progress, has vindicated its position. Indeed, part of the most important work of this century with regard to the prevalence of caries has been the shewing that all the theories purporting to explain why the teeth were so "bad" as not to be able to resist caries, were based on an erroneous assumption, and that as far as structure and form are concerned they are just as good as they ever were since man emerged from the savage state. The discovery of the fact that the incidence of caries resulted solely from the changes in the food which rendered the carbohydrates more liable to lodge and ferment in retention areas about the teeth, has simplified matters greatly and made the prevention of the disease relatively easy. Getting rid of erroneous beliefs is not a barren result and has helped progress materially. To put it briefly, we now know that the attack accounts for well-nigh everything and the resistance of the tooth for little or nothing, as, given the attacking force, *i.e.*, the prolonged lodgment of fermentable carbohydrates and saccharolytic bacteria, with periodic renewal of the carbohydrates in such situations and conditions as nullify or evade the neutralising effect of saliva and the self-cleansing processes generally, caries always results. On the other hand, if a fermentable carbohydrate residue is not left in such retention areas, caries never takes place. Apparently, not knowing or ignoring all this, the Medical Research Council seems determined to make research show that the study of the attack on the tooth counts for but little and that structural defects explain the incidence of caries! In addition to the current literature appertaining to the subject, a recent discussion* seems conclusively to show that the Medical Research Council's determined attack on our views has been a dismal failure. Not only so, but the lines of prevention suggested are misleading and often very harmful if precautions we insist on are disregarded. To suit this fallacious theory the "vitamin deficiency and structural defect" school say that "there can be no reasonable doubt from all the evidence now available that the great majority of our population are suffering from a deficiency in these essential parts of food," *i.e.*, vitamins A and D. I venture to think we have no evidence of this whatever. Animal foods such as eggs are imported, and per head of the population consumed in larger quantities than they used to be. Meat, together with the animal fats, is imported in enormous amounts from the four corners of

* Sir Walter Fletcher, M.D., F.R.S., Secretary to the Medical Research Council. *British Medical Journal*, Oct. 8th, 1927, p. 655.

*PUBLIC HEALTH, May, 1928, p. 258. "Observations on Dental and Medical Research."

the world. Fish, since the introduction of steam trawlers, is abundantly, cheaply and regularly obtained and distributed throughout the land. The herring which was supposed to counteract the harmful effect of oatmeal among the Scotch a century or two ago when their teeth were relatively excellent, is now easily, cheaply and regularly procured and, perhaps unfortunately, the oatmeal has gone out of fashion. Dairy produce —milk, butter, and cheese—which our remote ancestors, like certain savage races with excellent teeth, never touched, now forms a regular and considerable part of our daily meals. It would be waste of time to pursue this subject further. Let us take the next point.

The Medical Research Council says in its last report that "the search among natural products for vitamin D, however, is no longer necessary, since we can produce it artificially," and "we now have at our disposal abundant and cheap supplies of the anti-rachitic vitamin D in potent and isolated form."* I sent to one reputable firm that offered gratis samples and in return received a little tin box of chocolate pellets together with a bottle of ovoids, a sort of sugar-coated little egg. These no doubt contained the "cheap supplies of the anti-rachitic vitamin." I fancy there may have been a pennyworth of sugar and chocolate in all, and to those who know anything about the selection of ordinary foods, or the value of sunlight and hygiene in general, the milligram of ergosterol, is of course, quite negligible, but if I remember rightly these two little samples cost seven shillings! How much good this would do to the teeth, or how much benefit a poor woman would derive from squandering her money on such stuff, rather than spending it on eggs, herrings, meat, butter, cheese or what not of animal origin to supplement or balance her cheaper cereal and vegetable foods, I leave you to think out for yourselves. I am afraid, however, the drug stores that sell these potent or patent drugs at this price will soon not be in the running with manufacturers whose milk chocolate "always did contain vitamins A and D." It may be said that such a small quantity of chocolate or sugar is not likely to be very harmful, but as each pellet is enough to fill all the retention areas in the teeth, it is the frequency of their administration that is so dangerous. Although how and when sugar is eaten are points of the greatest importance, this fact is generally overlooked by those who speak of the amount of sugar and sweets consumed by certain children without caries resulting. Perhaps it would be unpopular and impolitic to repeat the researches which show the correlation of the eating of sweets and caries; anyhow, it does not surprise us that little or nothing is said on this subject in the Report of the Medical Research Council. We may, however, refer to one special report* which it has given us, partly relating to sugar, as this may encourage rather than discourage its consumption. The growth and weight of schoolboys on a basic (? insufficient) diet were compared with the growth and weight of boys on a basic diet plus sugar, and it was found that the growth and weight with the extra ration of sugar were greater in a given time than of those on the basic diet. Incidentally also it may be noted that a relative decrease in the amount of vitamin-containing foods was associated with increased growth and weight. No notice appears to have been taken of the teeth.

If it had been because there was only one disease which could be prevented by vitamin D, or because of the rarity of rickets judging from the legs which the fashion of the day lets us observe so plainly, or because we now know the value of sunlight in the prevention of that disease, or because we recognise that it is "evident that any healthy person taking an ordinary mixed diet is practically ensured an adequate vitamin supply,† we might have tolerated the statement that "the search among natural products for vitamin D is no longer necessary," but if there is any shortage in ordinary or even extraordinary dietaries, the tabulation of the foods containing this vitamin, to let us know its distribution, is highly desirable, particularly as for want of differentiating between vitamin A and vitamin D the previous tables with regard to the distribution of vitamin A may be misleading.

However all this may be, it must be admitted that the report of the Medical Research Council has gratuitously given drug stores, patent food proprietors and chocolate manufacturers an amazing opportunity for booming their wares, and we know from the innumerable advertisements which choke our letter-boxes every

* Report of the Medical Research Council, 1926-1927, pp. 20 and 21.

* Diet for Boys during School Age. By H. C. Cory Mann, O.B.E., M.D., Medical Research Council Special Report Series, No. 105.

† From article "contributed by arrangement with the British Medical Association for the guidance of the public in matters of general health." *Britannia*, Oct. 5th, 1928, p. 135.

morning how they have taken advantage of it. I wonder how much disappointment all this has given rise to, especially among those medical officers who recognise that the foundations of health rest on the appreciation of certain simple rules, easily deducible from biological principles, with regard to the value of fresh air, well-selected food, cleanliness, sunlight and exercise, and that nine-tenths of advertised drugs are not only shockingly expensive, but worse than useless.

So far, it appears to me the work of the Medical Research Council has done little but harm with regard to the prevention of dental caries, and, as we learned at our last meeting, the deliberate attempt to prevent caries by bringing up children on a calcifying-vitamin diet only ended in failure, as might have been foreseen from an analysis of previous research work.* Moreover, while discrediting the work of the dental profession, and so hindering progress, the Medical Research Council seems, thoughtlessly no doubt, to have done all that could be expected of it to increase the number of drug addicts, eaters of sweets, doctored food faddists and dupes who waste their money on imaginary elixirs of life such as "bottled sunshine," rather than on the real article, which, like vitamins in food, may generally be had in more than ample amount for nothing.

Medical officers of health no doubt recognise that the day must come when the forces obstructing progress will be exposed and counteracted. For the sake of suffering humanity the sooner this day is made to arrive the better, and to this end we all can lend a helping hand.

The observations I have made may be resented by those who venerate all government institutions more than truth, or by those who have vested interests in the continuance of the concerns to which I have alluded, but they have been made in what I conceive to be the best interests of such fruitful research and useful knowledge as may illuminate the path of progress.

*Wallace, J. Sim. Teeth and Health, pp. 118, 119, 144-147.

The Society.

Reports, Proceedings and Announcements.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society, on Friday, January 18th, 1929. Dr. J. Howard-Jones (President) was in the chair, and there were present, Professors H. Kerr and W. W. Jameson, Drs. Snell, G. F. Buchan, Charles Porter, Lyster, Milligan, J. J. Buchan, E. Ward, Stirk, Baker, Puddicombe, Evans, Jolly, Wood, Paterson, Picken, Veitch Clark, Eustace Hill, Stella Churchill, Gibbons Ward, Tapper, Linton, Cates, Fenton, Brackenbury, Naylor Barlow, Wilshaw, Muir, Annis, Lt.-Cols. G. S. Parkinson and F. E. Fremantle, M.P.

The Minutes of the last meeting having been approved and signed, apologies for absence were received from Prof. A. Bostock Hill, Dr. A. A. Mussen, Lt.-Col. A. J. H. Russell, Dr. G. H. Pearce, and Dr. A. K. Chalmers.

Cairo School of Medicine.—Dr. J. C. N. Harris, medical officer of health, Khartoum Province, Sudan, reported that, as requested by Council, he had attended the Centenary Celebrations of the Cairo School of Medicine, and had conveyed the congratulations of the Society to the Secretary-General. It was agreed that Dr. Harris be thanked for undertaking this duty on behalf of the Society.

B.M.A. Branches and Irregular P.H. Appointments.—Members reported the recent action of the Metropolitan Counties Branch, B.M.A., in electing to membership a medical officer of health who had knowingly accepted an irregular appointment in opposition to the agreed policy of the B.M.A. and the Society of Medical Officers of Health. It was pointed out that the B.M.A. Branches had complete freedom in such matters, and that on the present occasion members were much influenced by the recommendation of a distinguished Fellow of the Society of Medical Officers of Health that the offence of the candidate should now be condoned. After some discussion it was agreed to ask the Medical Secretary, B.M.A., to circularise Branches explaining the reluctance of public health members to be associated with colleagues who wilfully disregard the policy of the Association and the Society of Medical Officers of Health in regard to salaries. It was also agreed to notify the Fellow referred to above that the Society regrets that he should have given his support to the candidate in question.

The Scale of Salaries.—It was agreed that

members of the joint conference appointed by the B.M.A. and the Society to discuss the working of the Scale of Salaries should hold a preliminary meeting to agree procedure before meeting the representatives of Local Authorities in accordance with the arrangements suggested by the Ministry of Health.

Control of Venereal Diseases.—The Council resolved :—

(*a*) " That the views of the Branches be invited upon the subjects discussed at the meeting of the Society held on November 16th, 1928, and reported in the issue of PUBLIC HEALTH, dated January, 1929, pp. 104-115.

(*b*) " That the Branches be invited to consider the following questions :—

(i) Does the Branch approve a proposal to amend the present Act so as to permit the sale of materials for disinfection, together with the necessary instructions ?

(ii) Does the Branch approve the principle of Compulsory Treatment ?

(iii) Does the Branch approve the suggestion that the parents of congenitally affected children should be brought within some measures of treatment ? "

Deaths of Pregnant Women.—The following representation from a joint meeting of the Yorkshire Branch of the Society of Medical Officers of Health and the Yorkshire Branch of the Coroners' Society, was referred to the Maternity and Child Welfare Group for their consideration and report, *viz.*, " In the opinion of this meeting of Medical Officers of Health, General Practitioners and Coroners, it is desirable in the interests of public health that all deaths of pregnant women before the completion of the normal period of gestation should be reported by the local Registrar of Deaths to the local Coroner for his consideration, and that this resolution be sent to the Council of the Society with a view to it being submitted to the Ministry of Health and brought before the Committee on Maternal Mortality now sitting."

Diseased Conditions in Imported Meat.—Acting on a resolution of the Home Counties' Branch, it was agreed to represent to the Ministry of Health the desirability of Local Authorities receiving instructions at the earliest possible moment *re* diseased conditions in meat imported for human consumption.

Representation of the Society.—Dr. R. A. Lyster was re-elected to represent the Society on the Central Midwives Board and on the Council of the Queen's Institute of District Nursing.

Co-ordination of Maternity and Child Welfare and Hospital Services.—The memorandum on the Co-ordination of Maternity and Child Welfare Work with the Hospital Services, submitted by the Maternity and Child Welfare Group was approved, subject to minor amendments to be submitted by the Group at the next meeting of Council.

The Council then adjourned.

ORDINARY MEETING.

An ordinary meeting was held at the house of the Society on Friday, January 18th, 1929. The President (Dr. J. Howard-Jones) was in the chair, and upwards of fifty members were in attendance.

The Minutes of the last meeting having been approved and signed, the following candidates were elected to the Society, *viz.* :—

As Fellows :—

Baile, Enid, L.R.C.P. & S., I., D.P.H. ; Bow, Marion, M.B., Ch.B. Ed., D.P.H. ; Henegan, Frances Rosalie, M.B., B.S. Durh ; Miller, Malcolm James, M.B., Ch.B. Glasg., D.P.H. ; Rowlands, Sydney Daniel, M.B., B.S., B.Hy., D.P.H. ; Stephens, Edith Emily, M.D., B.S. Lond. ; Weatherhead, Ernest, M.B. Cantab., M.R.C.S., L.R.C.P.

As Associates :—

Ireland, William Alexander, M.R.C.V.S. ; Kerr, Andrew Brotherstone, M.R.C.V.S., D.V.S.M. ; Sharp, Symon, M.R.C.V.S., D.V.S.M. ; Smyth, Richard Samuel, M.R.C.V.S., D.V.S.M.

A number of nominations were received for the February election.

There followed a discussion on " The Inspection and Registration of Nursing Homes," opened by Dr. J. J. Buchan, Dr. A. Middleton Hewat and Miss M. M. Winstanley. A report of the discussion will appear in an early issue of PUBLIC HEALTH.

THE METROPOLITAN BRANCH.

President : Dr. J. B. Howell, M.O.H., Hammersmith.
Hon. Secretary : Dr. James Fenton, M.O.H., Kensington.

A meeting of the Council of this Branch was held at the house of the Society, on December 14th, 1928. The President occupied the chair, there being present seventeen other members.

Attention was given to the Interim Report of the Private Practice Committee of the British Medical Association, regarding encroachment on the sphere of private practice by the activities of local authorities. After discussion it was agreed that the Council of the Society be informed that, whilst the members of the Branch are anxious to do all in their power to promote amicable professional relations with their general practitioner colleagues, they desire to record their entire disagreement with the general tenor and implications of the Interim Report.

The Branch Council had before them a letter which had been addressed by the Metropolitan Grocers', Provision Dealers' and Oilmen's Association to a firm of grocers expressing disagreement with the firm's practice of surrendering unsound tinned food, in view of the fact that this food might be utilised for other purposes. During the discussion which followed the reading of this letter, reference was made to the fact that these goods might be sold in certain markets for human food. It was decided to inform the Association of the opinion of the Branch Council that in all cases in which a dealer has reason to suspect that he has in his possession tinned food which may not be fit for consumption, the appropriate local authority should be given the opportunity of examining the goods and, in the event of their condemnation, of supervising their disposal.

A discussion upon the use of convalescent measles serum was opened by Dr. Lethem, who gave particulars of a suggested scheme for the manufacture of the serum at the Metropolitan Asylums Board's laboratory and for its distribution to medical practitioners through the medium of the Metropolitan Borough Councils. Most of the members present gave their views upon this subject, as also did Dr. J. E. McCartney and Dr. R. Massingham who had been invited by the President to attend the meeting. It was agreed that Dr. Lethem should ascertain from the Metropolitan Asylums Board whether they would be prepared to co-operate in any such scheme as that which he had outlined.

The Local Government Bill.

A special meeting of the Council of the Branch was held at the house of the Society on December 21st, 1928, for the purpose of considering the Local Government Bill, 1928. The President occupied the chair, and seventeen other members were present.

The Branch Council expressed agreement with Clause 52 (1) (*a*) of the Bill, but thought that the words " or any of " should be added after the word " all " in the first line of Clause 52 (1) (*b*).

Attention was drawn to the desire of the London County Council to have power to undertake periodical surveys of the health services of the borough councils. The Branch Council were of the opinion that this power should not be granted.

The view was expressed that Clause 75 should be made applicable to London.

It was pointed out that hardship would be involved in the application of the " block grant " system to the maternity and child welfare activities of the metropolitan borough councils, and the Branch Council concurred in this view.

The Hon. Secretary was directed to bring these views of the Branch Council to the notice of the Metropolitan Boroughs' Standing Joint Committee and the metropolitan borough councils.

The attention of the Branch Council was drawn to the growth of the work of the Branch in recent years, and it was accordingly agreed that the Branch Council should meet on alternate Fridays at 3 p.m., the President having the authority to cancel a meeting in the absence of sufficient business. The Hon. Secretary was authorised to incur such additional expenditure in securing clerical assistance as may be necessary.

The Branch Council accepted an offer by the British Association of Refrigeration to arrange a lecture upon the application of refrigeration in the preservation of food. It was agreed that this lecture should be delivered at the April meeting of the Branch.

Visit to Laboratories of Messrs. J. Lyons & Co., Ltd.

A further meeting of the Branch Council was held on January 11th, 1929, at the Laboratories of Messrs. J. Lyons and Company, Limited, Hammersmith Road, W.14, twelve members being present. The President occupied the chair.

Further consideration was given to the proposal that acute rheumatism in children should be made notifiable throughout London, and that rheumatism supervisory centres should be established by the borough councils. The Council expressed unanimous agreement with the view of the county medical officer of health that this question should be deferred until April next, in order that it might be considered in conjunction with the new arrangements which it will be necessary to make when the Local Government Bill becomes law.

It was referred to the Emergency Executive Committee of the Branch to consider and report upon a letter from the Ice Cream Association, in which the co-operation of the Branch is requested in connection with that Association's proposal to issue to its members an emblem denoting (*a*) the adoption of the chemical standard for ice cream set out in the letter from the Association, and (*b*) that the premises and utensils of the dealer have been certified by the local medical officer of health to be satisfactory.

The attention of the Branch Council was drawn to a letter which the Medical Officer of Health of the South-West Kent United Health Area had addressed to the metropolitan medical officers of health, requesting them to recommend their authorities to support the resolution of the Tonbridge and Maidstone Rural District Councils that the Metropolitan Asylums Board should remove all cases of infectious disease occurring amongst persons from London who visit the South-West Kent area during the hop-picking season. The Council of the Branch resolved that this was a matter upon which the Rural District Councils should communicate direct with the Ministry of Health, and directed that this view be communicated to the Medical Officer of Health of the South-West Kent United Health Area.

The Council meeting was followed by a meeting of the Branch, which was attended by twenty-three members.

Before commencing the business upon the agenda, the President introduced to the Branch the Chairman of Messrs. J. Lyons and Company (Major Isidore Salmon), who expressed the pleasure of the Directorate at the visit of the members to the Laboratories. The President also introduced Dr. L. H. Lampitt, Chemist in Charge of the Laboratories.

Dr. A. Middleton Hewat reported that he and Dr. Young had, as requested, considered the arrangements which might be put into operation with a view to securing closer co-operation between midwives and ante-natal clinics. The scheme recently put into operation in Poplar was outlined, and the Branch expressed agreement with the opinion of Dr. Hewat and Dr. Young that a similar scheme should be adopted by each of the metropolitan borough councils. The Hon. Secretary was requested to circulate to the metropolitan borough medical officers of health copies of a form used in Poplar, together with the covering letter issued in that borough with supplies of the form, and to draw attention to the views of the Branch in this matter.

While the meetings were in progress the wives and friends of members were conducted over a section of Cadby Hall, the principal depôt of Messrs. Lyons' vast catering organisation. At the conclusion of the Branch meeting, the whole party, consisting of some ninety persons (including fifty members), proceeded on a tour of inspection of the Company's new laboratories, which are housed in an imposing building situated almost opposite Cadby Hall in Hammersmith Road. The laboratory premises—designed, erected and equipped by the firm's own constructional and engineering departments—consist of seven floors, with a total area of some 35,000 square feet, as compared with 3,000 square feet occupied by the original laboratory at Cadby Hall. The object of the department is defined as "to ensure the purity of the food served," but hand in hand with that object go other important considerations, and the work to-day is classed under the following headings: (*a*) To ensure the chemical and bacteriological purity of all food supplied, either through teashops and restaurants or through wholesale trade; (*b*) to check the efficiency of all processes of food manufacture employed by the firm; and (*c*) to investigate new processes, new machinery and new materials, both raw and finished. It is of interest to note that sections are at work on such diverse subjects as the control of fuel oil and coal; the bacteriological examination of meats and fish; the testing of linen and paper; the control of milk, ice cream and kindred products; the treatment of boiler waters and the corrosion of metals; the baking of flours; the packing of chocolates, and so on. In the course of their tour the visitors also observed work proceeding on food problems of a homely nature, including the selection of potatoes suitable for roasting and for mashing, and those able to provide the best "chips"; and the determination of the consistency of raspberry jam intended for use in Swiss rolls. In addition to these many activities, a large process department, fitted with experimental machinery, effectively bridges the gap between the laboratory experiment and the factory process. Equipment and apparatus of the most modern type are installed throughout the building, while each bench is supplied with water, gas, steam, A.C. and D.C. electricity, compressed air and vacuum. Steam is available at three different pressures—80 lbs. for high temperature work, 25 lbs. for steam ovens and water baths, and 10 lbs. for bench service. Bench lighting is of the "daylight" type. At present some 40,000 samples are examined yearly, while research is said to comprise more than one-third of the work of the establishment.

The President, during the tea interval, conveyed the thanks of the party to Messrs. Lyons for arranging a visit of such exceptional interest. He had learned that out of a staff of ninety-seven members there were nearly thirty chemists who were graduates of some university in this country. The work of the firm's laboratories had shown extraordinary growth, and there was every evidence that the efficiently performed work of the department would constitute a further safeguard to the public health.

Dr. D. L. Thomas (Stepney) supported the vote of thanks, which was accorded heartily.

Mr. W. G. Messenger, M.Sc., A.I.C., Chief Assistant Chemist, in the absence of Dr. Lampitt, the Chief Chemist, made brief acknowledgment on behalf of Messrs. Lyons.

THE NORTH-WESTERN BRANCH.

President: Dr. F. T. H. Wood, O.B.E., M.O.H., Bootle.
Hon. Secretary: Dr. G. W. N. Joseph, M.O.H., Warrington.

A meeting of this Branch was held in Liverpool, on December 14th, 1928, the President occupying the chair. Twelve members were present.

It was resolved that the Branch present a portrait of the late Dr. James Wheatley to the Society.

An interesting address on "Experiences in the Administration of the Sale of Food and Drugs Acts," was given by Mr. W. H. Roberts, M.Sc., F.I.C., Public Analyst, Liverpool. On the proposal of Dr. F. A. Sharpe, seconded by Dr. C. O. Stallybrass, a hearty vote of thanks was accorded to Mr. Roberts for his address, which it is hoped to publish in an early number of PUBLIC HEALTH.

The Annual Dinner of the Branch was held the same evening at the Adelphi Hotel, Liverpool, when owing to the death of Sir Archibald Salvidge, many important guests were unable to attend. Some forty members and guests were present, and among the latter were Mr. J. H. Hayes, M.P. for the Edgehill Division of Liverpool, Professor John Hay, D.L., and Councillor Hanlon, Chairman of the Bootle Health Committee.

Dr. F. T. H. Wood, O.B.E., presided, and after the loyal toast had been honoured, Dr. Veitch Clark proposed that of "The City and Port of Liverpool," paying a tribute to the leading part that Liverpool had always taken in public health administration. Dealing with the probable effect of the Local Government Bill, he referred to the possibility of a greater unity between the neighbouring cities and county authorities, out of which would result a new type of local government in which there would be greater opportunities for progress, especially from the standpoint of public health.

Councillor W. A. Hanlon, replying in the absence of Miss Margaret Beavan, said that he was deeply concerned, as a member of the West Derby Guardians, with the provisions of the new Bill. He was surprised and gratified to find that it would still be possible for local authorities to work as complete entities although absorbed to an extent by the larger authority. If by evolutionary means the boroughs could become so closely attached that for all practical purposes they were one, while at the same time individuality was retained, a great thing would have been accomplished by the measure.

Mr. J. H. Hayes, M.P., proposed the toast of "The North-Western Branch" and gave high praise to the aims of the Society and the work of medical officers.

The President, responding, said that in so far as the Local Government Bill succeeded in unifying the public medical services of the country it would be productive of nothing but good to the health of the community. In his Presidential Address he ventured to forecast what the state of the public health would be twenty years hence, and predicted a considerable increase in the expectation of life and individual fitness. It was his conviction that education in the practice of personal hygiene and in the laws of physiological righteousness was likely to be the most fruitful of public health activities, and that in such educational work the Society and its North-Western Branch would play no small part.

The toast of "Our Guests" was proposed by Dr. T. W. Naylor Barlow, O.B.E., in his own inimitable style, and was ably responded to by Professor John Hay, D.L., President of the Liverpool Medical Institution.

During the evening musical items were

rendered by the Cloister Male Voice Quartette, and an excellent conjuring entertainment was given by Mr. Essler Kessen.

A further meeting of the Branch was held in Manchester on January 11th, 1929, the President occupying the chair. Thirty-three members were present.

Dr. G. G. Wray, Assistant Medical Officer of Health, Lancashire County Council, read an interesting paper on "Small-pox." He mentioned the great increase in the number of cases in recent years in Lancashire, and after describing the classical signs and symptoms of small-pox as given in the text-books, dealt more fully with these in the light of our experience of the disease in its modern milder form. Various details with regard to infectivity, differential diagnosis, the relation to vaccination and the steps to be taken in the control of the disease by sanitary authorities, were also given. At the end of his remarks Dr. Wray showed many excellent and interesting lantern slides, made from actual photographs of cases in the various epidemics, illustrating the points raised.

The paper was supplemented by Dr. R. H. W. Fisher, Lancashire County Council, who advocated a settled plan of examination of cases in the order—distribution of rash, position of rash in the skin, character of individual lesions, evolution and maturation, and history of initial illness.

Dr. A. E. Brindley, in proposing a vote of thanks, pointed out that there was no adequate description of the modern type of disease in any text-book. The close co-operation of the county medical staff with the local medical officer of health was often essential in order to prevent the importation of cases from rural areas into the neighbouring industrial centres.

Dr. W. St. Clair McClure, in seconding, said that secondary cases often did not occur when most expected, and were very liable to occur when least expected. It was desirable that contacts should be kept under observation for at least twenty days, as the incubation period of the present form of small-pox tended to be prolonged from fourteen to sixteen days. With regard to the point that a mild eruption in some cases seemed to have a greater infectivity than some of the more extensive rashes, he thought it was probably due to the fact that the mildly affected were apt to move about more freely in public.

Dr. C. O. Stallybrass gave many interesting instances of cases occurring in Liverpool, and agreed with the previous speakers that the striking distance of the infection was not great and that close contact was necessary to spread the disease.

The President conveyed the vote of thanks, and Dr. Wray briefly replied.

THE HOME COUNTIES BRANCH.

President: Dr. F. T. C. Linton, M.O.H., Tunbridge Wells
Hon. Secretary: Dr. W. A. Muir, M.O.H., Gillingham.

The fourth meeting of the 1928-1929 session of this Branch was held at the house of the Society on January 4th, 1929.

The President occupied the chair, and seventeen members were present. Apologies for absence were received from Drs. Sanders, Buchan, Holroyde, Paterson and Milligan.

As Dr. Tapper was unable, on account of illness, to introduce a discussion on the Local Government Bill, the President called on Dr. McMaster, who dealt in an instructive manner with many sections of interest to medical officers of health. He pointed out the possibility of overlapping under Section 4 as at present appearing in the Bill, and also the difficulty of recovering expenses for the treatment of infectious disease (Section 13). He expressed gratitude at the proposal for a five-yearly census, even though it appeared under the Roads Section of the Bill. Dr. McMaster suggested that registration districts for births and deaths should be synchronous with sanitary areas and that county councils might make arrangements for vaccination, etc., through the public health departments of county districts. He regretted that it had not been found possible to include a clause making superannuation compulsory.

A discussion followed in which Drs. Holden, McIntosh, Muir, Williams and the President took part. At the conclusion, Dr. A. E. Porter proposed a vote of thanks to Dr. McMaster, which was carried by acclamation.

THE TUBERCULOSIS GROUP.

President: Dr. Harold Vallow, Senior T.O., Bradford.
Hon. Secretary: Dr. Ernest Ward, T.O., South Devon.

A meeting of the Group Committee was held at the house of the Society, on January 18th, 1929, Dr. E. Ward occupying the chair. There were also present: Drs. Jessell, Trayer, Crossley, Christopherson, Mayberry, Gordon Smith, and Peter Edwards.

(1) The Council Representative narrated the activities of the Council of the Society and allied bodies.

(*a*) Consideration of the Local Government Bill had provided an opportunity for an endeavour to be made to obtain greater security of tenure for departmental officers. The Committee further discussed the Bill and expressed anxiety lest, under the block grant system, money previously spent on tuberculosis services should be transferred to other departments.

(*b*) Concerning the report of the Private Practice Committee, he considered the original report of this Council's Committee to be too severely worded, but a compromise had been adopted.

(*c*) *Better Health*, the organ of the Central Council for Health Education, had now a circulation of 136,000 copies monthly.

(2) A memorandum on the Improvement of the Tuberculosis Service, which had been previously circulated, was discussed, amended and adopted. The Council Representative was directed to submit this to the Joint Tuberculosis Council, and also to the Council of the Society, and to recommend its publication and that a copy be forwarded to the Ministry of Health.

(3) A letter from Dr. T. R. Elliott, referring to Circular 138, was mentioned, and form IV of 37/T. was also discussed. It was decided to place these on the agenda for fuller discussion at the next meeting.

(4) Friday, May 17th, 1929, at 10.30 a.m., were the date and time arranged for the next meeting of the Committee.

THE MATERNITY AND CHILD WELFARE GROUP.

NORTH-WESTERN SUB-GROUP.

President: Dr. Margaret H. Mackillop, M.O. (M. & C.W.), Manchester.
Hon. Secretary: Dr. J. E. Spence, M.O.H., Eccles.

The first meeting of the winter session of this Sub-Group was held at the Babies' Hospital, Manchester, in October, when Dr. Catherine Chisholm demonstrated a series of cases.

In November, a second clinical meeting was held at the St. Mary's Hospital, when sixteen members and visitors attended. After the company had been entertained at tea by the Matron, Dr. Philip Brentnall, M.C., gave a most interesting paper on "Pelvic Deformities in Midwifery," illustrated by cases of various types.

NORTH-EASTERN SUB-GROUP.

President: Dr. Isabella Lane, M.O. (M. & C.W.), Durham County Council.
Hon. Secretary: Dr. A. F. G. Spinks, M.O. (M. & C.W.), Newcastle-upon-Tyne.

The first meeting of the winter session of this Sub-Group was held at Newcastle-upon-Tyne, on December 12th, 1928, when the President contributed a short address, and Dr. Eustace Thorp, O.B.E., Sunderland, gave a paper on "Infantile Mortality—Sunderland Findings."

A programme of five meetings has so far been arranged by the Hon. Secretary for the current session.

THE SCHOOL MEDICAL SERVICE GROUP.

President: Dr. T. P. Puddicombe, D.S.O., Asst. M.O.H., Essex County Council.
Hon. Secretary: Dr. W. J. M. Slowan, O.B.E., Asst. M.O., London County Council.

A meeting of this Group took place at the house of the Society on November 10th, 1928, six members being present. The chief business was a discussion, in which all took part, on "The Control of Infectious Illness in Schools." The principal speaker was the President, while Dr. J. Graham Forbes, Principal Assistant Medical Officer, London County Council, described the procedure adopted in London.

THE SCHOOL MEDICAL SERVICE GROUP.

LONDON AND HOME COUNTIES SUB-GROUP.

President: Dr. Annie M. Gurney, Asst. M.O.H., Cambridge.
Hon. Secretary: Dr. Dorothy W. Roughton, Asst. M.O.H., London County Council.

At a meeting of this Sub-Group, held at the house of the Society, on November 30th, 1928, the President and Hon. Secretary were re-elected for the ensuing session.

Dr. J. Maxwell Taylor, School Medical Inspector, Reading, read a paper on "The Teaching of Hygiene to School Children," and an interesting discussion followed.

The next meeting of the Sub-Group was arranged for a Friday evening at the end of February, 1929.

The Literature of Preventive Medicine.

EPIDEMIOLOGY OLD AND NEW. By Sir WILLIAM HAMER, M.A., M.D., F.R.C.P.; Vice-President, Epidemiological Section, Royal Society of Medicine; formerly Medical Officer of Health, London County Council. London: Kegan Paul, Trench, Trubner & Co., Ltd., 1928. pp. 180. Price 9s. net.

Back to Hippocrates? Or is it back to Sydenham or perhaps to common-sense? There is nothing new under the sun, and when newspapers invent new diseases the scientist stands apart, amazed at their journalistic impudence. To invent a new disease is in the capacity only of the uneducated, just as in the old days a new ghost or piece of magic could be invented to amuse or shock the expectant public by a witch man whose popularity was on the wane.

The great problem of the modern epidemiologist is that of influenza and its various and protean manifestations. All the so-called new diseases of our own times have been "influenzal," and, far from being new, they have been the subject of comment in early days, from Hippocrates downwards. Sir William Hamer, in his latest and most erudite book, deplores the inventions of new diseases which, after all, suit only the ignorance of the physician who has neither experienced nor read about the occurrence of their influence fifteen or fifty years age.

But what is influenza? We know now that it is due to a filterable and invisible virus, and that the bacilli and streptococci of other associated organisms are merely by-products of the disease. It is the basis of much infection. Its coming and its going determines the "epidemic constitution" of each year. Is this to be a period of scarlet fever, of poliomyelitis, of encephalitis, of pneumonia, of cerebro-spinal meningitis, of diphtheria and typhus—of anything you may care to consider? Is this to be an influenzal year; and if so, what form will the influenza take?

Every epidemiologist worth the name will read Sir William Hamer's book, and each may perhaps regret the failure in the reproduction of some of the charts, although all will welcome the letterpress as a forward step in the search for truth and clear thinking.

This volume is, moreover, remarkable because it is the first of a series of books by French and English authors, in which each book will appear in both languages. No doubt all the French hygienists will have had their copies by now, and it is to be hoped that every English epidemiologist will hasten to possess the book.

PUBLIC HEALTH AND HYGIENE. By WILLIAM HALLOCK PARK, M.D., Professor of Bacteriology and Hygiene, University and Bellevue Hospital Medical College, and Director, Bureau of Laboratories, Department of Health, New York City. Philadelphia: Lea and Febiger, 1928. pp. 902. Price 9 dols. net.

Edited by Dr. Park, of New York, whose name and work as a bacteriologist are so well known in this country, this volume contains contributions on the main aspects of public health, hygiene and preventive medicine by American specialists.

In general, for reasons into which it is not necessary to enter, text-books consisting of sections from different pens do not appeal, but in the case of the present volume, in this country particularly, the chief attraction should be that it affords the opportunity of seeing the mind of an American authority on each particular subject. The list of contributors is long, and the names of many are familiar to members of the public health service here; Prof. Winslow, Dr. Josephine Baker, Dr. Bolduan, Dr. Fisk and Dr. Albert Pfeiffer, for example, are known to many English workers, if not personally, at least through their writings. Dr. Park himself is, of course, accepted in this country, as in the United States, as one of the makers of modern preventive medicine. This book, which bears his name, contains a number of articles from his pen written in the manner of a master and authoritatively. In all there are some nine or ten of these, and in them he has managed to discuss most of the infectious diseases, their epidemiology and prevention, including even reference to disinfectants and their practical use in this latter connection. The subject of food is dealt with fully and attractively in the volume, Drs. Dunham and Sherman being responsible for this. With air and ventilation Prof. Winslow deals most thoroughly, and there are also interesting articles on water supplies, sewage treatment and such like sanitary matters from writers

obviously capable of discussing these subjects and expressing authoritative opinions with regard to them.

More interesting and probably more important articles, so far as English practitioners of preventive medicine are concerned, are those discussing problems more recently brought into the field of public hygiene—mental hygiene; social hygiene and the control of venereal diseases; and of cancer, for example. To the discussion of these considerable space is given, and those selected to provide the contributions, Drs. Robinson and Goddard on the first, Drs. Pfeiffer and Marsh on the second, and Dr. Soper on the last, have supplied information and guidance certain to prove useful.

This book of Dr. Park is definitely an achievement and a most valuable addition to the general store of literature relating to preventive medicine. As such it deserves the highest commendation and the strongest possible recommendation to all who practise or seek to practise this speciality in any of its branches.

PUBLIC HEALTH LABORATORY PRACTICE. By A. D. STEWART, M.B., F.R.C.S.E., D.P.H., D.T.M. & H., Lieut.-Colonel, I.M.S., Professor of Hygiene, Calcutta School of Tropical Medicine and Hygiene, late Director of the Bengal Public Health Laboratory and Public Analyst to the Government of Bengal; and T. CRAWFORD BOYD, F.R.C.S.I., D.P.H., F.I.C., Major, I.MS., Chemical Examiner to the Government of Bengal, Professor of Chemistry, Medical College, Calcutta. Humphrey Milford, Oxford University Press, 1928. pp. 306. Price 12s. 6d. net.

In the words of the authors in their preface, this manual is written "to provide the public health worker, both during his D.P.H. course and afterwards in his practice, with a book wherein he will find readily to his hand most of the methods of practical analysis which he will likely be required to undertake." It may be said at once that this claim, couched though it be in somewhat unorthodox grammatical form, is true in all its main essentials.

The book is written clearly and to the point by two workers who are evidently practical analysts. It is a work dealing with a technical subject in a very direct, though possibly not scholarly, way. Directions for the carrying out of experiments are remarkably clear, and the methods selected are sound. The portion dealing with P_H values is particularly well done. It is an excellent work for the beginner or for one somewhat deficient in experience, but a word of warning would be valuable in several places as to the pitfalls likely to be met with; especially is this the case in the portions dealing with points of a toxicological nature, where the greatest care is necessary.

One or two minor criticisms are permissible, such as the writing of Ph instead of the usually accepted P_H. Otherwise the work can be recommended unreservedly, particularly for those holding positions in India. For such, much of the information has a special value.

HOUSES PLANNED FOR COMFORT. By G. GORDON SAMSON, Architect. London: Crosby Lockwood & Son, 1928. pp. 191, illustrated. Price 8s. 6d. net.

In this book the author takes as his main theme the comfort and accommodation of the aged or sick in the ordinary dwelling-house. To some extent he is breaking new ground, and is probably justified, for there is a good deal in his contention that, in planning a house that will conduce to the comfort and convenience of sick or aged people, the architect is, by that very act, planning the house that will tend to keep those who inhabit it in good health; reduce sickness to a minimum, and ward off as long as possible the infirmities of old age.

There are many good points in the book, and if at times the counsel offered reaches the degree of perfection, most of the suggestions are practicable and evidently the product of ripe experience.

Much of Mr. Samson's work has been carried out on the Continent, a fact which, quite apart from his own admission, is evidenced by his advocacy, at considerable length, of the "tiny toilette or water closet" in direct communication with the bedroom. His enthusiasm for this convenience is not easy of assimilation by orthodox practitioners in this country, to whom such an arrangement appears to be open to at least as many "cons" as "pros." In any case, the arrangement is one which under most of the by-laws in force in large residential districts is prohibited. If, however, this part of the author's foreign practice fails to impress us, it is another story when he deals with devices for making the most of such sunshine as is

vouchsafed to us here. His plea for the "sun-trap" will carry conviction, and, as he clearly shows, the ease with which it may be provided excites wonder that such arrangements are still so exceptional a feature in the run of English homes. To this and many other really important subjects the author has obviously given considerable thought. Architects and laymen alike may study the book with profit.

MESCAL. The "Divine" Plant and its Psychological Effects. By HEINRICH KLUVER, Ph.D., Columbia University. THE TROUBLED CONSCIENCE AND THE INSANE MIND. By CHARLES BLONDEL, Professor of Psychology, University of Strasbourg. MIRROR-WRITING. By MACDONALD CRITCHLEY, M.D., M.R.C.P., Registrar, National Hospital, Queen Square. London: Kegan Paul, Trench, Trubner and Co., Ltd., 1928. Price 2s. 6d. net each volume.

These three new volumes in the Psyche Miniatures Medical Series are no less attractive than predecessors in the series which have been referred to in these pages. Though their appeal may perhaps be less to workers on the preventive side of medicine than to such as are engaged in the other parts of the medical field, even to the health officer they are not without interest and may be found to provide attractive, if not fascinating, reading.

MODERN PUBLIC CLEANSING PRACTICE. By A. L. THOMSON, M.Inst.M. & C.E., M.R.S.I., Cleansing Superintendent, Motherwell and Wishaw Burgh Council. London: The Sanitary Publishing Co., Ltd., 1928. pp. 260. Price 10s. 6d. net.

The purposes of this volume, according to the preface, are "to elucidate the why and wherefore of cleansing organisation and practice, to tell the story of their evolution, to bring together reliable data, and to examine constructively some of the vexed problems of the work." That there is a necessity for the elucidation and the bringing together of reliable data, and that there is a large public on whose behalf elucidation and collection of data are necessary, cannot be doubted.

The fact that the author of this volume is himself engaged in the practice of public cleansing is one reason for regarding him as fitted to collect the data and elucidate the position. That he was well fitted is evidenced in the volume itself, which contains a wealth of information on every aspect of the subject, not only attractively set out, but painstakingly arranged in order that it may be understood and grasped.

The book is interestingly written and particularly well illustrated. It may be recommended with confidence to members of the public health service.

PRACTICAL CHIROPODY. By E. G. V. RUNTING, F.I.S.Ch., First President, Incorporated Society of Chiropodists. London: Faber and Gwyer, Ltd., 1928. pp. 200. Price 5s. net.

The first edition of this work appeared in 1925, the second in 1926. On this alone it may be accepted that there was need and demand for a treatise on the subject of chiropody. How much of the demand came from practitioners of preventive medicine, concerned as they are or should be with personal hygiene in all its aspects, it would be difficult to say. Having regard to the importance of the well-being of the feet, their share should have been large. That it might be larger there can be no question, again because of the importance of healthy feet in relation to the general health and comfort of the body. The book itself deserves the demand that there has been and that there will continue to be. It is practical, suggestive and helpful. Apart from the fact that it treats of a subject to which, comparatively speaking, the health worker has given little attention, it is pleasantly written and makes interesting reading. A worth-while book on a subject eminently worth while to the hygienist, it is without hesitation recommended.

COLLECTED ADDRESSES AND LABORATORY STUDIES —LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE. Vol. IV., 1927-28. Compiled by Professor R. T. LEIPER, F.R.S.

This volume, the fourth of the series, contains reprints of papers published by the staff of the School during the academic year ending July 31st, 1928, and includes Addresses by the Director (Dr. Andrew Balfour) on "The Education of Medical Officers for Service in the Tropics"; "Helpers in Hygiene"; and "Health Lessons from Bermuda."

In the Annual Reports.

Annual reports can be roughly classified as surveys or obituaries. The first kind not only tells what has been accomplished and how, but compares results so that those things which are lacking or poorly done are emphasized sharply by contrast. Such a report stimulates to greater and better work in the future. The second kind recites in a eulogistic but monotonous way the deeds of the past and serves merely as a record, which is consulted only if the occasion demands. In one sense an annual report should be like the record of a periodic health examination—designed to show up defects and to point out methods of prevention and cure.—*Health News, the Weekly Bulletin of the New York State Department of Health.*

DANGERS FROM THE CARELESS USE OF GAS.—A common source of trouble at the present time is the custom of fixing gas cookers in unsuitable positions Cases are known where these have been fixed on landings. These cookers, although provided at the back or side with an opening for the purpose, are *seldom* ventilated to the outside air. Very frequently indeed the cleanliness of the gas cookers is not considered by the householder. At one time—in pre-war days—the gas company would change a hired gas cooker, and there was a means of getting a clean one for a dirty one, but this opportunity has now ceased. Apart from the danger of a tap being left slightly on, the want of ventilation of even a gas cooker makes an appreciable difference in the purity of the air in an apartment. An even greater danger, which needs all the emphasis it is possible to give, is the lack of knowledge of the precautions necessary in using a geyser or water heater. In these appliances, in which the burning, or rather the attempted burning, of any gaseous mixture containing carbon takes place, there may be an imperfect oxidisation and formation of carbon monoxide. The danger ever present in such highly efficient water apparatus as geysers can apparently *never* be overcome with certainty, even by arrangements intended to lead the products of combustion outside the building, an absolutely necessary precaution. The very small bathrooms now provided in flats certainly add to the danger of poisoning. This danger can be very much reduced if people using geysers and water heaters for hot baths would (1) open the window a little at the top and leave the door wide open while the water is heating; (2) undress in their bedrooms, and on entering the bathroom turn out the gas before starting to bathe; and (3) hang on the door a notice to say "occupied" rather than bolt the door.—*Dr. G. Clark Trotter, Islington.*

THE ERADICATION OF BOVINE TUBERCULOSIS.—I have never thought that either milk sampling or systematic veterinary inspection can eradicate bovine tuberculosis, and I am more convinced of it than ever unless every animal is tuberculin tested and those giving a positive reaction segregated as in the method employed by Bang in Denmark. The only other solution would appear to be that of immunising cattle against the tubercle bacillus, but unfortunately no effective immunising agent is yet known to us.—*Dr. W. M. Ash, Derbyshire County Council.*

Correspondence.

The Editor does not accept responsibility for the opinions of correspondents.

THE TOXICITY OF COD LIVER OIL.

To the Editor of PUBLIC HEALTH.

SIR,—Owing to the limited circulation of the Scandinavian scientific periodicals, some of the results of our investigators are liable to pass unnoticed abroad and, as a general rule, the world at large need hardly be pitied too much on account of this fact. Professor Agdur's work, however, on the toxicity of cod liver oil appears to me to be a very able and conscientiously conducted study with a direct bearing on practical conditions which, I think, we can hardly afford to overlook. I append a short review of his general conclusions, together with literary references in case you should be interested in the matter and find it worthy of space in your columns.

For centuries cod liver oil has been used as a house remedy amongst the fishermen population of Norway. About a hundred years ago the oil was introduced for medical purposes in different European countries, and the increased demand soon gave birth to a prosperous industry, supplying a refined oil of great purity.

As earlier investigations had failed to detect any properties of specific therapeutic action, it was recommended by pharmacologists as an easily digested food substance of high nutritive value.

With the vitamin era and the discovery that cod-liver oil was especially rich in vitamins D (the antirachitic principle) and A, the preparation has enjoyed a boom and is now being looked upon almost as a panacea against all kinds of debilitating conditions.

Not the least eager to employ and recommend the oil have been public health officers, and great quantities have been distributed by tuberculosis dispensaries and child welfare centres. In innumerable health talks the general public has been informed of its miraculous qualities, and in order effectually to bring home the point, the alluring phrase of "bottled sunshine" has been coined.

Myself I have fallen an easy victim to this

vogue, and organised the dispensing of oil amongst fragile school children in my district. This being the case, my discomfort at the remarkable discovery by Professor Erik Agdur, of Uppsala, Sweden, of a toxic principle in the oil, can easily be imagined. Agdur's admirable investigations have been published in English in the *Acta Paediatrica Scandinavia*, Vol. V, Fasc. 3-4, Vol. VI, Fasc. 2, and Vol. VII. Fasc. 3-4. In his first paper, Agdur draws attention to an article by Mellanby, published in the *British Medical Journal* on May 24th, 1924, bearing upon the point and containing, amongst other things, the following statement: "Care must be taken in giving the cod liver oil, as both children and adults can be easily upset when the doses are too large. I seldom give more than two drachms thrice daily to any patient. Larger doses may well be taken by some adults but even so they will sometimes develop tachycardia and cardiac discomfort."

My object in reporting on Professor Agdur's paper is to draw the attention of readers of PUBLIC HEALTH to the fact that cod liver oil has been shown to be capable of producing definite toxic effects, especially on parenchymatous organs.

Its action has been studied in a series of different animals—calves, pigs, cats, dogs and rodents—and has been found to be fairly uniform. Typical macroscopic and, in particular, microscopic changes were noted in the digestive tract, the parenchymatous organs and the sceletal system. The most obvious alterations were found in the heart muscle, where fatty and pigmentary degenerations as well as lime incrustations were observed. The pathological changes in some cases have been shown to heal when the administration of oil was discontinued, but the graver lesions seem to have a progredient tendency and lead to extensive degenerations in spite of discontinuation. By electro-cardiograms, Agdur and Stenström were also able to show functional disturbances of the heart action due to lesions of the auriculo-ventricular bundle. Naturally, the observations on man so far have been few. In one of his Swedish papers, Agdur, however, describes typical changes of the heart muscle in two prematurely born infants, who had been given cod liver oil as a prophylactic against rickets.

The severity of the lesions has been shown to be directly related to the amount of oil given, and Agdur explicitly states that distinct changes are produced even by the cautious doses recommended by Mellanby, when the administration is continued for months. Most disquieting is the observation that the experimental animals gain weight and appear to be healthy in spite of severe organic lesions, found only at the autopsy. This insidious circumstance might well explain that the bad effects have so far passed unnoticed, but it might be possible that we owe some of our increasing numbers of heart failures in later life to our own well-intentioned endeavours to prevent and cure rickets by too large doses of cod liver oil.

The practical conclusion of the recent investigations referred to seem to be that cod liver oil, while an excellent source of vitamins A and D, should be discarded as a nutrient. A dose of a teaspoonful a day or a tablespoonful a week ought to be ample for supplying the necessary amount of vitamin, but on no account should the doses recommended in current pharmacological textbooks be given during any considerable length of time.

I am, Yours faithfully,
ROLF HALLGREN,
Hälleviksstrand, *District Medical Officer.*
Sweden.
December 19th, 1928.

[*Dr. Hallgren will be remembered by a number of the Members of the Society as one who participated in the League of Nations Interchange of* 1927. *It gives great pleasure to publish this letter of his, not merely in order that it may serve to convey a message to his many friends in the Society, but also on account of the intrinsic value of its contents.*—ED., *P.H.*]

THE will of Dr. Joseph Priestley, medical officer of health for Lambeth for thirty-two years, has been proved for £4,208.

ON his retirement, after 46 years' service as medical officer of health of Renfrew, Dr. W. G. Stevens has been presented with an address of thanks and a handsome cheque.

AT the last meeting of the Senate of London University the degree of doctor of science was conferred on Dr. Major Greenwood, F.R.S., professor of epidemiology and vital statistics in the University, for a thesis on the laws of mortality from a biological point of view.

PUBLIC HEALTH

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Editorial.

Health Service Propaganda.

IN all the conversations and conferences that are taking place with a view to obtaining acceptance of the salaries scale by local authorities it is not easy to escape the feeling that at the root of much of the difficulty is ignorance on the part of local authorities generally, and conceivably also of some of the non-medical officers of local authorities, of the quality of the individuals who make up the public health service. To a large extent it cannot be doubted that this is the fault of the service itself, which has taken no really definite steps to educate, nor properly made use of all the opportunities of informing, the local authorities on this point. Recognising itself as a body concerned in propaganda, the service has devoted its efforts in this connection to education of the public for the public's own benefit. The time has more than arrived for recognising that there is a necessity for teaching not exclusively by us, but of us. Some of the energy which is employed in relation to education might very well be used in the interests of our own body, and be directed to bringing about a recognition on the part of members of local authorities of what the service is and what its members are.

Some years ago the practice was initiated of holding certain Council and ordinary meetings of the Society in provincial centres of importance, partly with the object of giving members of the Society who could not conveniently come

to the metropolis an opportunity of taking part in the proceedings of such meetings, but to a very large extent also with the object of bringing home the existence of the Society to local government bodies in areas outside London. Meetings of this kind were held in, amongst other places, Manchester, Glasgow and Bath, and no one who participated could fail to be impressed by the reception accorded to the Society, and by the evidence revealed in public and private statements that there was ignorance not only of the existence of the Society but as to the grade of the individuals who belonged to it. Unfortunately, during the last year or so, the practice of holding such meetings appears to have been more or less dropped, and in the present session, for example, although it has been determined to hold one provinical meeting, the venue has not even now been decided. All this means that important opportunities for propaganda have been lost and may mean also, if the years are allowed to pass, the losing sight of the real reason why the practice was originally established.

At the moment there is practically only one Group of the Society upon which reliance is being placed for the doing of publicity work amongst local authorities, and this is one of the youngest Groups, and one, moreover, which is very largely composed of individuals who, since they give only part-time to the work, are not wholly within the service. In all probability it is unnecessary to say that the Group to which reference is made is that of Maternity and Child Welfare, whose announcements occupy a large space on every agenda paper of the ordinary meetings of the Society. On that relating to the February meeting the announcement occupies over a third of the space devoted to notices of meetings, and has reference to a *provincial* meeting of the Group at Manchester, the programme containing a number of items designed to bring considerable publicity to the Group and incidentally to the Society, and indicating—since there is reference to a reception by no less a person than the Lord Mayor of Manchester—that there is recognition of the importance both of the occasion and of the body. Of the enterprise of this Group it is impossible to speak too warmly. For the Society as a whole it is impossible to praise too highly those constituting the Group for the valuable work they are doing on behalf of the entire health service. That the Society may be worthily represented at the Group provincial meeting may be hoped, and the only feeling of regret that may arise is that in the announcement of the meeting there is no statement to the effect that members of the Council of the Society—even the President himself—are to be present. Capable as the Maternity and Child Welfare Group may be of shouldering the responsibility for the whole body, and safe as it may be to leave it to them, neither the Society nor any of the other Groups or Branches should be content to accept such a situation. At the earliest possible moment there should be the fullest recognition by the Society of the necessity for and the advantages of propaganda amongst the local authorities, and that there is no better way of obtaining it than by means of meetings advertised as of the whole Society in areas of different types throughout the country.

Groups perhaps more than Branches should recognise this also. One of these in respect of which the greatest amount of education seems to be necessary is the School Medical Service Group, around whose members a great part of the fighting with regard to salaries appears to be waged. That there is such a Group within the Society should be very much more widely known than is the case at present. That the members of the Group are engaged in one of the most important branches of the public health service, and that they are and must be, highly qualified in the professional and other senses, seems hardly to be grasped at all. The necessity for publicity in their case is intense, and while the Council of the Society may be urged to re-establish the practice of holding provincial meetings as soon as possible for the general good, the School Medical Service and other Groups may also be urged to take a leaf out of the book of the Maternity and Child Welfare Group, and to imitate it and the publicity methods to which it gives so much thought.

* * * * *

The Nursing Homes (Registration) Act.

ELSEWHERE in this issue will be found a detailed report of a discussion, which recently took place at a meeting of the Society, on the important subject of the inspection and registration of nursing homes under the Nursing Homes (Registration) Act, 1927.

There can be no possible doubt that a measure of this nature was urgently called for, and many of the evils which it is intended to abolish were outlined in the Report of the Select Committee on Nursing Homes (Registration), 1926. One of the points particularly dealt with in that report concerned the small home for the senile infirm patient and it is this type of home that presents one of the difficulties met with in practice—a difficulty not lessened by the inadequacy of certain of the definitions contained in the Act. In this regard the Select Committee stated :—" It is clear that any institution that may properly be called a nursing home must habitually cater for patients who, in some degree, are incapable of looking after themselves." By ' infirmity ' the Select Committee contemplated any bodily or mental infirmity. They stated that they had evidence of the existence of homes that combined ' the taking in of patients with the letting of rooms to lodgers.' On the question of complaints of neglect of patients they stated that " owing to insufficiency or lack of qualification in the staff, patients, particularly of the senile chronic type, are stated to be left entirely to administer to their own wants, although often quite incapable of doing so," and the Select Committee were impressed with the urgent need for registration and supervision in the class of nursing home that catered for the ' poor senile chronic.'

There would appear to be three matters in connection with nursing homes which are the subject of discussion among the lay public : first, the apparent exorbitance of the fees charged ; secondly, the employment of untrained nurses, and thirdly, the nature and quality of the food supplied. Fees, of course, vary enormously from the small home charging two guineas per week, to the splendidly appointed home charging twenty guineas per week. In this connection more than one of the speakers pointed out in the discussion that the same service cannot be given or expected at such widely varying fees. This in itself has proved one of the difficulties of administering the Act. It is almost impossible to arrive at any one definite standard applicable to all kinds of homes. In matters of nursing, food, equipment or accommodation, there must be variations, and every case must be treated on its merits. It is desirable, however, and it is appropriate that a local authority should endeavour to arrive at some minimum standard below which no nursing home should fall, particularly in such matters as staffing, accommodation and equipment. To this those responsible for the conduct of nursing homes could not object, and, indeed, one of the contributors to the symposium, herself the matron of a nursing home, raised no protest against the Act, or those administering it, on this ground. On the contrary, it appeared to be accepted that every home should either be managed by a trained and certificated nurse, or the nursing in the home should be under the supervision of such a nurse, with exception in the case of the small home for infirm seniles, which can be quite efficiently conducted by an intelligent person with some nursing experience, subject to efficient inspection and supervision.

The discussion at the meeting referred to, centred largely around the difficulties associated with the administration of the Act, and it appeared that in certain areas the difficulties, real or imaginary, had clogged the action of the local authority to such an extent that little had been done beyond the bare grant of registration to almost any home which cared to apply. It is to be hoped, that, as a result of the discussion, some fuller and more appropriate action may now be taken. In particular, the remarks of Dr. Hewat, who spoke out of the considerable experience acquired as a result of inaugurating the work under the Act in the metropolis, may prove helpful to those who hesitate to take advantage of the powers conferred upon local authorities by the Act. It may be taken for granted that an authority of the importance of the London County Council does not take specific action in matters of this character unless fortified by the opinion of its legal, in addition to its medical, advisers. Most of the problems which arise in practice are dealt with in one or other of the papers in this number—all of them extremely practical and most informative.

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Eggs and Plumbers.

OUTSTANDINGLY at the moment the concern of a large section of the Press appears to be with eggs and plumbers. Of the former the writing is of an unrestrained enthusiasm. Of the latter the note struck echoes of everything that is respectful and conciliatory. Behind the egg, of course, there is business—possibly even big business with big business men, complete with secretaries, strength and silence, conferences and luncheon engagements. Behind the plumber there is fear of the whip in his hand, and the reasons, in the shape of jests of the mother-in-law and bloater variety, that have been given to him for using it. The

boosting of the British egg now in progress, backed by song and story, coincides in a curious kind of way with the coming into operation of a variety of provisions affecting the importation of eggs and their storage, grading and marking—matters to which the health officer will be required to give some attention, making himself familiar with grade designations, weights and what not of the product of the hen and the duck of England and Wales (" Empire Buying Begins at Home ") as set out in the Agricultural Produce (Grading and Marking) (Eggs) Regulations, 1928, and the marking of imported eggs with an indication of origin as prescribed in the Merchandise Marks (Imported Goods) No. 5 Order, 1928.

With the more respectful tone adopted in regard to the plumber and his craft, the health service must be in entire sympathy, and that not merely because of his temporary appearance in the rôle of saviour of the home and the householder's reason, but because of the part he plays in relation to sanitation and in the field of environmental hygiene. With the arising, within the sphere of the medical officer of health, of new and more definitely medical activities, mere sanitation and matters of environment have, perforce, come to assume a position considerably less prominent than was formerly the case. In the ranks of the medical health officer, at any rate, this is so. Curiously, however, it is difficult to induce those outside these ranks to accept as proper the relegation to the background of matters of the sanitary sort that mean so much in relation to the comfort and convenience of life. To the ratepayers in general these are health matters, and the health officer is and must be concerned with them. Definitely this is the view of the plumbing craft, which feels that it was called into being, or better, perhaps, caused to adopt its present-day incarnation, by the health service. In effect, the medical officer of health is the father and mother of modern plumbing, and the strength of the adherence of Mrs. Micawber to her lord was as nothing compared with that holding the plumber to his parent. The belief of the craft in the medical side of the health service as the chief in importance in this regard, and its desire to maintain association with it, is manifested in a multitude of ways. No special organisation set up within the body of the trade for its advancement is complete without representation from our Society. On the bodies dealing with apprenticeship and registration, for example—both concerned to ensure that the work of sanitation shall be carried out by well-trained, experienced and reliable men—the Society for long has been represented, and the Plumbers' Company itself has always delighted to honour the service, finding places for many medical officers of health at its board—one of the highest for the President of the Society. The acceptance by the Society of the prominence given by the craft organisations means that, though changes and developments may have necessitated alterations in values and perspectives, the feeling persists that sanitation has such a place that touch must be maintained with those concerned in it, and that there is need for the continued rendering of help, encouragement and support. So far as regards the plumber there is serious need of support and, wherever and whenever possible, stressing of the importance of his work from the health point of view. Presently the fact that he was the only living soul capable of bringing succour when the pipes and the boilers were freezing and bursting all around will be forgotten, and the insulting campaign of witticisms will begin again. The damage done by these things is incalculable; belittling the members of a calling, they tend to prevent individuals of the right type from taking up the work on account of fear of ridicule. Belittling the work, they belittle the importance of the work from all points of view. Since one of these points of view is that of health, and the medical officer of health is to an extent a guarantor of the plumber and plumbing, the matter is one of real concern for that officer. In every way possible he should, individually and in his corporate capacity through the Society, make clear his dislike of ridicule of a craftsman who is definitely a contributor to the health service of the community, and should make available occasions for indicating the recognition and support he has given to the craft.

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Milk Clubs in Schools.

THE National Milk Publicity Council, impressed as are so many others by the results obtained by Dr. Corry Mann and the Scottish Board of Health in the milk feeding experiments on school children, have given much consideration to the possibility of devising a scheme whereby the advantages might be extended to all children attending school. The difficulty in general is that the supply of milk in the schools has been found to entail certain additional work on the part of the teachers, as it has devolved on them to measure out and give to the children the pennyworth of milk. With the object of avoiding this drawback, the Council suggest the formation of a milk club in every school, the members of which should bring to their teachers one penny per day for each school day. With the assistance of the dairymen the Council have been able to make satisfactory arrangements by which, for one penny, each child shall receive a bottle containing one-third of a pint of milk, sealed and supplied with a straw so that the milk may be consumed slowly. The dairymen will deliver these bottles day by day in the numbers required, and will collect the empty bottles which will then be washed and sterilised in the usual way. In every case where milk is supplied under this scheme, the National Milk Publicity Council will ask the medical officer of health to approve of the source of supply. This, it is believed, will obviate the objections to a school milk service, and make it possible for all school children to become members of a milk club, and so to improve their physical condition and capacity for benefiting from the instruction they receive.

This scheme, it is interesting to note, has been in operation in certain schools in Birmingham and in Liverpool. Teachers and medical officers report that the children have benefited considerably, both physically and mentally, and that the scheme interferes very little, if at all, with school routine.

Further information may be obtained from the headquarters of the National Milk Publicity Council (Inc.), at 33, Gordon Square, London, W.C.1.

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The Purification of the Mussel.

THE report on this subject* running to some 500 pages, with fifteen plates, nine figures and three maps, is much more comprehensive than its title suggests. It is rather a curious mixture of highly technical matters, semi-popular discussions and detailed scientific investigations. This makes it somewhat difficult to read, but with a little preliminary study of the very complete statement of contents it is easy to find the exact points wanted. The volume is, however, so full of good matter that it well repays very careful study. Indeed, an outstanding feature is that the reader is constantly coming across most interesting discussions and practical experimental evidence in regard to small points which really are of fundamental importance to the subject. For example, the effect of various minute quantities of free chlorine upon the " functioning " of the mussel is discussed in detail, and is fascinating as well as important. Nothing is too large or too small for the author to discuss, if it bears upon his subject, and one feels that much of it must have been a joy to write.

The first part deals with the sources of shell-fish pollution, the diseases caused and their experimental relationship to the consumption of mussels. Nothing very new, but very clearly expressed, while many interesting points are brought out. For instance, what may be termed the conservation of contamination by shell-fish is forcibly expressed in the remark that mussels within twenty-four hours filter out " *all* the suspended matter, including, of course, bacteria, from a volume of water at least 4,500 to 5,000 times their own bulk." The practicability and impracticability of all possible preventive measures are discussed, and in several of these—for example, the inability of ordinary sewage purification methods to remove harmful bacteria—the author expends much space flogging a dead horse.

In Part II, which is the most important part of the Report, the author leaves the discussion of pollution problems, and gives a clear and interesting account of his investigations into practical methods of mussel purification and exactly how it is to be carried out. This, in brief, consists of the following sequence: hosing the mussels, a bath of sterile sea water for at least one night, draining off the water and flushing with sterile sea water, a second bath of sterile sea water, draining off the water and flushing, a third bath for one hour, but this time with water containing three parts of chlorine per million parts of water (to kill any bacteria on the shells), draining and placing the mussels in sterilised bags for market. The method is based upon the fact that mussels under natural conditions in sea water will discharge all bacteria and other fæcal matters from their intestines in pellets or threads of

* REPORT ON MUSSEL PURIFICATION. Being an Account of the Establishment of a System of Purification of Polluted Mussels; of the Experimental Work upon which it is based; and of certain General Considerations and Suggestions regarding the Sewage Pollution of Shellfish in its Public Health Aspect. By R. W. Dodgson, M.D. (Lond.) M.R.C.P. (Lond.), M.R.C.S. (Eng.), Director of the Ministry's Shellfish Research Station, Conway. Ministry of Agriculture and Fisheries Fishery Investigations. Series II. Vol x, No. 1, 1928. H.M. Stationery Office, 1928. pp. 498, illustrated. Price, £1 1s. 0d. net.

mucus which sink and are removed when the tanks are flushed out. The efficiency of the method has been established by a long series of bacteriological examinations.

This rather bald description does an injustice to the author because the detailed report illustrates in a peculiarly interesting fashion that this essentially simple method of purification was only reached, and could only be reached by a very detailed study of the physiology and habits of the mussel. The process is the result of an intelligent appreciation of bacteriological and chemical studies applied in relation to the physiology of a living animal—the mussel purifies itself under expert guidance.

It is pointed out that any system adopted must give real safety, be simple in operation and be economically practicable. Having dealt with the first two the economics of the process are discussed in detail, and the conclusion is reached that "purification can, under present conditions, be applied on an economic basis to the bulk of the mussel output of the fisheries of England and Wales."

Space will not permit consideration of many other features of this report, but they include an excellent account of the different types of mussel poisoning, bacteriological methods of examination of shellfish, bacteriological standards of purity for shell-fish, and a description of the topography of a number of mussel-bearing areas.

Dr. Dodgson is to be congratulated both upon the simple and reliable method of purification which he has evolved, and upon the excellent report which he has written round this method and the whole subject of shell-fish purification. Everyone interested in shell-fish pollution will find that this report will repay detailed study.

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Regulations for Food Handlers.

FROM time to time the question of making regulations with regard to food handlers has been raised in this country, and the following draft, issued by the New York State Department of Health to municipalities asking [illegible] advice on the matter, is of interest in this connection.—

1. The term "proprietor" as used in this section shall apply to any individual, association, firm, or corporation engaged in the business of providing food to be used for human consumption.

2. No proprietor shall employ in the handling of food which is to be used without subsequent cooking, a person known to be harbouring the germs of typhoid fever or other disease which may be communicated through food.

3. All persons who handle food to be used without subsequent cooking shall submit to such physical examination or furnish such specimens of bodily discharges for laboratory examination as the health officer may require for the purpose of determining freedom from the germs of communicable disease. No proprietor shall continue to employ in the handling of such food any person who refuses to submit to such examination or furnish such specimens.

4. Adequate facilities for washing the hands shall be located conveniently to every toilet in every establishment handling food for human consumption. In every such toilet there shall be posted conspicuously an easily legible sign which shall read as follows: "Wash your hands with soap and water immediately after using the toilet."

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Obituary.

ON February 20th, 1929, there occurred in Manchester, from pneumonia, the most unexpected and untimely death, at the age of forty-nine years, of Dr. John Logan Stewart, Consultant Tuberculosis Officer to the Lancashire County Council. Dr. Stewart graduated M.B., Ch.B. at Glasgow in 1905, and was a D.P.H. of Cambridge. He entered the service of the Lancashire County Council as Medical Inspector of Schools in 1909, and in July, 1913, was appointed Consultant Tuberculosis Officer for the south-east portion of the County. Dr. Stewart was the first member of the tuberculosis medical staff of the Lancashire County Council to undertake X-ray work, and this work he developed to the highest degree of efficiency. He was also a pioneer in the treatment of tuberculosis by artificial light, and was amongst the first to demonstrate its value in the treatment of lupus and adenitis with abscess formation and skin involvement. In the past twelve months Dr. Stewart had devoted much time to the question of tuberculosis and silicosis, and at the time of his death he was engaged in further research on the subject.

Stewart was a typical Lowland Scot. Austere yet kind, bent but not broken by the death of his wife some three years ago, engrossed in his work, possessing a sure judgment and an entirely unselfish nature, he made himself loved and respected by all his colleagues, and by the patients and the doctors who so frequently consulted him.

The *New York World* reports that Dr. Charles V. Craster, health officer of Newark, New Jersey, has arranged to send a bib to each newborn child. On the bibs are printed the words: "I don't want to be sick. Do not kiss me."

The Inspection and Registration of Nursing Homes.

By JOHN J. BUCHAN, M.D., Ch.B., D.P.H., Medical Officer of Health, Bradford; A. MIDDLETON HEWAT, M.D., Ch.B., D.P.H., Senior Medical Officer, London County Council; and MISS M. M. WINSTANLEY, Matron of a London Nursing Home.

In these communications, contributed to the symposium held at the ordinary meeting of the Society in London, on January 18th, 1929, nursing homes are regarded from different angles by three speakers interested or experienced in their conduct, inspection and registration. The papers are all extremely informative, and as very many of the members of the Society have, or may have, concern in the operation of the Nursing Homes Act, their appearance may be regarded as opportune.

DR. J. J. BUCHAN.

THE Nursing Homes (Registration) Act, which came into force on July 1st, 1928, is intended to provide a means whereby nursing homes may be registered and inspected and maintained at an adequate level of efficiency. For many years, in big centres of population, grave abuses—hygienic, medical and social—existed or were suspected to exist in relation to the conduct of many establishments known as nursing homes. The complaints with respect to nursing homes in general, led to the appointment in 1926 of a Select Committee to investigate and report on the question of registration. The main evidence submitted to this Committee which led them to recommend a system of registration, came from the members of this Society and from the College of Nursing. The Ministry of Health and the British Medical Association refrained from expressing any opinion as to its need. The conclusion of the Committee, however, was quite decisive that there was a genuine need for the registration and supervision of nursing homes. The Midwives and Maternity Homes Act was passed in the year of this report; but on the passing of the Nursing Homes (Registration) Act, Part II of the former Act, respecting the registration of maternity homes, was repealed. The Nursing Homes (Registration) Act of 1927 went rather further than that, and repealed so much of any local Act as makes provision for the registration of any maternity home. Possibly this did not go quite far enough, as local Acts also make provision for bye-laws and powers of inspection, etc., of maternity homes as well as mere registration.

For the purposes of this Act, the local authority is known as the local supervising authority and is the council of a county or county borough, but the council of a county have power of delegation which, if not exercised on an application by a district council, is subject to appeal to the Minister of Health. The nursing homes coming within the meaning of the Act are those which provide nursing for persons suffering from any sickness, injury or infirmity and include maternity homes. The Act specially excludes premises maintained or controlled by a government department, a local authority, or a body under a royal charter; lunatic asylums and certified mental deficiency institutions. It, therefore, includes practically all hospitals, maternity hospitals and homes, observation hospitals and homes, homes for the aged and infirm, and convalescent institutions, in addition to what are generally recognised as nursing homes. It includes premises owned and managed by medical practitioners, as well as premises owned by public companies, nurses or other persons. It includes homes for which full payment of cost is made, as well as those in which the patients are treated free; but a local supervising authority may exempt from the operation of the Act institutions not carried on for profit. Such exemption must be granted from year to year, and if not granted by the local supervising authority, the matter is subject to appeal to the Minister of Health. A special exemption is made with respect to Christian Science homes, which is granted by the Minister direct.

Application for registration must be made, on forms approved by the Minister of Health, to the local supervising authority, and the local supervising authority must register the application if the home complies with the prescribed conditions, namely:—

(*a*) that the person in charge is a fit person, both as regards age and other qualifications;

(*b*) that the situation, construction, accommodation, staffing and equipment of the home are adequate and proper;

(*c*) that the nursing in the home is under

the superintendence of a qualified nurse resident therein, or, in the case of a home established after the passing of the Act, that the home itself is under the charge of a properly qualified practitioner or nurse resident therein and has a proper proportion of qualified nurses ;

(*d*) that in the case of a maternity home the superintendent may be a certified midwife, and the persons in attendance on the patients must be a doctor, a certified midwife, a pupil midwife or a qualified nurse.

A " qualified nurse " means a person registered under the Nurses Registration Act, 1919, or a person who had similar training before the commencement of that Act ; and the term " pupil midwife " is a loose term meaning a person undergoing training with a view to becoming certified as a midwife.

It should be noted that the only option a local supervising authority possesses is either to register or refuse to register the nursing home named in the application. A home named in an application, when once registered, however, may apparently be conducted as a nursing home, a maternity home, a convalescent home or otherwise. If a local authority refuses to register a home, their refusal is subject to appeal to a court of summary jurisdiction and again to quarter sessions, and the same right of appeal exists if the local supervising authority cancels the registration of any particular home. It is most unfortunate that the Act does not give specific power to local authorities to register nursing homes of a particular character, as the words " named in the application " may be read as meaning only a nursing home at a particular address. It has already been stated that the definition of " nursing home " in the Act is extremely general, and a local authority or a body applying for registration of a convalescent home or a home for aged and infirm persons should not be furnished with a certificate of registration which might enable them to start the highly specialised work of the conduct of, say, a surgical nursing or maternity home.

A local supervising authority may make bye-laws with respect to nursing homes, and these homes are subject to inspection by certain officers of the local authority from time to time. Bye-laws in respect of maternity homes provide for certain special entries similar to the bye-laws made under the Midwives and Maternity Homes Act. Bye-laws cannot, however, provide for much more than a bald record of the patients received therein and their discharge and notification of death, and possibly payments by patients, as it is specially provided that no officer of the local authority shall be deemed to have power to inspect any medical record relating to any patient in a nursing home. These generally, with the exception of the penalising clauses, constitute the powers of a local supervising authority under this Act.

The Act has been in force far too short a time to enable anyone to dogmatise upon its effects. In most areas no complete registration of nursing homes has yet been carried out, and it is unlikely that any records will be fairly complete until the end of this year. Local supervising authorities have generally drawn attention to the provisions of this Act by advertisement or otherwise, but there is reason to believe that many of the persons affected are still ignorant of their duties under the Act. It is, therefore, clear that all the agencies of the local authority for informing such persons should be put in force without delay so that proceedings can be taken for failure to register, if necessary. Possibly the greatest effect of the Act will be to secure a properly qualified personnel in nursing homes. Up to quite recently the nursing staff of many nursing homes was of a very inferior type. Frequently this was so even in those places apparently best equipped for this purpose, while in smaller nursing homes the staff was often inadequate and totally untrained.

DR. MIDDLETON HEWAT.

I agree with Dr. Buchan that the Act is not an easy one either to interpret or administer. Many difficulties arise in practice and I shall try to deal with some of them. First let us take certain definitions.

A Nursing Home is defined as " any premises used or intended to be used for the reception of and the providing of nursing for persons suffering from any sickness, injury or infirmity, and includes a maternity home."

Here our main difficulty lies in determining whether or not " nursing " within the meaning of the Act is provided for persons suffering from " infirmity," *i.e.*, are many homes used for the accommodation of old persons, frail and needing some attention, " nursing homes " ? In practice it is found to be necessary to determine really to what extent these old people are ill and need nursing. In the majority of cases it is found that such houses *are* nursing homes within the meaning of the Act. It is our practice to require the registration of all doubtful cases. This is undoubtedly the wisest course as such places lend themselves to considerable abuse because of the inability of the old person to look after his or her own interests.

A Maternity Home. The definition should be noted : " Any premises used or intended to be used for the reception of pregnant women or of women immediately after childbirth."

It will be noticed there is no mention of " *nursing* " in this definition ; therefore an *institution used for the reception of pregnant* (*illegitimate*) *girls* is a maternity home even though the girls go to some other place for the confinement.

Turning now to some of the other points of interest in the Act, let us look at section 1, sub-section 3. This sub-section sets out the reasons which entitle a local authority to refuse registration of any premises and is, therefore, of great importance. I will take the more important reasons one by one, and tell you what is the usual practice in the department with which I am associated.

First, then, the keeper must not be unfit by reason of age or otherwise. Obviously a person under twenty-one would be unfit, but difficulties have been met with in determining the fitness of elderly persons and young persons of about twenty-four and twenty-five. So far we have not turned down anyone as unfit on the score of age only, but there have been one or two very doubtful cases and several are still under special observation.

Situation.

The only two particular points as regards situation arise from the possible propinquity of an offensive business or some special fire risk.

Accommodation.

This subject requires to be dealt with at some length, as it is one of the most important points.

I may say at once that it is our practice to fix definitely the number and type of cases which may be accommodated in each room, such accommodation being stated on the registration certificate. For example, a room may be registered for two surgical or medical cases, or for one medical case only.

So far as the size of rooms is concerned, the following is our minimum standard :—

960 cubic feet for maternity cases (including the baby).
800 cubic feet for maternity cases (without a baby).
800 cubic feet for surgical cases.
700 cubic feet for medical and chronic cases.
600 cubic feet for ante-natal cases.

In a few cases where the measurements have exceeded 96 square feet, 80 square feet, or 70 square feet respectively, but the cubic capacity has been below that specified above, the square measurement has been allowed.

It is, in our opinion, necessary to state the type of case which may be accommodated in any room both on account of the size of the room, and also on the general equipment of the home. Many homes are certainly not suitable to be registered for surgical or maternity cases, although quite suitable for medical cases or chronic seniles.

Doubts have been raised as to whether one can *legally* specify the type of case to be admitted, but I think this is satisfactorily dealt with in this same sub-section of the Act, where it states that the " accommodation " must be fit to be used for a nursing home " *of such a description* " as the nursing home named in the application.

The Select Committee in 1926 classified nursing homes roughly into five categories :—

(1) Medical and/or surgical.
(2) Maternity.
(3) Cases requiring special observation and treatment.
(4) Senile and chronic.
(5) Convalescent.

As I have previously stated, it is our practice to insert definitely on the registration certificate the type of case which may be accommodated in each room, and so far we have adopted the following :—

(1) Maternity.
(2) Surgical.
(3) Medical.
(4) Chronic and senile.

Needless to say, many rooms are registered for more than one type of case, often for all four.

Mixed Cases.

We do not object to the accommodation of surgical cases in the same home as maternity cases, and if a room contains only one bed no objection is raised to it being used alternately for maternity, medical or surgical cases, provided suitable precautions are taken. Where,

however, a ward contains more than one bed, and one bed is occupied by a maternity case, the remaining beds should not be utilised for medical or surgical cases at the same time. The accommodation of mental and alcoholic cases in the same home as maternity cases is not permitted.

Staffing.

This is one of the greatest difficulties met with. In many homes a large number of unqualified nurses are employed, and in some no qualified nurses at all were found on our first inspection. It was to meet this question more probably than any other that the Act had its origin. Naturally, one cannot lay down hard and fast rules. The number of trained and untrained staff required will depend on the type or types of patients received and their relative proportion. While each case must, therefore, be dealt with on its merits, it is considered that in the ordinary mixed home there should be, as a general rule, two day nurses and one night nurse for each six patients.

Arrangements must be made for at least one nurse to be on night duty whenever four or more patients are in the home or when any patient is acutely ill. Additional night nurses should be provided if necessary.

When the keeper of a maternity home is a midwife who has also a district practice, satisfactory arrangements must be made for the care of the patients during the midwife's absence on district work.

Particular note should be taken of sub-sections 3 (*c*) (*d*) and (*e*) of the Act, which specify the qualifications necessary in the keeper of a nursing home whether in existence before or after the passing of the Act. I may say that with one exception we have kept strictly to those requirements. The exception is the case of small homes (say three or four beds) for chronic seniles kept by unqualified women. In such cases we have not insisted upon the provision of a trained nurse provided that the keeper is of a good type and thoroughly reliable.

No definite rule has been made as to the proportion of trained and untrained staff, but every endeavour is made by our inspectors to persuade keepers to employ the largest number of trained staff that is reasonable and practicable.

While on the question of staff I should mention that particular notice is taken by our inspectors regarding the accommodation, both sleeping and living, for the nursing staff. In many cases this has been found unsatisfactory, and requirements have been made on keepers for its improvement.

Equipment.

The equipment required will depend to some extent on the type of home. Obviously a home for senile chronics will not require the same equipment as a maternity or surgical home. We have, however, for the guidance of keepers, issued a list of what is known as "standard minimum equipment." It is too lengthy to quote here, but it deals with such matters as sheets, blankets, bed-pans, hot-water bottles, etc. In addition, we require that floors shall be polished or covered with linoleum, that superfluous hangings, pictures and venetian blinds shall be removed, and that all upholstered furniture shall have washable covers. There must also be receptacles for keeping dressings, bowls, linen, etc.; a locked poison cupboard; suitable kitchen equipment, and arrangements for the storage of food. In maternity homes there must be suitable cots and baths for infants.

The walls of all registered rooms should have a washable surface of distemper or paint. This has not been insisted upon in the case of existing homes. Carpets and rugs should not be used in rooms registered for maternity or surgical purposes.

Fire Requirements.

It is very necessary that nursing homes should be guarded so far as possible against fire risks, and for that purpose nursing homes in London are inspected by officers of the fire brigade and county architect's department.

In my opinion, no medical officer should take upon himself the responsibility of dealing with this matter, but should be associated with his local borough or county surveyor and chief officer of the fire brigade.

Sometimes considerable expense is involved in carrying out the necessary protection, *e.g.*, outside iron staircases, balconies, fire-proof doors, etc.

There are two other matters under section 3 which are worthy of attention, *viz.*, isolation rooms and operating theatres.

Isolation Rooms.

It is our practice to require the provision of an isolation room in all maternity homes where two or more beds are provided in any one room. In surgical homes this is not required, but in such houses the keeper is asked to consider and let us know what arrangements she would make in the event of a septic case arising in a room containing two or more beds.

Operating Theatres.

Our practice in this regard is to waive the requirement of an operating theatre in existing surgical homes where such does not exist, but it is probable that in the case of all new homes registered for surgical cases an operating theatre will be required.

New Maternity Homes.

Particular attention should be drawn to section 1, sub-section 3 (*e*), which states that the authority may refuse registration in the case of a maternity home, not in existence at the passing of the Act, if any person employed in attending any woman in the home is not either a duly qualified medical practitioner, a certified midwife, a pupil midwife or a qualified nurse. It is our practice to insist on this provision and to have the condition endorsed on the certificate of registration. A difficulty, however, arises in the case of new nursing homes where out of, say twenty beds, only ten are registered for maternity cases. It is unfair, I think, to insist that every nurse in such a home must conform to the above proviso, and in order to get over this difficulty, and yet to retain the useful provision of the Act, we allow such homes to employ a certain number of unqualified persons for dealing with their medical or surgical patients, but it is endorsed on the registration certificate that maternity patients must only be attended by qualified nurses, certified midwives or pupil midwives.

Bye-Laws.

The model bye-laws issued by the Ministry of Health have been adopted by the Council. It is possible that they will involve a considerable amount of clerical work on the part of the keepers of nursing homes, but the necessary registers will be extremely helpful to the officers of the Council who act as inspectors, and judging from our experience in the past in dealing with maternity homes, they may in many cases be of real service to keepers in the event of disputes with patients on the subject of fees or other matters.

It is too early yet to say how these bye-laws will work out in practice, as in London they have only just been passed and advertised.

Inspection of Nursing Homes.

In the course of inaugurating a new service, such as this, which may be felt by some keepers of nursing homes as almost a trespass on their individual liberty of action, it is necessary that every possible effort should be made to avoid unnecessary friction and annoyance to keepers. In London all inspections on behalf of the public health department have been carried out by medical officers and by sanitary inspectors. The two officers visit at the same time so as to avoid the duplication of visits. The medical officers and sanitary inspectors were specially chosen for this work among our existing officers as persons likely to carry out the duties with tact and efficiency. So far I am glad to say we have had practically no friction with keepers.

Exemptions.

Section 6 of the Act gives power to exempt certain hospitals and institutions from the terms of the Act *if not carried on for profit*. This is a yearly exemption only. It should be noted that the authority "*may*" grant exemption; not "*shall.*" It is our practice in determining these exemptions to satisfy ourselves on two points: first, that the institution is not, in fact, carried on for profit, and secondly, that it is run in such manner as can justify us in leaving it outside the Act without detriment to the safety and care of the patients. This latter point is to my mind an important one, and every institution which has applied for exemption under this clause of the Act has either been visited and inspected by officers of the department or has been already well-known to the department in connection with other branches of our work.

Homes for Mental Cases.

It should be noted that in section 10 a nursing home as there defined does not include "any institution for lunatics within the meaning of the Lunacy Act, 1890, or any certified institution, certified house or approved home within the meaning of the Mental Deficiency Act, 1913."

This exception does not, however, cover lunatics "in single care" or mentally defectives in "private guardianship," which might mean that any house lodging such a person would be liable to be considered a "nursing home."

This matter has been the subject of conference between our department and the Board of Control, and as a result we have decided that as all such cases are visited and inspected regularly by officers of the Board of Control, and as it might be extremely difficult to prove that "nursing" within the terms of the Act is provided, such houses should not be registered as nursing homes. This applies, of course,

only where one or two cases of this nature are maintained in a house where no other nursing activities are carried on. If, however, a lunatic in single care is kept in a house where other patients are provided with nursing then, of course, the house comes under the definition of a "nursing home."

In conclusion, a word about our general routine. On receipt of an application for registration, the home is visited by officers of the public health, architect's and fire brigade departments. Reports are prepared by each department which are sent to the clerk of the council for presentation to the public health committee. The clerk, acting on the instruction of the committee, then issues to approved homes a conditional registration certificate and accompanies it with a letter setting out the various requirements of the council, subject to the execution of which the full registration certificate will be issued.

Subsequent inspections are made by officers of the various departments, and upon completion of the requirements a report is sent to the clerk of the council who, after reporting to the committee, issues the full certificate of registration. Regular visits are paid to homes subsequent to registration, and various suggestions made from time to time in an endeavour to improve the conditions in the homes. I can only say that already I have noted a very marked improvement in cleanliness, general orderliness and in the staffing of many of the homes which have been inspected, and as time goes on one hopes that all homes will approach the standard of the present best.

MISS WINSTANLEY.

I have been requested to speak about this question of registration and inspection of nursing homes from the matron's point of view—a very vital subject where we are concerned, as for some of us it is a question of life and death; a question of whether we can or cannot carry on, according to whether we can or cannot comply with the demands made upon us in consequence of this registration.

I claim to be as impartial as a matron can be under the circumstances, because I myself am not very badly hit by it. I have four houses which run very conveniently together, and I have not been asked to do a very great deal; at the most I shall have to spend about £400 if I have to comply with all the demands that have been made upon me. And this fact makes me feel that I can deal with this subject rather more easily than I could otherwise have done.

Before going any further, I want to say that the London county council received a deputation representative of the matrons of West-End homes of London, in order to listen to our side of the question. They received us with the utmost courtesy and promised to look into every individual case, and to do their very best to help us. It is not that we grudge the money that we are asked to spend; the difficulty with a great many people is to find it and, having found it, to repay it. One matron told me she would have to spend £2,000 if she did all that was asked of her, and that it would mean her closing down. We matrons naturally find it hard to realise that our houses can suddenly have become so very unsafe. It must be remembered also that we have to obtain a licence from the landlord, and that he, in his turn, is partly responsible for the suitability of the house for this work.

When registration of nursing homes was first put before us some two years ago, we all welcomed the idea because of the very fact of the existence of the abuses that have been referred to. If you have nothing to hide, you have nothing to fear, and we did feel that registration would give the public some sort of guarantee that such homes were at least of good moral repute and reasonably well equipped and well run. We were already inspected under the Midwives Act, and we concluded that this inspection would be something of the same nature, but we discovered when the law actually came into being that we came under the Building Act as well, and that we were not only going to be registered and inspected with regard to the running and equipment of our homes, but that very big demands were to be made upon us by the London county council under this Building Act with relation to safety in case of fire. The London county council quite rightly have a very high ideal with regard to this matter, and feel that they have a very obvious duty with regard to protecting the public in every way from fire. And I wish to state straight away that we matrons certainly share this ideal, and that the moment we cease to realise this very grave necessity we cease to be fit to hold these very responsible positions; but we differ from the London county council in our method of achieving it. The London county council methods include such things as the following:—Outside staircases, outside balconies, doors

in corridors shutting off certain portions of the house from other portions of it, unlocked area doors, unbarred basement windows, and many miles of asbestos linings in various parts of the building. Now, taking these items one by one, there is, of course, nothing to be said about outside staircases where they are possible. With regard to the doors in the corridors, very great difficulties arise thereform, from the nursing point of view. Heavy swing doors, supposed to be kept open only during the hours of morning work, quite obviously cannot be shut at any time of the day or night if the nurses are to carry out their work efficiently and practically. The work in a nursing home does not cease in the morning; it is incessant, morning, noon, and night. The pushing open of swing doors will create noise and will be the cause of minor accidents in the way of dropping things and spilling things, and it is difficult to say how they are not going to impede the removal of patients if such a necessity arose. Their object, we are told, is to prevent the spread of smoke, but one wonders what would happen to the patients who are in the area in which the smoke is being shut in. Another practical difficulty—I should say danger—which arises from closed doors, is that the smell of smoke, which is one of the quickest ways by which a fire can be detected, will be shut off from the nurse on duty, and therefore the danger of fire gaining a hold on the building is rendered greater by the existence of these doors.

When we come to balconies leading from one's own house to one's neighbour's, and the demand that the door at each end shall be left open, we are faced with another practical difficulty. Sudden and odd things are done by patients without a minute's warning when they are feverish, and sometimes when without fever, and if these doors are allowed to exist unlocked there will be nothing whatever to prevent the patient from walking out into the corridor and gaining access to the next house. It makes the proper and necessary control of the sick people under our care quite impractical.

With regard to the open area doors and the windows without bars, all those who have lived in this part of London realise that the nuisances which follow upon the removal of these items cannot be supported for one moment; in fact, I go so far as to say that our houses would not be safe without them.

With regard to the asbestos there is nothing to be said. It is not a grave matter nor a difficult matter, and can quite easily be complied with.

With regard to the great structural alterations we could, of course, be accused of pleading expense as an excuse for safety, but no one can accuse us of that with regard to the doors, each of which cannot cost more than £5. We have no reasons whatever for objecting to them except the practical ones that I have just mentioned.

These are the London county council's means of attaining their ideal, but we maintain that we have achieved it also, though a little differently, and our strongest point in favour of this is that patients are far safer in nursing homes than in any other building, by reason of the fact that no part of a nursing home is ever left unsupervised for any length of time. Every part of the building is being constantly visited night and day, and therefore the danger of fire gaining a hold on the building is very small, as it would obviously be quickly detected and quickly put out.

Nursing homes have existed in the West-End of London for over thirty years, and I think I am right in saying that the record of fires in them is almost, if not absolutely nil, and this in itself must be some support for the statement I have just made. Should such a thing by any chance occur, one has also to remember that we are within easy reach of a number of fire engines. By the law of averages, at least two-thirds of one's patients could always get up and walk out. The provision of sufficient fire extinguishers and the efficient drilling of the staff are two added measures of safety. There is also at the present day an exceedingly excellent fire escape known as the "Davy." This apparatus is so simple that it can be worked by a child; it is attached to the wall in the patient's room, and the most acute cases can be lowered by it gently to the ground, without any injury whatever to the patient, no matter what he is suffering from. We, therefore, maintain very strongly that, provided our houses have reasonable corridors and staircases, and reasonable exits, we do by these means achieve that high ideal of which I have spoken, and which quite obviously should be and is shared by us with the London county council.

Another important item that comes under inspection and safety against fire is the electrical installations. It was feared at one time that in many cases a complete new installation would be enforced, but we have been met over this, and in one case, to my knowledge, a certain

standard has been demanded, and provided the installation passes this test and it is applied to it at stated intervals, the existing installation has been allowed to remain.

Although obviously some small houses are quite unsuited for this work, and although it is a very great help to us that certain places that were not all that they should be have been suppressed, it would be a severe loss to the profession if some of the small houses were forced out of existence by not being able to comply with the demands made upon them. They fulfil a want in the professon which nothing else can supply, and certain types of patients with certain diseases do far better in the smaller homes. Many of them are admirably well run, and we all know that although modern equipment is to be aimed at wherever possible, first-class nursing can be, and is, obtained in many places where these modern requirements are not possible of achievement.

When it comes to the supervision of the nursing and the catering, it is very difficult to see quite how this is going to be carried out. We have felt that, from our point of view, the supervision of these points by a matron would have been very helpful to us. We have felt that only a matron who has had experience of this work can really know how many nurses are required and what their qualifications should be, according to the work that is going to be demanded of them; and the same thing applies to the remarks on the size of the rooms and the cases to be nursed in them. One matron, for instance, had four of her rooms condemned for surgical work, though they had been used by a well-known oral surgeon for the past twenty years. They were perfectly suitable for that work, and I am glad to say that she has regained permission to use them from the London county council. It is erroneous to state that all surgical cases must have large rooms and all medical cases only need small ones, as we all know it depends entirely upon the nature of the case.

The use of carpets is almost universally condemned, but I am happy to say that another point we have gained from the London county council is permission to continue using rugs that can either be easily washed or easily cleaned, as quite obviously they are a necessity to the comfort of the patient.

Most of the complaints of which one has heard so much lately with regard to nursing homes have been in connection with the food or the inattention of the nurses. Quite how inspection is going to remove that, it is a little difficult to say, for even when this new law has achieved all that is necessary with regard to the equipment, the cleanliness, and suitability of the home, the comfort and well-being of the patients will still depend almost entirely upon the atmosphere radiated by the matron and her staff.

DISCUSSION.

Dr. Gerard C. Taylor, O.B.E. (County Medical Officer of Health, Berkshire), dealing with the question of convalescent homes for children, said that he had experienced some difficulty in determining what was a reasonable standard as regards space in such homes, in view of the differences in the standards issued at various times by the Board of Education and other bodies. The figures ranged from something like 77 square feet for wards set aside for children to about 45 square feet for dormitory accommodation. In view of those and other figures quoted, he took it that 50 square feet might be a safe figure to adopt. A general rule had been made in Berkshire that exemption from registration should not be granted to any convalescent homes, even those for children up to twelve or thirteen years of age which claimed to be merely homes to which children were sent for a time to obtain the benefits of country air, and convalescent homes for adults, including those for the reception of mothers and infants coming from London.

Dr. R. M. F. Picken (Medical Officer of Health, Cardiff), considered that the information given by Dr. Hewat was extremely valuable in view of the long experience which London had had in the matter. He regretted that Miss Winstanley had not dealt with the bye-laws, because he was of opinion that most of the trouble would arise in relation to the administration of these. Bye-laws had been in operation in Cardiff ever since the Act had been in force, and the rapidity with which they were passed was no doubt facilitated by the fact that they followed closely the model series issued by the Ministry of Health. The bye-laws had been discussed by the local division of the British Medical Association, and the executive committee had asked headquarters to approach the Minister and obtain removal from the Bye-laws of some of the objectionable features, including the provision regarding the keeping of records as to payments and the issuing of receipts. In respect of the keeping of a proper record of the health of the inmates, cases had arisen where the surgeon in charge had preferred to keep his own medical records, and this had placed the keeper of the nursing home, who was legally responsible in the matter, in a difficult position. These and similar provisions were regarded by the medical profession in Cardiff as being rather inquisitorial. On the question of homes run at a very low rate for aged and infirm persons of small means, where the conditions generally were often far from satisfactory, it was possible that the problem would be simplified when the new Local Government Bill became law, and the objection to going into institutions at present under the poor law began to disappear. In Cardiff the line taken in such cases was to grant registration conditionally. As to inspections, these were carried out by the medical officer of health or a member of the medical staff of the department, except in the case of the smaller homes which were visited by the senior health visitor.

Dr. Stella Churchill, L.C.C., held that the Act had revealed a most extraordinary and deplorable state of affairs. The class of people who entered nursing homes paid a considerable fee for the services they received, yet it was to be gathered, for example, that there was rarely an operating theatre on the premises; that the staff might consist almost entirely of untrained women, and that many of the rooms were extremely small. The future was going to be much worse, because the necessary alterations and improvements could not be carried out by many of the proprietors, and it was obvious that when the lease ran out many of the homes would cease to exist. What would take their place? The question was one of some importance, more particularly as the paying-wards of the large hospitals were already full. While the Act might raise the standard of nursing homes generally, would it not have the effect of increasing the shortage of homes charging a moderate fee? Finally, what was the general effect of the Act on the whole nursing service?

The President, in thanking the speakers, said the Society was greatly indebted to the openers for submitting such instructive and useful papers. Miss Winstanley's contribution had been of great value, as it was of especial interest to have the views of the matron on the subject. Though Dr. Buchan had referred to the Act as being very incomplete it had evidently justified itself, and had done a tremendous amount of good already.

Dr. J. J. Buchan, dealing with a number of points raised, pointed out that under the original powers possessed by the London County Council with regard to the registration of maternity homes there was no reference at all to pregnant women. As certain cases had arisen in Bradford where women, running homes for the reception of pregnant women, refused to register their premises as maternity homes, the opportunity had been taken of bringing such homes within the law, and that provision had afterwards been included in the recent Act. On the question of the profits made by nursing home proprietors, Dr. Buchan said that they were greatly exaggerated, and that there was very little in it. Referring to the three-guinea-a-week home, he held that it was quite impossible to run an establishment on that figure.

Dr. Middleton Hewat, replying on the subject of bye-laws, stated that they had been in force in London in connection with maternity homes for some time, and that the later bye-laws affecting nursing homes generally, had been based largely upon them. With regard to fees, patients and keepers had, in the past, been frequently in dispute. However, since the passing of the Act, with its provisions relating to records of payments and the giving of receipts, those difficulties had practically disappeared. As to the effect of the Act upon nursing homes, undoubtedly a number of the cheaper homes, charging from two to three guineas a week or even as low as thirty-five shillings, would go—for the good of their patients. In his view the Act would not have the effect of causing the closing down of the decent nursing home charging a fee on which they could reasonably make a living. The expense of introducing adequate safeguards in case of fire—even though it might, as had been stated, in certain cases amount to anything from £500 to £1,000—ought to be regarded as capital expenditure. In reply to a question raised by Dr. Stirk (Exeter), with regard to hospital sluices, he stated that the London county council did not insist on these, although they were included in the list of equipment recommended in the pamphlet issued by that body. To Dr. Porter, who had referred to the subject of delegation of powers under the Act, he could only say that the London county council thought, in their wisdom, that they would handle the matter themselves, rather than pass it on to twenty-eight metropolitan boroughs.

Miss Winstanley expressed entire agreement with Dr. Hewat on the question of receipts. With regard to the points raised by Dr. Stella Churchill, the average fee charged in a London nursing home of repute was from eight to sixteen guineas, though at times cases were taken for a fee of from nine to ten guineas, inclusive. On the subject of small homes, Miss Winstanley said there were many cases that did well in them, and she voiced the hope that such homes would be able to continue their good work.

WITH great regret we record the death of Dr. Maurice M. Seymour, deputy minister of health of the province of Saskatchewan, Canada. Dr. Seymour was a member of the first League of Nations Health Officers' Interchange to the United States of America in 1923, and at the conclusion of the visit spent some time in Europe and London. He was a Fellow of the Royal Sanitary Institute, and a member of its examining board in his own province. Dr. Seymour was president of the Conference of State and Provincial Health Authorities of North America in 1926, and was a member of the American Public Health Association for many years.

"MENTAL HYGIENE" will be the subject for discussion in the Preventive Medicine Section of the Royal Sanitary Institute Congress, to be held in Sheffield, from July 13th to 20th, 1929. Two days will be devoted to the question. On the first day (Tuesday, July 16th) the subject will be considered from the point of view of the child; and on the second (Wednesday, July 17th) from that of the adult. Even at this early date there is every evidence of a successful and attractive meeting on both days, the list of speakers already prepared including Dr. Ralph Crowley, Dr. Letitia Fairfield, Dr. G. A. Auden, Dr. George Buchan, Dr. Hubert Bond, Dr. W. Vincent and Dr. Edward Mapother. It is probable also that workers from the United States will attend and take part in the discussions. The President of the Section is Professor Arthur Hall, of Sheffield, and the Recording Secretary, Dr. Charles Porter, Medical Officer of Health, St. Marylebone.

Ut Ita Dicam.

(Being Comments, apropos and otherwise, on Sundry Matters.)

The Control of Smallpox.

The attendance at the last ordinary meeting, though well up to the average as regards numbers, appeared to include comparatively few with opinions to offer on the subject of "The Control of Smallpox," which was down for discussion. After the opening papers of Drs. Cameron and George F. Buchan, the outstanding communication was that of Dr. Brindley, of Derby, whose experience with the milder form is large enough to qualify him to speak with authority, and to offer suggestions both as to administrative procedure and as to strengthening of the law. Perhaps one of his most startling suggestions had reference to hospital isolation, which he regarded as in one sense a danger, since the people soon found it a desirable alternative to vaccination, and preferred to await the infection with a visit to hospital rather than run the risk of a bad arm. The fact that in Derby, smallpox cases were isolated in the ordinary fever hospital and there had been no cross-infection, impressed considerably. As to legislation, Dr. Brindley's suggestion that greater powers were necessary in order to ensure that full and truthful information with regard to contacts should be obtained, was very sympathetically received after he had given examples of the kind of misleading statements commonly made. Apropos legislation, an interesting point made by Dr. Cameron was that it was curious that no provision existed in the Acts relating to infectious disease with regard to control or prevention by immunity methods. Since no discussion on any subject relating to smallpox would be complete without them, both Dr. Garrow of Hornsey—formerly of Chesterfield—and Dr. R. W. Jameson contributed remarks, the former, as usual, with regard to alastrim, para-smallpox and such like, and the latter on variola major and variola minor and the proper thing to do both before and after you had made up your mind as to which of the two you were dealing with. These two speakers—I have heard them often—become more and more unsmiling, assume more and more definitely the voice crying in the wilderness as the years go on. Dr. Garrow was particularly critical of the attitude adopted by Dr. Cameron, and appeared to suggest that because he had not dealt with Dr. Garrow's point of view he had wasted the time of the meeting. So far as Dr. Garrow himself is concerned, it seemed to me he spent his time saying almost anything about everything in order to support his case.

A Conference on Salaries.

Possibly it was because it was so cold in the meeting-room that the Council meeting that preceded the ordinary meeting appeared freer from excitement than usual. Some of the firebrands were, in fact, practically silent throughout, conceivably because they thought it better to conserve for their own use the heat they so easily produce, rather than dissipate it for the benefit of other members. Another reason may have been that there was less of a medico-political nature to discuss, and fewer explanations as to the exact relation between us and the British Medical Association were necessary. Whatever the cause, things were, comparatively, quiet. One of the most interesting items was a report by Dr. George F. Buchan, as Treasurer, on a conference held the day before at the Ministry of Health with members of local authority associations on the subject of the salary scale. That such a conference was to take place was generally known, and it was only the difficulty of securing an independent chairman that led to delay. The chairman ultimately secured was Lord Askwith, whose name in connection with arbitrations of one sort and another is so well known. The conference, which sat the greater part of the day, dealt only with the salary scale so far as it affected assistant officers, and though no decision acceptable to both sides was arrived at, did not actually end in a deadlock. The next meeting is fixed for a day in March, and as the bulk of the preliminary sparring is at an end, the conference should get down to real business. Dr. Buchan in his statement had much to say in praise of Sir Robert Bolam's part in the negotiations. As spokesman he handled the situation admirably; acted and spoke most skilfully and diplomatically all the way through, and in a manner calculated to inspire confidence. As a fact, the team representing the officers is one that appears entirely reliable and certain to give a good account of itself and not to let any chance slip.

Sir George Newman's Lectures at Yale.

The publication by Yale University of Sir George Newman's lectures on "Citizenship and the Survival of Civilization"* removes the only objection that could have been raised to his selection as Dodge Lecturer at Yale—that we here might not have the opportunity of sharing a real pleasure with the people of New Haven and the States generally and learning what he had to say. Fortunately, Sir George Newman is one of those who "reads" almost as well as he "listens," and we who have to be content with the written word are not too badly placed when compared with those who constituted his audience. The lectures, as a fact, make up into a perfectly delightful book, possessing the essayist's delicacy and charm that other volumes he has given us have led us to expect of Sir George. Throughout, his design is to show that health of the body and education of the mind of man are the surest foundations upon which to build and maintain civilisation. To the demonstration of these truths he brings a wide experience, wide knowledge and reading, and high and clear thinking. Indeed, in nothing of his I have read have I been more impressed by the sheer knowledge revealed. The area of research displayed is tremendous—in fields of history, political economy and law—and the picture he presented to those before whom it was unfolded must have been extremely impressive. Even in reading the lectures one gets it and, getting it, can well imagine the effect it must have produced on an American when delivered by one so well skilled in oratory as Sir George Newman. "Citizenship and the Survival of Civilization" is fit to stand side by side with others of the author's contributions to literature, as they are to stand with it. It is one of these books it is a pleasure to handle, so skilfully is it produced; and the reading gives delight.

Student Songsters.

This is another book† appropriate to mention here, though not, perhaps, for quite the same reasons. Described as a "Bouquet of Poesy" it is, in more everyday language, an anthology of verse from various of the university magazines issued from time to time by the students of Edinburgh University. The collection was made at the request of the Students' Representative Council, a body of importance in academic circles in Edinburgh, urged thereto by a consciousness that interest in the history and tradition of the university might be stimulated if steps were taken to preserve records of student affairs. To begin on poetry was not a bad idea for, difficult as anthologies may be to make, it is easier to select examples from amongst the verses, than from amongst other writings, that will reveal something. True, in this case, there is a risk that what is revealed has reference largely to the individual and the stage of his development but, apart from this, something also will be learned of the attitude of the general student mind or the literary group, at the moment anyhow. The work of making the selection, though laborious, must have had its compensations, and it is open to envy a little the two editors who made the anthology. There is every sign that they did it carefully, lovingly and with knowledge. The examples are taken from publications that have appeared since the twenties of last century. They are of all sorts—grave and gay, broadly humorous and sweetly sentimental. They are of all poetic forms and no form; but all of them breathe youth. Mostly they are unsigned or have only an initial or two, but no doubt every man who has been honoured by choice will know his own sign and, unless it happens to be too fervid of some young woman whose name is unfamiliar in the family circle, he will look for exclamations of wonder and admiration from wife and child at the cleverness displayed in student days. That there may be exclamations less complimentary is, of course, possible, but it may be hoped not. In any case, "Our Tounis College" is an extremely interesting volume from the historical point of view, and there are many Edinburgh men throughout the world who will like to know of it, and who will get real pleasure from it.

* London: Humphrey Milford, Oxford University Press, 1928. pp. 253. Price, 11s. 6d. net.

† "Our Tounis College." Edinburgh: The Darien Press, 1928. pp. 414. Price, 3s. 6d. (De Luxe Edition 11s. 3d.)

Dicta Differ.

"An Italian proverb states that a cold when left alone runs for twenty-one days and, when treated, for three weeks."—*The Lancet.*

"The French say *un rhume non traité dure deux semaines, traité il ne durerait que quinze jours*—a cold untreated lasts two weeks; treated it would last only a fortnight."—Dr. F. Guy Griffiths, in the *Medical Journal of Australia.*

P.

The Prophet in Public Health.

By F. T. H. WOOD, O.B.E., M.D., B.S., B.Sc., D.P.H., Medical Officer of Health, Bootle.

In this, his Presidential Address to the North-Western Branch, Dr. Wood, being in mid-career, looks back over twenty years and ventures also to glance into the future. His prophecies as to the state of the public health twenty years on will be found most interesting.

IT is a commonplace that the end of the nineteenth century had seen the practical completion of large environmental improvements, and that the maximum of sanitary progress had been effected from that line of action; and that the new century—and in particular the last twenty years—has seen the extension of legislative and administrative activity to social and personal hygiene.

Such extension naturally enlarged the personnel of the public health service, and made it a wider and a more attractive career than in the days when the medical officer of health was, with some reason, supposed to be a combination of a superior sanitary inspector and a compiler of morbid statistics.

It happens that I was among the many new recruits to the service that followed upon the passing of the Education (Administrative Provisions) Act in 1907, and that accordingly some twenty years have elapsed since I became actively engaged in public health work; it also happens that the operation of a second statute, the Local Government and Other Officers' Superannuation Act, will effectively terminate this personal association in a further twenty years' time, and it has accordingly seemed to me an interesting, if hazardous, venture, now that I am half way through my public health career, to speculate as to the stage the service as a whole will have reached at its termination; for it appears probable that such a speculation, preceded as it must be by a backward glance at the progress made and the machinery used in the last twenty years, will enable us to see our present problems more clearly and more as a whole.

I propose to do no more than enumerate the new health activities of the present century, and that merely in order to deduce therefrom the cardinal principles which seem likely to govern public health effort during the next twenty years.

One is aided in such an enumeration by noting the dates of the various legislative enactments which successively permitted or obliged local authorities to devise machinery for dealing with problems which the pioneer work of voluntary bodies had demonstrated to exist and to be soluble on given lines. Thus, the Notification of Births Act, 1907, served as the official starting-point of the campaign against infant mortality, a campaign in which thousands of workers are now engaged, whether as medical practitioners or as nurses working in antenatal clinics and infant welfare consultations, or in visiting the homes of the people, all with the underlying object of educating the individual in mothercraft, of teaching the mother how to be hygienically good, and of making it easy for her to apply the instruction. These activities have been followed by a reduction in the infant mortality rate for England and Wales from 117 in the five years ending in 1910 to 70 in 1927.

The same year, 1907, saw the passing of the Education (Administrative Provisions) Act, which established the school medical service and so allowed the development of a service which now engages some 1,200 doctors and 4,000 nurses in the detection of incipient departures from normal health, their correction by early treatment and their prevention by spreading the knowledge of the simple rules of healthy living. The results obtained by the workers in school hygiene are not readily displayed in vital statistics, but great improvements in personal cleanliness—in particular as regards infestation with vermin, in the condition of the teeth, and in the healthiness of the nose and throat—are indisputable.

The year 1911 produced the National Health Insurance Act, and marked the beginning of the official campaign against tuberculosis, the facts as to the decline in which during the last forty years are common knowledge; while as to the present century, I would remind you that the tuberculosis death-rate for England and Wales for the decennium ended in 1900 was 2·01 per 1,000 and in 1926 it was 0·96, or less than one-half.

The last years of the Great War saw issue officially joined with the scourge of venereal disease, and in 1918 the first venereal disease

clinic was established. It may here be pointed out that workers in this branch of preventive medicine are perhaps prone to be too modest about the results they are achieving, feeling that the returns of sustained or of increased attendance at their clinics are somewhat equivocal and that the figures of deaths certified as due to syphilis are notoriously incomplete. The Registrar-General in his Statistical Return for 1924, however, pointed out that, be this latter point as it may, the deaths so returned seem to form a surprisingly reliable sample of the total, due apparently to certain types of medical practice furnishing year by year a constant proportion of the total deaths; and those figures show that since the institution of the special measures referred to, the death-rate from syphilis (including general paralysis of the insane, tabes and aneurism), which had tended to rise in the preceding twenty years, has since 1927 fallen by almost one-third; while even more striking is the statement that the deaths from syphilis under one year of age have been reduced to less than one-half their former figure.

The Present Position.

The aggregate result of the above four special campaigns can be displayed by setting forth the steady reductions in the national death-rate which have followed, guarding oneself, however, against the implication that these campaigns constitute the only factors at work to this end. In the first place, the crude death-rate has fallen progressively—except for occasional rude interruptions from influenza—from 18·2 per 1,000 in the decennium 1891-1900 to 15·4 in 1900-1910, and to 12·3 in 1927. It behoves us, however, in this connection to remember that the main reduction in mortality rates has been at the earlier ages; that, for example, in the middle of last century roughly one-quarter of the people died before reaching the age of five years, whereas now it takes well over forty years before one-quarter of the population has disappeared. Correlate this fact with the phenomenon of a falling birth-rate and we are confronted with the position of a rising age-constitution of the community, and the certainty that the crude death-rate will not indefinitely decline but will tend to increase as has already happened in France. Such an increase in the crude death-rate will be in no way inconsistent with an increased expectation of life at birth or at any given age, but will make it more necessary to resort to a comparison of specific death-rates for males and females in corresponding age-groups if we are to make an assessment of the social and hygienic conditions of different areas or different periods. If we adopt this method and use death-rates standardised to the sex and age constitution of the population enumerated in 1901 we find that such death-rates in the successive five-year periods commencing in 1901 and ending in 1925 have been 16·0, 14·4, 13·7, 13·4 and 10·9 respectively.

There are, of course, other methods by which the improvement in national vitality may be demonstrated, and, although I am aware of the criticism that has been passed on "expectation of life" as such an instrument of comparison, I am emboldened to use this method by the Registrar-General's assertion in his latest Decennial Supplement that the expectation of life "provides comparative material of a very generalised form from which sound impressions as to the results of a progressive policy regarding sanitation, etc., may be conveyed to the mind of those who have no occasion to burden themselves with exact statistical knowledge of the subject."

From English Life Tables Nos. 7 and 9 found in that Decennial Supplement it appears that in 1906 the expectation of life at birth was for males 48·5 years and for females 52·4 years, whereas in 1921, the figures were 55·6 and 59·6 respectively, or an increased expectation of life of just over seven years experienced well within the limits of the period we have been reviewing.

Motive Principle of Present Activities.

It will, I think, be conceded that underlying the above fruitful extensions of the work of the sanitary officer is one common principle, *viz.*, the dissemination of health knowledge—the education of the individual in the practice of personal hygiene—and that associated with this principle is the necessary corollary of the provision of facilities for its application. Somewhat akin to this main motive principle is a second tendency, *viz.*, the medical inspection of the healthy or apparently healthy in order to bring home to the individual the principal truth in personal hygiene which most needs attention at the time.

One may be permitted here to reflect on the possibilities underlying three of the newer applications of these principles, *viz.*, health propaganda, periodic medical examination, and artificial immunisation. As to the first, formal health education of the child is now to operate more effectively as a pervasive influence through-

out the elementary school curriculum, for the Board of Education has rightly said that the very existence of the child depends upon the sound practice of hygiene; and in respect of the adult citizen such health education now has an established position on the wireless, in the periodical Press, in the occasional public lecture and cinematograph film, and in the recurrent Health Week, while all the time individual instruction is proceeding in the homes through the medium of health visitors. It will be granted that all these lines of action have produced results, but I hope, with most medical officers, that we shall shortly be able to dispense with the flamboyant features of the Health Week and proceed steadily throughout the year with an organised educational campaign.

The second line of action on which I wish to comment, *viz.*, periodic medical examination of adults, is one which in theory should yield excellent results, and it may be that its practice is not yet sufficiently extensive for its advocates to be able to answer the objections put forward against it in 1925 by Dr. Otto May in addressing the Assurance Medical Society. It was then submitted that American experience showed that only a very small minority of insurance policy-holders accepted offers of periodic overhaul in the first instance, and that of the third of these who returned for a second or subsequent examination the lowest proportion was among those who had been told of the existence of some disability; in other words, there was a self-selection for examination by those who were in least need of it, by those who felt well and were flattered by being told they *were* well. Supporters of the system, however, may claim that in spite of these limitations, the large American insurance companies are making increased profits through the increased life of those policy-holders who are receiving periodic examination and advice; and there can be no two opinions as to the educative value to the examining physician of the opportunity of detecting and following-up slight departures from the normal in structure and function. As an optimist I am prepared to believe that acceptance of this principle will be, even if slowly, obtained, and that machinery will be constructed for its translation into practice with obvious benefit to the public health.

Thirdly, one would enquire as to the future of artificial immunisation against infectious disease, since for my part I am doubtful as to how far the general adoption of such a policy is practicable or desirable. The question really resolves itself into an enquiry as to whether the premium is not too high for the risk insured against; and in this connection we may recall that in England and Wales the scarlet fever mortality-rate at ages under 15 years has fallen from 414 to 49 per million in the last thirty years, while the diphtheria mortality-rate for the same age-group has fallen from 805 to 357. If this improvement is enhanced or even maintained, it would seem that a campaign in favour of universal Dick or Schick-testing and immunisation is unjustifiable, although all workers with experience will retain their faith in the necessity of such programmes in residential institutions, such as hospitals, and in schools where infection has been introduced.

Adverse Circumstances Still Requiring Action.

I propose now to return to my original task and to enquire as to what remains unsatisfactory in our communal health, and as to whether the unsatisfactory features are likely to be removed by extension of public health activities along the same lines as heretofore, and in the forefront I would place one of our last remaining problems of environmental hygiene, the smoke pollution of the atmosphere, with its direct and indirect effects on physical well-being. As to this I am hopeful that the next twenty years will see extended practice of the low-temperature carbonisation of coal, and look to this, and to the growing pressure of public opinion in securing the application of knowledge already available, to bring about an appreciable reduction in this great handicap of town life.

Reverting next to problems of personal hygiene, the incidence of cancer or malignant disease in general leaps to the mind at once as a pressing problem, and in this respect, noting that the crude cancer death-rate per 100,000 living has risen from 90 in the first decade of this century to 136 in 1926, and that the standardised rate (which discounts the increasing age of the population) has risen from 87 to 100 in the same period, I confess to a feeling of pessimism as to what we can achieve with the two weapons we have found so successful in other fields of action; and even if the spread of knowledge as to the early signs and symptoms of cancer and of its curability by surgical measures in its early stages, can be attained by individual or mass instruction we shall do well if the cancer death-rate in 1948 is no greater than it now is.

The maternal mortality from child-birth should come second on our list of unsatisfactory conditions, on sentimental if not on statistical grounds, and here the facts are that the first five years of this century saw England and Wales with a maternal mortality rate of 5·56 per 1,000 live births, and that this rate has hardly changed during succeeding years and stood at 5·14 in 1926. Here at least we can take heart, for an examination of international statistics shows that, although there are countries with even less satisfactory figures than our own, yet there are others, notably Sweden, consistently returning maternal mortality rates round about 2·5 per 1,000. An examination of the methods by which Scandinavia has attained this position shows two noteworthy points; first, that the practice of midwifery is largely in the hands of midwives whose training occupies a minimum of two years and whose general education and social standing are far ahead of what obtains in this country, and secondly, that 30 per cent. of the confinements take place in institutions; and although one would not be so foolish as to advise the adoption *en bloc* of the Swedish system, yet one feels that the undesirable elements in our own existing arrangements cannot be allowed to stand; that the organisation and use of ante-natal clinics will expand, and I foresee, with some confidence, a maternal mortality-rate reduced to 2·5 per 1,000 in 1948.

Next, the infant mortality-rate for England and Wales in 1927 was 70—a tremendous improvement, as already noted, on the experience of twenty years ago, but a figure which, after comparison with other national rates, seems to be capable of still further reduction. Consideration of this question, however, is best undertaken after noting that the neo-natal mortality rate in England and Wales for 1927 was 32 per 1,000 births, whereas in New Zealand it was 28, and in Amsterdam it was 13. Now our English experience is that three-quarters of these neo-natal deaths are due to prematurity and developmental and wasting diseases, the attack on which must be many-sided and far better organised than at present, and accordingly one is led to conclude that as far as the next twenty years are concerned we shall do well if in England we reduce our neo-natal mortality figure to 20 per 1,000. Then as to deaths in later infancy, it is well known that intestinal disease as a cause has almost vanished and that a large part of the remaining number of infant deaths is ascribed to respiratory disease, in part perhaps due to climatic conditions, but in part also preventable by attention to the principles of the open-air life, light warm clothing, suitable feeding and the decencies of nasal hygiene. I suggest, therefore, that the combined savings in infant life in the first month and during the remainder of the first year should result in 1948 in an infant mortality rate of 50 per 1,000.

As to tuberculosis, we have already seen the halving during the last twenty eight years of the death-rate from all forms of tuberculosis in England and Wales. Statisticians and epidemiologists are, however, not in agreement as to the comparative importance of the main factors in this decline, various opinions laying greater or less stress on inherited immunity, on the rise in real wages producing better nutrition and enhanced resistance, on education, and on specific anti-tuberculosis measures, but there seems a broad agreement that the decline may be expected to continue and that forty or fifty years hence tuberculosis will be negligible as a cause of death. Probably, therefore, we may expect to see the death-rate from all forms of tuberculosis in England and Wales down to 0·5 per 1,000 in 1948.

What about the incidence of the commoner infectious diseases? A review of the death-rates from zymotic disease shows a reduction in the mortality-rate from scarlet fever in England and Wales from 0·106 per 1,000 of the population in the first decade of this century to 0·01 in 1927, and a fall in the diphtheria mortality-rate from 0·192 to 0·09 over the same period. There is also to be recorded a fall in the measles mortality-rate from 0·309 to 0·09, and from whooping cough from 0·277 to 0·09 during the same period. But much as one would like to think that improved sanitation, a higher standard of living, specific treatment, and health education have been responsible for these satisfactory declines, one is compelled to be cautious, since by reference to the Registrar-General's historical review of these diseases, one sees that there has been since the institution of death registration some hint of the existence of cycles of rising and falling mortality due to these causes, and in respect of both incidence and mortality from the commoner infectious diseases I propose making no prediction as to the figures twenty years hence.

Suggested Position Twenty Years Hence.

The logical outcome of the contention that most disease is preventable should next lead one to take the remaining principal causes of

death, *viz.*, (*a*) bronchitis, pneumonia, and other respiratory diseases ; (*b*) diseases of heart and circulation, and (*c*) diseases of the nervous system, and similarly to examine the recent trend of mortality from these conditions in order to deduce the probable position in respect thereof twenty years hence. I think, however, that deductions in these respects would be more than hazardous in view of the fact that we have at present no opening through which we can aim at preventing the acute respiratory diseases endemic in our country ; that we have no means of assessing the possible value of the newly-established rheumatic or cardiac clinics ; and that we may be on the threshold of a new structure of psychology in its application to industry. Hence, in place of doing this, I propose to suggest a figure for the national death-rate of 1948, a figure arrived at by allowing for the specific improvements already considered possible as well as by including a small factor for the non-analysed reduction in the remaining causes of death. Since, however, as stated above, alterations in the age-constitution of the population make a crude death-rate non-significant, the prediction will refer to a population standardised to the sex and age constitution of the population enumerated in 1901, and I suggest that the figure of the standardised death-rate in 1948 may well be down to 9·0 per 1,000, as contrasted with 10·6 to-day, 14·5 in 1908, and 17·7 in 1898. Such a reduction in the death-rate will be expressed in increases in the expectation of life at all ages, greatest naturally in the youngest age-groups—indeed the expectation of life at birth may well be increased by seven years, making it 62 for males and 66 for females—and decreasing with successive years, but still showing significant improvements even at ages of 50 and over ; the justification for this latter assertion lies in a comparison of English Life Tables Nos. 7 and 9, indicative of the mortality prevailing in 1906 and 1921 respectively, which show increased expectations of life of nearly two years at age 50, and of just over one year at age 60.

This expression of improved vitality in terms of added expectation of life leads me to obtain support in my speculations from reference to the work of certain American statisticians, with whom it has been a favourite exercise to calculate from time to time the results attainable in their own country. In 1909, for example, Irving Fisher suggested that by preventing diseases of infancy at least 4·4 years could be added to the average duration of life : by preventing diseases of middle life at least 6·8 years, and that the total prolongation of life which would come from applying all the preventabilities was about 15 years. These figures took no account of future advances in preventive science, and signified merely what could be attained by applying knowledge existing in 1908, and it is interesting to note that although there were variations in the forecasted and actual results when taken item by item yet the fall in the total death-rate by 1926 was in fact almost equivalent to the fifteen years of added life stated to be attainable. Then in 1922, Dublin in his " Possibility of Extending Human Life," showed that ten years could still be added by applying existent knowledge alone, without taking account of future discoveries or improvements in habits of living : his reason for this limitation was, of course, not pessimism but inability accurately to estimate the effect of these two factors, and it may be permitted to an optimist to hope that hygienic science will not stand still and that the more vigorous organisation of health education in our schools and among our adolescents will lead to a desirable improvement in human habits.

In conclusion then, where shall we stand twenty years hence ? I think that we shall be ministering to a community cleaner as to personal habit, and bigger and healthier in frame : to a community in which the peril of childbirth has been halved and in which 19 out of 20 infants born will survive their first year of independent existence ; to a community in which tuberculosis has been reduced to manageable proportions, and amongst whom the expectation of life has been extended by several years. And if, as seems probable, we shall leave to our successors some of our present problems unsolved or even a heritage of new difficulties, a retrospect will start them enheartened on their beneficent task of helping their fellows to a longer and a fuller life.

THE COLD SHOULDER.—" One day," remarked the physician, " the brother of a distinguished surgeon sat down by me at luncheon and said : 'I've got a cold—a disease for which you doctors can do nothing.' I replied : ' At least we understand something of prevention, so, if you'll excuse me, I'll go to another table to avoid infection from you.' "

The Society.

Reports, Proceedings and Announcements.

NOTICES.

MATERNITY AND CHILD WELFARE GROUP.

A meeting of the Group will be held at the house of the ROYAL SOCIETY OF MEDICINE, 1, Wimpole Street, W.1, on Friday, March 15th, 1929, at 8 p.m., for a joint discussion with the Obstetric Section, R.S.M., on " The future of the Maternity Service." Mr. Eardley Holland, Obst. and Gynæcol. Surgeon, London Hospital, and Prof. Munro Kerr of Glasgow University will speak for the Obstetric Section, R.S.M., and Dr. T. Eustace Hill (C.M.O., Durham) with Dr. J. J. Buchan (M.O.H., Bradford), will represent the M. & C.W. Group. —*Margaret Emslie, M.B., Ch.B., Group Hon. Secretary*, 18, *Weymouth Street, London, W.*1.

SCHOOL MEDICAL GROUP.

The next meeting of the above Group will be held at the house of the Society on Saturday, March 23rd, 1929, at 3 p.m., when an address will be given by Dr. Emanuel Miller, Clinical Psychologist, West London Hospital for Nervous Diseases, on " The Nervous Child in the Home and in the Classroom."—*W. J. M. Slowan, O.B.E., M.D., Group Hon. Secretary*, 24, *Queenswood Court, London, S.W.*4.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on Friday, February 15th, 1929. The President (Dr. J. Howard-Jones) was in the chair, and there were present : Drs. Snell, Charles Porter, Lyster, Fenton, Milligan, E. Ward, Pearce, Annis, Brackenbury, Paterson, Picken, Eustace Hill, Jolly, Stirk, Tapper, Wood, Naylor Barlow, Mussen, Cates, Gibbons Ward, Wilshaw and Pringle, Lt.-Col. F. E. Fremantle, M.P., Prof. H. Kerr, and Lt.-Col. G. S. Parkinson.

The Minutes of the last meeting having been approved and signed, apologies for absence were received from Drs. J. J. Buchan, Stella Churchill, A. K. Chalmers, Bertram Hill, W. A. Muir, and Lt.-Col. A. J. H. Russell.

Salary Increments.—A letter was received from the Metropolitan Branch expressing regret that a satisfactory rate of progress is not being made towards securing the granting by local authorities to Medical Officers of Health of increments upon the minimum salaries of the approved scale. It was agreed to notify the Branch that this matter continues to receive attention, and that it has again been the subject of representations to the British Medical Association.

Pupil Assistants to Medical Officers of Health.—A further communication was received from the British Medical Association in reference to the employment of pupil assistants by medical officers of health, and to Minute 163 of the A.R.M., 1928, *viz.* :—

> That advertisements for pupil assistants to act (*a*) either as residents in infectious hospitals, sanatoria or institutions of a similar nature, or (*b*) to do work usually assigned to assistant medical officers of health or assistant school medical officers, should not be accepted for publication in the British Medical Journal whether or not a premium be required.

It had been suggested to the Public Health Committee of the Association that if strictly interpreted the policy indicated by the above Minute would prevent any such thing as pupil assistants, and that this would be placing an unreasonable difficulty in the way of those who desired to get an insight into public health work.

It was agreed to advise the Association that there was no sufficient reason for a reversal of the decision recorded in the Minute. The regulations for D.P.H. training provide for the acceptance of pupils by medical officers of health in areas with a population exceeding 50,000. In addition the Scale of Salaries expressly permits the appointment of probationary assistant medical officers for a term not exceeding one year, in order that those entering the public health service may have opportunities of acquiring experience. Dr. Picken mentioned that with the same end in view the Cardiff city council had from time to time appointed half-time medical officers on half pay.

Irregular Appointments.—A letter was received from Dr. Cox in reference to complaints received from public health members of the B.M.A. regarding election to the Association of medical officers holding irregular appointments. Dr. Cox explained that the constitution

of the B.M.A. gives autonomy to the Branches, and that in some cases there had been failure to realise the importance of enforcing the policy of the Association in regard to public health salaries. He promised that he would personally impress on Divisions and Branches of the Association the need for more consistent action in this connection.

The Executive Secretary reported that the member of the Society who had recently supported the B.M.A. candidature of a medical officer of health holding an irregular appointment had explained that he had done so as the Branch in question was anxious to co-operate with the public health department concerned in a scheme for health propaganda. He had no intention of dissociating himself from the efforts of the Society in relation to the Scale of Salaries, and should such a case arise again he should not commit himself without consulting the council of the Society.

It was pointed out that it is no part of the disciplinary policy of the Society to refuse official co-operation with those who accept irregular appointments, but such co-operation in no way made it necessary to elect offenders to the professional societies. This being so, the Council again expressed regret that a member of the Society should have supported a candidate who had deliberately accepted an appointment in opposition to the policy of the B.M.A. and the Society.

Medical Examinations for Superannuation Schemes.—The Council considered a return forwarded by a medical officer of health indicating the practice of thirty-five Local Authorities in reference to the medical examination of their employees. In as many as twenty-eight areas the M.O.H. is required to undertake this work, in all but four cases without remuneration. The Council had previously represented to the B.M.A. that in the opinion of the Society these examinations should be entrusted to private practitioners, but on the proposal of Dr. G. F. Buchan it was agreed unanimously, "That in the opinion of this Council (*a*) it does not fall within the duty of a Medical Officer of Health to examine entrants to the Superannuation Scheme of the Local Authority, and (*b*) it is not desirable that a medical officer of health should report on the health of an employee who is applying for a break-down pension.

The Working of the Local Government Act, 1929.—On the proposal of Dr. H. J. Milligan, it was agreed unanimously :—

"That a special Committee be appointed forthwith : (*a*) to advise on the drafting of administration schemes covering the transfer of duties to County, and County Borough, Councils consequent on the passing of the Local Government Act, 1929, and (*b*) to consider questions of policy relating to the use of transferred institutions and the classification of the people to be treated therein ; the relations of the personnel of the health departments and the poor law departments ; and the definition of the duties to be carried out by the new public assistance committees."

In connection with the appointment of the above Committee, Dr. Barlow urged that early representations should be made regarding the suitable adjustment of salaries to meet the increased responsibilities imposed by the Act on medical officers of health. A recommendation from the West of England Branch was held to be covered by the terms of Dr. Milligan's resolution.

The Local Government Act Committee was then constituted as follows : The President, Vice-Presidents, Hon. Treasurer and Editor, the Chairman and Hon. Secretary of the Non-County Group, Drs. Mussen, Milligan, Eustace Hill, Fenton, and Butterworth, with power to add to their number.

It was agreed on the suggestion of Dr. Brackenbury that the recommendations of the Committee should be communicated to the B.M.A. for the information of that body.

The Tuberculosis Service.—Dr. E. Ward, on behalf of the Tuberculosis Group, submitted the following Memorandum :—

The Improvement of the Tuberculosis Service.

The efficiency of the Tuberculosis Service varies widely in different districts, but backward areas are being improved by wise stimulation from Headquarters. This supervision should not be used so as to hamper individual initiative, or impede experimental methods.

The chief factor in success is the personality and ability of Tuberculosis Officers and the Superintendents of Sanatoriums, and to secure this, remuneration sufficient to attract good men is all-important. An indifferent Officer fails to obtain the confidence and esteem of the General Practitioners on whom so much depends.

It is better to have fewer and better paid officers with larger areas, than a large number of poorly paid men of mediocre capacity.

Rural areas of 250,000 population, and urban areas of 350,000 can be managed by one whole-time officer with adequate medical and clerical assistance, and would justify adequate remuneration. The service should be so graded that those men who had acted as assistant T.O.'s might become higher salaried whole-time Consultant Tuberculosis Officers or Senior Sanatorium Superintendents. Superannuation schemes should be generally adopted, and so arranged that no officer should lose by transference to another district.

The Tuberculosis Officer and the Sanatorium Superintendent should have at their disposal facilities for diagnosis, such as an X-ray outfit, also for such special forms of treatment as Light, and Artificial Pneumo-Thorax. Tuberculosis Officers should have hospital beds.

Dispensary and Sanatorium Officers should be first and foremost clinicians but with a public health outlook. Facilities to attend post-graduate courses are of the highest importance.

In certain circumstances it may be advantageous for the Medical Superintendent of a sanatorium to be responsible for clinical work in the vicinity of his institution.

The practitioners sense of responsibility in the prevention and treatment of tuberculosis must in no way be impaired, and it is the first duty of Dispensary and Sanatorium Officers to ensure this.

One of the most helpful qualifications for these Officers is to have been themselves in private practice.

It was agreed to refer the Memorandum for consideration by the L.G. Act Committee.

The Council then adjourned.

ORDINARY MEETING.

An Ordinary Meeting was held at the house of the Society on Friday, February 15th, 1929.

The President (Dr. J. Howard-Jones) was in the chair, and there was a large attendance of members. Apologies for absence were received from several members of Council and from Dr. C. K. Millard.

The minutes of the last meeting having been approved and signed, the following candidates were elected to the Society, *viz.* :—

As Fellows :—

Armstrong, John Vincent, M.B., B.S. Lond., D.P.H. ; Boome, Edward James, M.B., Ch.B. Birm., D.P.H. ; Brown, Charles Metcalfe, M.B., Ch.B. Glas., D.P.H. ; MacCunn, Mary Poldores, M.D., Ch.B. Glas. ; Malone, Albert Edward, Surg.-Cmdr. R.N., B.A., M.B., B.Ch. Dub., D.P.H. ; Morton, Janet Mabel, M.B., Ch.B. Ed., D.P.H. ; Peirson, Thomas, M.B., Ch.B. Manch., D.P.H. ; Umpleby, Madeline Hilda, M.R.C.S., L.R.C.P., D.P.H.

As Associate :—

Lesser, Henry, LL.B., Barr.-at-Law.

A number of nominations were received for the April election.

There followed a discussion on "The Control of Small-pox." The openers were Dr. G. F. Buchan, Member of the Departmental Committee on Vaccination, and Dr. A. F. Cameron, Medical Superintendent, River Hospital Service, Metropolitan Asylums Board. Other speakers included Dr. A. E. Brindley, Dr. R. W. Jameson, Dr. R. P. Garrow, Dr. R. M. F. Picken, and Dr. E. H. T. Nash. A report of the discussion will appear in an early issue of PUBLIC HEALTH.

THE METROPOLITAN BRANCH.

President : Dr. J. B. Howell, M.O.H., Hammersmith.
Hon. Secretary : Dr. James Fenton, M.O.H., Kensington.

A meeting of the Council of this Branch was held at the house of the Society, on January 25th, 1929, the President occupying the chair. There were present sixteen members of the Council.

The Council received a letter from Dr. C. S. Thomson, resigning membership of the Branch and the office of Hon. Treasurer to the Branch, upon his departure from London to take up the post of Medical Officer of Health of Belfast. In moving the acceptance of Dr. Thomson's resignation, the President expressed the pleasure of the Branch Council at Dr. Thomson's success in obtaining his new and important position, and moved a vote of thanks to him for his past services to the Branch. Dr. Lennane seconded the motion, which was carried.

The President referred to the appointment of Dr. F. L. Keith as Medical Officer of Health of Deptford, and moved that Dr. Keith be accorded the congratulations of the members of the Branch Council. Dr. Annis seconded this proposal, and it was agreed accordingly. It was further moved by Dr. Annis, seconded and agreed that Dr. Keith be appointed Hon. Treasurer to the Branch. Dr. Keith signified his willingness to serve in this capacity.

Approval was expressed with a programme of meetings of the Branch and Branch Council under which it is proposed that meetings of the Branch should be held in April, July and November, and that the Branch Council should meet on the second and fourth Friday in each month of the year, with the exception of July, August and September. In this connection the attention of the Branch Council was called to the large expense in which the Branch will be involved in paying a rental of £1 for each meeting held at the house of the Society. The Branch Council decided, therefore, to ask the Council of the Society whether the Branch might have the use of the rooms at the house of the Society free of charge for the purpose of holding meetings.

The Branch Council had before them a letter from the Metropolitan Grocers', Provision Dealers' and Oilmen's Association, relating to the views recently expressed by the Branch Council in regard to the disposal of unsound tinned food. The letter suggested that the wishes of the Branch Council in this

matter might be met by the owner of unsound food supplying to the local medical officer of health details of the manner in which such goods are to be disposed of. It was agreed that the Association should be informed that the Branch Council agree that the destruction of large consignments of unsound food would entail dealers in unnecessary loss and, in such cases, the Branch Council are of the opinion that the medical officer of health concerned might decide whether or not the goods could be used for purposes other than for human food. In those cases, however, in which comparatively small quantities of food are surrendered, it was agreed that the application of the goods to other purposes would result in a very small saving to the dealer, and, in such cases, the return of the food to the wholesaler should not be permitted.

Consideration was given to a report of a meeting of the Emergency Executive Committee of the Branch, held earlier in the afternoon, dealing with a proposal of the Ice Cream Association to issue to its members an emblem denoting (*a*) that an undertaking had been given by a dealer to the Association to sell ice cream containing not less than 18 per cent. total milk solids, of which 8 per cent. shall be milk fat, and (*b*) that the local medical officer of health has certified that the dealer's premises and equipment are in all respects suitable for the manufacture or sale of ice cream. The Ice Cream Association requested that the Branch should co-operate with them by suggesting to the Society of Medical Officers of Health that medical officers of health throughout the country should be recommended to comply with requests from the Ice Cream Association to be supplied with certificates as to the suitability of premises and equipment used in the manufacture or sale of ice cream. The Branch Council resolved that they could not take action on the lines suggested by the Ice Cream Association.

The attention of the Branch Council was drawn to the case of a man who was admitted to South Wharf Hospital upon a diagnosis of small-pox, but was discharged within a few days when the diagnosis was found to be inaccurate. It appeared that when the patient was removed to hospital, extensive disinfection was carried out, and the home was not ready for the reception of the man on his return after such a short interval. The patient was still ill on coming home, and had to be put into a neighbour's bed. It was agreed (1) that the attention of the Metropolitan Asylums Board should be drawn to this case; (2) to suggest that the earliest possible notice of the clearing up of a diagnosis of small-pox should be given to the appropriate medical officer of health; and (3) that in such cases the patient should not, if possible, be sent home until information is received from the medical officer of health that the home is fit for the reception of the patient.

The Hon. Secretary drew attention to a publication issued by the London Council of Social Service relating to the Local Government Bill. It was agreed that copies of the publication should be circulated to the Council of the Branch, and that this matter should receive consideration at the next meeting.

Attention was drawn to the fact that the Ministry of Health Maternal Mortality Committee are still giving consideration to the Form of Enquiry in cases of maternal deaths. In view of the facts reported to the Branch Council on this question, it was agreed that the arrangements made by the Branch under which copies of reports upon maternal deaths are submitted to the Branch Maternal Mortality Sub-Committee, should remain in abeyance.

The Branch Council gave consideration to the practice of certain Borough Councils in offering the minimum salary of the approved scale of salaries for medical officers of health, and without increment. Considerable discussion upon this question ensued, and it was decided to inform the Council of the Society that the Branch Council are not satisfied with the rate of progress being made to secure the granting of increments upon the minimum of the approved scale.

THE MIDLAND BRANCH.

President: Dr. R. H. H. Jolly, M.O.H., Wolverhampton.
Hon. Secretary: Dr. B. C. Haller, Asst. M.O.H., Wolverhampton.

The third meeting of the session of this Branch was held at the Medical Institute, Birmingham, on December 13th, 1928, the President occupying the chair. Twenty-two members were present. Apologies for non-attendance were received from Drs. Cowie, Miller and Clark.

The Hon. Treasurer presented his annual report and balance sheet for the year, which were received and adopted.

The discussion on the "Interim Report on Encroachments on the Sphere of Private Practice by the Activities of Local Authorities" (*vide* B.M.J. Supplement, November 3rd, 1928) was opened by Dr. Snell, and most of the other members present also gave their views. It was decided that the following suggestions be submitted to the Council of the Society:—

The Branch welcome the indications contained in the report which suggest that there is an earnest desire on the part of medical men in practice to associate themselves with the public health services; at the same time they wish to point out that it is not possible to define a scheme of a cut and dried character which is equally applicable to all parts of the country. This is clearly brought out in the results of the investigations of the Medical Secretary.

They also desire to point out that the report of the Private Practice Committee appears to indicate a desire on the part of that Committee to depart from the principles of the Conference of the British Medical Association, and the Society of Medical Officers of Health, which were endorsed by the Annual Representative Meeting in 1923; as also from the Memorandum on the general question of municipal clinics, etc., also adopted by the Annual Representative Meeting in 1923.

After a few members had expressed their views on the Local Government Bill, 1928, it was considered too late to take any action.

The fourth meeting of the Session was held at the Medical Institute, Birmingham, on February 7th, 1929, when the President and eighteen members were present. Apologies for inability to attend were notified from Drs. Dent, Stirling, Carruthers, Gibbons Ward, Cowie, and Sir John Robertson.

The President and Dr. Hamilton Wood referred to the loss sustained by the Branch in the deaths of Dr. Watson Simpson and Dr. T. E. Holmes. The members expressed their sympathy by standing in silence.

Dr. Ethel Cassie read a paper on "Maternal Mortality and Morbidity in Childbirth, and Allied Problems," which raised questions of great interest from the educational, clinical and administrative points of view.

Drs. Hamilton Wood, Stanley Robinson, Symons, Miller, Severn, Pooler and Jolly entered into the discussion which followed, and at the conclusion Dr. Cassie was accorded a hearty vote of thanks, on the proposal of the Chairman, seconded by Dr. Goldie.

THE YORKSHIRE BRANCH.

President: Dr. Cyril Banks, M.O.H., Nottingham.
Hon. Secretary: Dr. G. H. Pearce, M.O.H., Batley.

A meeting of this Branch was held at the Education Offices, Calverley Street, Leeds, on January 25th, 1929, with the President in the chair. Seventeen members were present. Apologies for absence were received from eight members.

The Hon. Secretary was instructed to write to Dr. James Mair, a past-President of the Branch, expressing sympathy with him in the bereavement he had sustained through the loss of his mother.

Consideration was given to communications from the Executive Secretary of the Society respecting the Local Government Bill, 1928; Public Health Encroachments on Private Practice; and Venereal Disease. It was decided that consideration of the last named be postponed to the next meeting.

An offer from the British Association of Refrigeration to give a lecture to the Branch on Refrigeration and Food Hygiene was received with thanks, and the Hon. Secretary was instructed to reply in the terms then indicated.

A letter from Dr. J. R. Kaye on the same subject was also received. He enquired if the Branch would care to have a combined meeting of medical officers of health and sanitary inspectors. The Hon. Secretary was instructed as to the terms of his reply to Dr. Kaye.

It was resolved that the Hon. Secretary communicate with the Executive Secretary respecting (1) the appointment by the Mirfield urban district council of a medical officer of health who does not possess the Diploma in Public Health, notwithstanding the fact that the services of persons holding that Diploma were available; and (2) the report of the North Northumberland Division of the British Medical Association, published on page 14 of the supplement to the *British Medical Journal*, January 12th, 1929, in which it is stated that Dr. Whitley "was accorded a very hearty vote of thanks" after stating "the case ably from the point of view of the whole-time medical officer."

The Hon. Secretary reported upon the proceedings at a meeting of the British Medical Association (Yorkshire Branch Council) of which he is a member, held in Leeds on December 4th, 1928, when a lengthy discussion took place upon "Alleged Encroachments on Private Practice by Public Health Authorities."

Ministry of Health Circular 934 (Maternal Mortality) was considered, together with several domestic matters.

The main business of the meeting concerned consideration of the revision of the Branch Bye-laws. It was resolved that certain alterations be effected, such to be considered at a future meeting of the Branch, and, if necessary,

submitted for approval to the Council of the Society.

A meeting of the Council of the Branch preceded that of the Branch.

THE WEST OF ENGLAND BRANCH.

President: Dr. J. F. Blackett, M.O.H., Bath.
Hon. Secretary: Dr. P. H. Stirk, M.O.H., Exeter.

A meeting of this Branch was held at Bristol, on January 25th, 1929, the President occupying the chair. Twelve members were present. Apologies for absence were reported from six members.

The Hon. Secretary reported replies received from Branch Secretaries regarding the Wheatley Memorial and, after some discussion, it was decided that the Branch could not subscribe, but that the Memorial should be commended to the individual attention of members.

The Secretary read correspondence from the Executive Secretary referring the following matters to the Branch: (1) The Local Government Bill, 1928; (2) Venereal Disease Questions; and (3) The B.M.A. Report on alleged Public Health Encroachments on Private Practice.

On the last-named subject a letter was read from the Hon. Secretary of the Home Counties Branch, containing the following resolution:—

Whilst the members of the Home Counties Branch are anxious to do all in their power to promote amicable professional relations with their colleagues, they desire to put on record their entire disagreement with the general tenor of the Interim Report (Encroachment on the Sphere of Private Practice by the Activities of Local Authorities) of the Private Practice Committee of the British Medical Association.

After discussion, it was proposed by Dr. Crossley, and seconded by Dr. Savage: "That this Branch agrees with the resolution of the Council of the Society as reported in PUBLIC HEALTH (January, 1929, p. 137)" and this was carried with one dissentient.

After considerable discussion of those clauses of the Local Government Bill, 1928, more nearly affecting the Public Health Services, the following resolution, proposed by Dr. Savage, was adopted, and the Hon. Secretary was instructed to forward it to the Special Committee watching the Bill on behalf of the Society:—

In view of the primary importance of relief being administered from a preventive point of view, this Branch is of opinion that the public assistance committee should be either the public health committee or one closely associated with that committee.

The question of the substitution of block grants for percentage grants in relation to maternity and child welfare work was discussed, but no action was taken.

Consideration was also given to the subject of venereal diseases, and the three questions formulated by the Council of the Society. It was unanimously decided to answer questions 1 and 3 in the affirmative. With regard to question 2, the Hon. Secretary was instructed to write and ask for further particulars as to what was implied by the question; whether it included notification and treatment until cured, or compulsory continuous treatment. At the same time, they desired to say that they supported the idea contained in the Edinburgh Bill, and considered it would be a valuable experiment.

It was decided to hold the next meeting of the Branch on Friday, March 22nd, 1929, at Yeovil, as already arranged.

THE HOME COUNTIES BRANCH.

President: Dr. F. T. C. Linton, M.O.H., Tunbridge Wells.
Hon. Secretary: Dr. W. A. Muir, M.O.H., Gillingham.

The fifth meeting of the 1928-1929 session of this Branch was held at the house of the Society on February 1st, 1929.

The President occupied the chair and fourteen members were present. Apologies for absence were received from Drs. G. F. Buchan and Milligan.

The Hon. Secretary read a letter from the Executive Secretary inviting the Branch to consider certain questions relative to venereal disease. It was agreed to discuss the subject at the April meeting.

The Hon. Secretary having raised the question of a visit to a factory, it was decided to accept the offer of Dr. Nash, to arrange for the inspection of a brewery.

Dr. O. M. Holden, Medical Officer of Health, Croydon, introduced a discussion on the recent Report of the Ministry of Health Committee on Vaccination. He pointed out that the Committee suggested one insertion, although the evidence before them was that the larger the scar area the greater the immunity. He thought the recommendation a mistake, as it was desirable to lengthen the period of immunity. He did not think vaccination every five years, as proposed, was a practical proposition, but expressed himself in favour of stational vaccination. Propaganda in support of vaccination he did not favour, and generally he was of opinion that the Committee's recommendations would make vaccination less effective and probably not more acceptable to the public. The occurrence of encephalitis in association with vaccination was a disturbing factor, although the cases were few in number, but the mortality rate was 60 per cent. One therefore had to admit a certain risk in advocating wholesale vaccination. He questioned whether the present administrative policy towards mild cases of smallpox was justifiable, and suggested they might be largely ignored.

A very interesting discussion followed in which many speakers took part. The attidude adopted by each was that the results of vaccination were in many instances more severe than the modern mild type of small-pox, and that logically one could not recommend wholesale vaccination with four insertions. It was felt that if the disease was not labelled small-pox it might very well be ignored.

Dr. Holden replied to questions asked, and was accorded a hearty vote of thanks for opening the discussion.

Dr. Nash requested any member with experience in methods of protecting watercress to communicate with him.

THE NORTH-WESTERN BRANCH.

President: Dr. F. T. H. Wood, O.B.E., M.O.H., Bootle.
Hon. Secretary: Dr. G. W. N. Joseph, M.O.H., Warrington.

A meeting of this Branch was held in Manchester on February 8th, 1929, ten members being present.

In the absence of Dr. E. T. Burke, D.S.O., Venereal Disease Officer, Salford, owing to illness, the Hon. Secretary read his paper on "The Control of Venereal Disease."

A discussion followed upon this and the subjects reported in PUBLIC HEALTH (January, 1929, pages 104/115). It was resolved:—

1. That this Branch approves a proposal to amend the present Act so as to permit the sale of materials for disinfection, together with the necessary instructions. (It should be pointed out in any public statement that the preventive measures recommended are not contraceptive but only self-cleansing. As a responsible Society of medical men we support the Church in all its efforts to promote purity and morality.)

2. That having regard to the fact that the sole means of preventing the spread of venereal disease is by treatment of infectious cases, the Branch approves the principle of compulsory treatment of all such cases whilst in an infective stage. (This will naturally involve compulsory notification of venereal disease, with which the Branch is in agreement).

3. That the Branch approves the suggestion that the parents of congenitally affected children should be brought within some measure of treatment.

The Hon. Secretary was instructed to forward the best thanks of the meeting to Dr. Burke for his interesting paper.

THE NORTHERN BRANCH.

President: Dr. J. Bannerman, M.O.H., Weardale R.D.
Hon. Secretary: Prof. Harold Kerr, O.B.E., M.O.H., Newcastle-upon-Tyne.

A meeting of this branch was held in the Medical Institute, 7, Windsor Terrace, Newcastle-upon-Tyne, on February 1st, 1929, the President occupying the chair. Twenty-three members and two visitors were present. Apologies for absence were received from Drs. G. A. Dawson, T. Eustace Hill, F. H. Morison, and A. F. G. Spinks.

The President informed the meeting that a special emergency meeting of the Council, to which were invited a number of the senior members of the Branch, was held on November 30th, 1928, to consider the British Medical Association's Interim Report on Encroachments on the Sphere of Private Practice by the Activities of Local Authorities (*B.M.J. Supplement*, November 3rd, 1928).

During the prolonged discussion of the report at that meeting it was early obvious that the opinions of the part-time and the whole-time members of the services were pretty sharply divided. Some speakers considered that there had been little or no encroachment, while others held that there was some cause of complaint by the general practitioner. The argument was somewhat discursive, and it was finally agreed to approve generally the recommendations of the report as a whole. Thus:—

Nos. 1 and 2 were agreed to.
No. 3 (*a*) was not considered.
Nos. 3 (*b*) and (*c*) and (4) were agreed to.
No. 5 was agreed to, subject to the substitution of the word "practicable" for "possible."

No. 6 was agreed to, subject to the addition to the qualification "willing," of "and competent" in the last line.
No. 7 was agreed to.
No. 8 was agreed to, subject to the addition of the words "or the consent of the latter obtained."

The report of the special emergency Council meeting was confirmed by the Branch.

It was reported that the North of England Branch of the British Medical Association had re-nominated Dr. James Hudson as their General Practitioner Representative on the Northern Branch Council of the Society of Medical Officers of Health.

Letters were reported from Dr. A. Smith of Ryton, thanking the Branch for its letter of sympathy on the death of Dr. J. W. Smith, and from Mr. Joseph Clegg, of Rhos-on-Sea, expressing appreciation of the sympathetic message of the Branch on the death of Dr. S. J. Clegg.

Consideration of certain questions regarding the notification and control of venereal diseases—referred to the Branch by the Council of the Society—was adjourned to the next meeting when Dr. C. A. Franks had agreed to open a discussion on the subject.

Dr. Christina Barrowman gave an address on "The Application of Actino-therapy in Preventive Medicine," illustrated by lantern views, and accompanied by an exhibit and demonstrations of apparatus. The practical information she gave was greatly appreciated, and Dr. Barrowman was subjected to a great many inquiries by the members. On the motion of the President, a cordial vote of thanks was accorded to her for addressing the Branch.

THE SCHOOL MEDICAL SERVICE GROUP.

President: Dr. T. P. Puddicombe, D.S.O., Asst. M.O.H., Essex County Council.
Hon. Secretary: Dr. W. J. M. Slowan, O.B.E., Asst. M.O., London County Council.

A meeting of this Group was held at the house of the Society, on January 26th, 1929, the President occupying the chair. Eight members were present.

Dr. Gerald Slot, of the Royal Waterloo Hospital, Heart Specialist to the London County Council, read a very instructive paper on "The Cardiac Child," and this was followed by a lively discussion in which all took part.

NORTH OF ENGLAND TUBERCULOSIS SOCIETY.

(Tuberculosis Section of the Northern Branch of the Society of Medical Officers of Health.)

A meeting of the above-named Society was held at the Medical Institute, Newcastle-upon-Tyne, on January 25th, 1929.

Memorandum 37/T formed the subject for discussion, a paper being read by Mr. Magnay, Chief Clerk to the Tuberculosis Dispensary, Newcastle-upon-Tyne. This was followed by a lively discussion upon many points of difficulty in the memorandum.

A dinner followed the meeting, when fourteen members were present.

NAVAL, MILITARY AND AIR FORCE HYGIENE GROUP.

President: Surg.-Cdr. S. F. Dudley, O.B.E., R.N.
Hon. Secretary: Lt.-Col. G. S. Parkinson, D.S.O.

A meeting of this Group was held at the house of the Society on January 25th, 1929, when Surgeon-Commander Sheldon F. Dudley, O.B.E., R.N., delivered his Presidential Address, entitled "Herds and Individuals," which will appear in an early number of the Society's journal.

The meeting was fairly well attended. Letters of regret for inability to attend were received from the President of the Society (Dr. J. Howard-Jones) and Major-General H. P. W. Barrow, C.M.G., D.S.O., O.B.E.

THE MATERNITY AND CHILD WELFARE GROUP.

President: Prof. A. Louise McIlroy, Professor of Obstetrics and Gynæcology, University of London.
Hon. Secretary: Dr. Margaret Emslie, 18, Weymouth Street, Portland Place, W.1.

A joint meeting of this Group and the Medico-Legal Society was held at 11, Chandos Street, London, W.1, on January 24th, 1929, Sir William Wilcox, President of the Society, occupying the chair. There was a crowded attendance. The subject for discussion was "Criminal Abortion and Measures Necessary to Restrict the Sale of Abortifacient Drugs," and the principal speakers were Dr. F. J. McCann, Sir Bernard Spilsbury, and Mr. H. D. Roome, K.C., on behalf of the Medico-Legal Society, and Mr. Beckwith Whitehouse

and Dr. R. A. Lyster, followed by Miss Musson, on behalf of the Maternity and Child Welfare Group. Outstanding interest attached to the several contributions, which are published in the *British Medical Journal*, of February 2nd, 1929.

THE JOINT TUBERCULOSIS COUNCIL.

A meeting of the Joint Tuberculosis Council was held at the house of the Society of Medical Officers of Health on January 19th, 1929. Present: Dr. Lissant Cox (in the chair); Drs. Gordon Smith, Peter Edwards, E. Ward, James Watt, Neville Cox, L. S. T. Burrell, L. Crossley, G. T. Hebert, Esther Carling, Jane Walker, Arnold Lyndon, D. J. Williamson, S. Vere Pearson, George Jessel, D. P. Sutherland, J. B. McDougall, Blackmore, C. O. Hawthorne, A. Sandison, and Varrier-Jones.

1. The Secretary reported that the Disinfection Memorandum had been circulated as directed. It had been sent mainly to medical officers of health of boroughs of 50,000 population.

2. The following officers were elected for 1929: Chairman, Sir Henry Gauvain; Vice-Chairman, Dr. Lissant Cox; Hon Secretary, Dr. Ernest Ward; Hon. Treasurer, Dr. James Watt.

3. It was resolved that the names of the Tuberculosis Society and the Society of Medical Superintendents of Tuberculosis Institutions be deleted from the list of constituents of the Council, and the name of the Tuberculosis Association inserted, the membership of the Association to be six, and their annual subscription four guineas.

4. Dr. Sutherland made a report on behalf of the Committee concerned with Memorandum 37/T, and presenting a suggestion for a new Table 1. Grateful thanks were expressed for the Committee's work, and the table was adopted.

5. Dr. Lissant Cox's report on "The Fate of Young Children in Tuberculous Households" was next considered, and a letter from Dr. McNalty was read. The Council expressed warm appreciation of the report, and decided that it be published and circulated, and a copy sent to Sir George Buchanan as requested.

6. A discussion followed on the further report of the Employment Committee. Dr. Varrier-Jones emphasised the importance of attention to the patient's mentality and of providing opportunities for those who showed exceptional ability to rise to the position of supervisors and teachers. The report was adopted, and the Committee was asked to "report on after-care schemes generally, including employment schemes and the employment of ex-patients' in residential institutions."

7. The Notification Memorandum was next considered, together with Dr. Lissant Cox's proposed new notification form (Form Z). Various alterations were made or suggested, and the Committee was requested to review these as well as Dr. Cox's form, and report again at the next meeting.

8. A letter from Dr. Brand on Post-Graduate Study and the arrangements for 1929 was read. Fourteen had attended Sir Henry Gauvain's course at Alton, eighteen Dr. Varrier-Jones' course, and thirty the course arranged by Dr. Gloyne at Victoria Park Hospital. During 1929 he proposed more than one course in surgical tuberculosis, also a course in artificial pneumothorax therapy and the interpretation of radiograms, and a French course at the University of Paris during Easter. With regard to the last, he asked those who wished to go to let him know what studies and demonstrations would be most acceptable. Early sanction of the Ministry of Health would be sought.

9. The Secretary reported that during 1928 three meetings of Council had been held, with an average attendance of twenty-one members. After all the wine bills sent in had been paid, the dinner to Transatlantic colleagues had yielded a balance of £18 0s. 2d., which he proposed to hand over to Dr. Watt.

10. The Treasurer presented his balance sheet and was authorised to pay £7 5s. 6d. for copies of the Disinfection Memorandum. A balance in hand of £4 10s. 10d. remained after this payment had been made.

11. Saturday, May 8th, 1929, at 10 a.m., was the date and time fixed for the next meeting.

12. After the meeting the Council was entertained to lunch by Sir Henry Gauvain. Dr. Varrier-Jones and Dr. Charles Porter expressed the thanks of the guests, and proposed the Chairman's health. Sir Henry replied wittily and appropriately.

The Literature of Preventive Medicine.

THE FUNCTIONS OF THE BODY. By V. H. MOTTRAM, M.A., Professor of Physiology, University of London. London: Nisbet & Co., Ltd., 1926. pp. 260. Price 7s. 6d. net.

Professor Mottram has the knack of lucid explanation, and though its use in this textbook may to some extent be interfered with as a result of the volume having been based on a series of lectures, it is not at all improbable that the book will be a favourite with students taking elementary physiology for the first time. The chapters on respiration and on the circulatory system are especially good, but most have something to commend them. The too frequent use of similes rather hampers than simplifies the understanding of the earlier chapters, but the summaries will be found useful, and the illustrations add greatly to the value of a generally excellent book.

INFANT FEEDING AND NUTRITION. By HOWARD B. GLADSTONE, M.D. (Edin.), Hon. Medical Officer, Sydenham Infant Welfare Centre. London: William Heinemann (Medical Books), Ltd., 1928. pp. 118. Price 7s. 6d. net.

This book is written by a general practitioner who has long been actively associated with infant welfare work, and has had opportunities for careful observation of his cases in an infants' ward attached to his centre. The volume is one of the most concise, practical and comprehensive in this branch of literature; shows none of the faddisms and addictions to pure theory that many infant feeding volumes do, and can be heartily recommended to those seeking a guide for this branch of clinical practice.

THE GAME OF HEALTH. By J. MAXWELL TAYLOR, M.A., M.B., Ch.B., D.P.H. Glasgow: Robert Gibson & Sons, Ltd., 1928. Price 1s. 6d.

This volume is intended for children, to teach them the elements of personal and general hygiene and of dietetics in the guise of a battle between health and disease factors arranged as members of opposing teams. The treatment appears to be a little forced and even in detail undignified; and the book suffers from its illustrations, which are often over-fanciful and not such as to point a clear moral. The text is orthodox.

In the Annual Reports.

PREJUDICE AND THE SPECIAL SCHOOL.—The prejudice against the special school is the same in this district as in others, and if a mother has a notice to attend for the child's examination as a possible mental defect her social status may suffer a severe blow. Prejudice dies hard, and once the school has been called the "silly school" it is a question of "give a dog a bad name . . ." That the very reverse is the case is the actual fact, some of the older girls being able to cook a good dinner, under supervision, are as well disposed as any girls in the city, are hard-working, truthful, honest, and markedly loyal to their teachers. The boy or girl with an intelligence quotient of 55 to 65 may belong to the hewer of wood and drawer of water type, but he or she presents a far less problem than the mentally excessive. Moreover, these children show a social factor of the very first importance, *viz.*, a great sensitiveness, consequently they re-act to any surroundings immediately. Few would deny that this is very important from a herd instinct point of view. That they want protection is certain, for with the refined cruelty which they will meet with in the ordinary walks of life, can it be doubted that their intelligence quotient will suffer? One feels that it is necessary to study this subject first-hand, for the books flatly contradict one another. We have the psycho-analyst, eugenic expert, and the alienist. The psycho-analyst's day is going by let us hope. The eugenic expert has shown us in certain families the bad effects of heredity, calmly missing out in the self-same families the larger majority who have lived to bless the world. The only thing they have actually demonstrated is that if the abnormal marries with the normal, in four generations the abnormal will die out, and this, it would appear, is what the first medical officer of health (Moses) said some time ago.—*Dr. E. H. Snell, Coventry.*

THE SITING OF SANATORIA.—In Derbyshire, as in Devonshire and West Shropshire, there is a remarkable body of evidence showing that patients with early phthisis die more often and recover more rarely when residing in exposure to strong prevalent rain-bearing winds than when residing in shelter from them, and this to a degree which cannot be considered negligible. It is obviously important that phthisis sanatoria should be located in shelter from these winds, and even more important that phthisis patients, on leaving their sanatoria should be advised to reside for some years in such shelter.—*Dr. W. M. Ash, Derbyshire County Council.*

PUBLIC LIMEWASHING AND DISINFECTION.—Limewashing is of valuable assistance in maintaining the cleanliness of courts, enclosed backyards and alleys. It is not only of value in itself, but has a stimulating effect on the surrounding householders, who respond extremely well. The result is that the general condition of these places is distinctly complimentary to the people and to the town. This work is carried out by the public health department twice yearly. Opportunity is also taken during the school vacations to disinfect all the elementary schools of the borough.—*Dr. R. J. Maule Horne, Poole.*

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Editorial.

Anything but Love.

NOBODY loves the health officer: and, in the words of the old Scotchwoman whose invariable comment it was upon receipt of direful tidings from any source and in any quarter, "It's a mercy we're a' spared." The gentleman who writes so illuminatingly in the *Daily Mail* on health matters does not love us for, though he sees, and the dullest of intellects, also, he opines sees, an "outstanding increase in the general health of the people and in a happier outlook" as evidenced by "the immense increase in the supply of fruit and in its gradual decrease in price," after claiming the lion's share for himself he gives credit to none but the enterprising journal that provides space for his lucubrations, for the astonishing improvement that has occurred in the general health and the curiosities of its manifestations. That local authorities should not love us is inevitable. Always the employer who regards those who are in his pay with anything but the eye reserved for the most pathogenic of parasites is the exception, and local authorities appear definitely to come within the rule. Otherwise there would not be all these unpleasantnesses in relation to the salary scale, nor such cases in the courts as Field *v.* Poplar Borough Council and Brown *v.* Dagenham Urban District Council. The decision in these cases is so well known by this time that comment is almost unnecessary. It may be noted with regard to the former, however,

that all the credit for the satisfactory outcome of the case must go to the Sanitary Inspectors' Association, which took over the entire burden and fought, not for its own member merely, and not even for its own branch of the service, but most unselfishly for the whole body of health officers. In the case of Brown *v.* Dagenham Urban District Council the result affords no reason for the giving of credit or the offering of congratulations to the members of the health service, or, indeed, anybody else. In effect what the judgment is widely accepted as having established is that this security of tenure on which so many of us are so apt to preen ourselves is less of a safeguard than was supposed, and the situation created is such as the judge himself envisaged—one in which " every town clerk, however eminent, every medical officer of health, however distinguished, and every treasurer could be ignominiously dismissed to-morrow without notice." It may be that reasons for general alarm are less actually than from the findings would appear, but obviously there is necessity for the taking of steps for the strengthening of the security, and it may be hoped that some method of doing so may be devised.

Lastly, amongst those who do not love us is Lord Dawson of Penn. The wind blows all the colder at the thought of this, since the hope, not without justification, very easily might have been entertained that as a result of his membership of the Council of the Society, of which the Society, and he also apparently, was proud, knowledge of the ideals and the mental attitude and outlook of the medical officer of health had been vouchsafed to Lord Dawson. Never at any time was there any attempt made to impress him with the possibility that the health officer had any particular conceit of himself. Possibly, indeed, the tendency may have been to go too far in the opposite direction, leaving Lord Dawson, as an honoured guest, every opportunity of airing his views as to who and what the medical officer of health was and what his capacities and capabilities were, and signifying polite acquiescence on occasions when blunt disagreement might have been more appropriate. There was noticeable, in fact, on many an occasion when a talk was on about hospitals, for example, or the curative branch of the profession and the medical practitioner, too much of an inclination to regard it all as coming *ex cathedrâ* and not open to question or discussion. Perhaps, therefore, on this account the Council of the Society itself is responsible for some of the things said by Lord Dawson in the House of Lords in his contribution to the debate on the second reading of the Local Government Bill. Politeness forbids the suggestion that he himself failed to profit by his association, and what really happened was that the opportunities offered by the contact were lost and he was not given guidance and information or shown just how lovable a health officer can be. In no other way is it possible to account for some of the references in the speech, obscure though several of them were, to the medical officer of health, his position and his work. No one but a person entirely ignorant of the intimate concern that nearly every medical officer of health is required to take in hospital organisation and administration could have expressed such views as those submitted by Lord Dawson apropos the fate of the hospital service when the changes provided for in the Bill come into effect. It is notorious, of course, that in the affections of Lord Dawson—and no one but praises him for it—nothing holds so big a place as the voluntary hospital, except perhaps the private practitioner. Doubtless it was his love for the latter that engendered the thoughts to which he gave expression in such conspicuously clear, matter of fact, accurate and illuminating language . . . " up to now the medical staff of the health services of this country had been run by a small number of medical men. They had been men who had specialised in preventive medicine—medical officers of health, tuberculosis officers, school medical officers. Ever since the Ministry of Health Act was passed it had been a regrettable fact that the policy of these official doctors proceeded on lines totally divergent from those doctors who constituted four-fifths of the profession and who belonged to the curative branch. That divergence was lamentable." Shrewd blows here; and every justification for the suggestion that a council of doctors advisory to the medical officer of health should be set up. Fortunately, shrewd as are the blows and deep the wounds they cause, there is no absence of balm. It lies partly in the comment of the *British Medical Journal* which, in effect, alleges over-emphasis in the statement of Lord Dawson, and throws over his advisory council with an expression of preference for " co-option of members of the general profession on the various committees of councils dealing with the public health services, and by bringing about a closer connection between Divisions or Branches of the

Association and the councils and chief medical officers of local government authorities."

If this is not enough as a healing unguent, there is always the old Scotchwoman and her " it's a mercy we're a' spared."

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International Conference on Cancer, London, 1928.

THE Report of the International Conference on Cancer,* held in London, in July last, is a storehouse of information on the varied aspects of the cancer problem, and it is clear to those with any vision that public health authorities will be forced in the near future to take some action to control this disease, and that their officers will need to possess the latest knowledge. The volume contains information invaluable in the preparation of reports on the statistics of cancer, education of the public on cancer, periodical medical examination, radium treatment, on cancer clinics, to mention only a few matters on which an enlightened health committee should rightly be informed.

The Conference was held under the auspices of the British Empire Cancer Campaign, and fourteen European countries sent delegates, as did Japan and the United States of America. Seven British Dominions were represented.

The Conference met in six sections: Pathology; Diagnosis; Medicine; Surgery; Radiology; and Statistics and Public Health. The proceedings of the last Section will be the most interesting to members of the service, including, as they did, discussions on the geographical and racial prevalence of cancer, and on public action in regard to the disease. The first discussion produced papers by Drs. Major Greenwood, Percy Stocks, Sourasky, and Matthew King, as well as contributions from delegates from Naples and Genoa. The second was introduced by papers indicating the action taken in this country (Sir George Buchanan, Sir John Robertson, and Drs. Cooke, Millard, Daley, and Veitch Clark) and in Louvain, New York, Philadelphia, Berlin and Queensland.

From the statements it is clear that more is being done by public authorities, especially in the largest cities, than is known to the general public, or even to the members of the health service, and the well-known British methods of administrative development, by experiment and success here and experiment and failure there, are shaping even now the future conduct of an anti-cancer campaign in this country.

The clinicians and pathologists had their usual disputations and wrangles. Doubt was thrown on the reliability of Professor Knowall's theory or method of treatment, and he in turn poured scorn on the limited intelligence of those who failed to grasp his meaning and methods. Discussions centred around matters so diverse as the relative values of surgery and radiation in the treatment of cancer; methods of treatment by chemotherapy, with special reference to lead; occupational cancer; sarcoma of bone; and the biological effects of radium and X-rays, with special reference to the factors of wave-length, intensity of radiation and duration of exposure. Even then, all the field was not covered, and the outstanding impressions that remain must be of the amazingly many-sided character of the cancer problem and how that, despite brilliant forward steps—as by, for example, radium therapy and the proof of chronic irritation, especially by carcinogenic substances, as a cause of cancer—much of the research is still but groping in the dark blindly.

* London: Simpkin, Marshall Ltd., 1928. pp. 588. Price 42s. net.

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Public Cleansing.

WITH the exception, perhaps, of the slum there is nothing that so readily permits a picturesqueness in reporting or provides such a wealth of opportunity for pictorial illustration than public cleansing and the collection, removal and disposal of house refuse. Probably never better or more fully has advantage been taken of the opportunities afforded than in the case of the report* prepared by Mr. Dawes, of the Ministry of Health, on the position existing in the metropolis. Accepting entire responsibility for it and for the opinions expressed, Mr. Dawes omits nothing so far as regards the facts, and strives hard to base conclusions upon them and to extract from them suggestions as to the method of doing something about the problem, the existence of which is confirmed by the report. From a technical standpoint the report may be accepted as a treatise on a subject about which a good deal is known, and that has been and is responsible for much of worry to

* PUBLIC CLEANSING. Being a Report of an investigation into the Public Cleansing Service in the Administrative County of London. By J. C. DAWES, O.B.E., M.I.Mech.E., Inspector of Public Cleansing, etc., Ministry of Health, H.M. Stationery Office, 1929. pp. 123. Price 15s. net.

medical officers of health and members of the health service in many areas. The finding of a solution at a desk and on paper is easier in this matter than in very many others with which health officers have concern. In any but the very largest areas, given adequate funds, a free hand and a little ingenuity, the problem presents little of difficulty. In the very large areas—London and the larger capitals of the world, for example—money and the free hand, though still essential, need much in the way of ingenuity to assist toward a solution. In the case of London, Mr. Dawes is of opinion that, from the technical point of view, the existing system under which there are twenty-nine separate cleansing authorities for London has not proved a success, and that a satisfactory service for what is really one compact area can be provided only by centralised arrangement under a special body representative of all the sanitary authorities. He considers also that it would be well that some at any rate of the districts outside the metropolis should be included in any joint scheme that may be devised.

As regards the present service, Mr. Dawes finds that the arrangements for refuse collection are defective in important respects ; for instance, the scattering of dust during loading, and the use of vehicles of obsolete design. Some methods of disposal come in for severe criticism, the practice of indiscriminate dumping in particular being strongly condemned. He states also that there is a want of detailed costing, which is an essential of economy.

Of the several points raised by Mr. Dawes, most have reference to details only—" costing," for example, which has become the blessed word of the cleansing superintendent. The essence of the opinion is that for services of this kind the metropolitan area should be made one. This is a view upon which there is very much room for difference, and because there is such room it is most sincerely to be hoped that there will be no rush to adopt it merely because it is expressed in a report from a government source and is thus given more weight than even its author (Mr. Dawes) desires for it.

Frankly, many as may be the health and sanitation services that might be rendered to the public in the metropolis coming from a centre, on consideration it is open to most serious doubt if that covering the emptying of dust-bins, the removal, transport and even the ultimate disposal of the refuse is one of them. In its essence it is a domestic business—one of those undertakings best done on a small scale and by a small body concentrating upon it. It is in the smaller areas in the country that it is better done or could easily be better done, given the will to that end. Even in cases in which, as in London, the areas are cheek by jowl with one another the position is little different. It is still more convenient for the local bodies to attend to this matter and no less true that the will to do well is a main consideration. Conceivably Mr. Dawes, as so many others, has been appalled by the conditions associated with disposal of the refuse of London. Medical officers of health in the metropolis, no less than others, must regard the arrangements made and the conditions associated as unsatisfactory in the extreme.

That it would be improved if done on a large scale by one central body is difficult to believe. Possibly when Mr. Dawes refers to a central body he means one that is supervisory and provided with powers of compulsion, rather than one that is executive in function. In favour of such a body there is much that might be said.

That it is not beyond the power of a local body in the metropolis to attend to this service in a manner approaching the satisfactory, provided the will is there, the report reveals by reference to the work done in various areas. By implication, if some can succeed all others can do likewise if properly actuated. A central body with power to devise and lay down and impose standards might very easily serve this purpose. Having regard to the importance of disposal, the central body should give the greatest attention to this, and should have the fullest possible power, not only of indicating the method of disposal to be adopted by each local authority, but of compelling adoption and the proper carrying out of the method indicated as appropriate.

The suggestion offered by Mr. Dawes is very far-reaching, and must of necessity receive close examination. It cannot be examined without the full information provided in this report. For this reason the report will be widely read in London. It is something more, however, than a mere London report ; it is, in effect, a treatise and will repay study by anyone engaged in the health service.

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The Medical Uses of Radium.

A REPORT of the Medical Research Council on the medical uses of radium, issued recently,* gives a summary of the information received from various research centres for the year 1927. The report is arranged on much the same lines as its predecessors, and deals with the use of radium for the treatment of sarcoma and lympho-sarcoma, and of carcinoma of (*a*) the breast ; (*b*) the uterus ; (*c*) the mouth, naso-pharynx, larynx and œsophagus ; and (*d*) the rectum and bladder.

The results have been fairly good as far as (*a*), (*b*), and (*c*) (except the œsophagus) are concerned, but not so good in (*d*). They have been good also in the case of sarcoma and lympho-sarcoma. Failure to get good results in carcinoma of the œsophagus and rectum is probably due to the difficulty of application in those regions. In both cases it requires an operation of quite considerable dimensions to get the needles containing the radium into proper position relative to the growth. Doubtless if access to the site of the disease were easier the results would be very much better. As regards the bladder, all the publication says is that " no new development of technique for malignant growths of the bladder has been described in any of the reports received, and a sufficient number of cases has not yet apparently been treated for any statistical returns to be warranted." From that it may be assumed that none of the research centres is at present in a position to report favourably or otherwise on the value of radium in the treatment of malignant diseases of this organ.

On the whole, the report is encouraging, though in no case could it be said that the results obtained have been brilliant. Dosage and length of application seem to give rise to difficulties. Some of the centres find that small doses applied over a fairly long period give better results than larger doses over a shorter period. Only a fuller experience of the use of radium in the treatment of malignant growths can determine the dose and time of application likely to give the best results. Evidently those working on the subject have arrived at some idea of a technique, at least for the treatment of the disease in certain regions of the body, though it is doubtful if the evidence produced in the report is sufficient to warrant the statement made in the introduction that "a definite technique has been developed for the treatment of cancer in almost all regions of the body, except the stomach." The œsophagus and rectum, for example, seem to present very considerable difficulties which have not yet been satisfactorily overcome.

What the future of radium in the treatment of malignant disease may be is difficult to say with certainty, but from this and previous reports on the subject issued by the Medical Research Council the forecast certainly seems favourable. The present position cannot be better summarised than by quoting a paragraph from the introduction to the report, which runs : " How far the new methods which have been devised will prove of value is a question which cannot yet be answered ; the answer must be given statistically, when a sufficiently long interval has elapsed since their adoption."

Further reports on the subject will be awaited with interest.

* Special Report Series, No. 126. H.M. Stationery Office, 1928, pp. 22. Price 1s. net.

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The Health and Cleanliness Council.

ESTABLISHED just three years ago, the Health and Cleanliness Council has made progress of a character to which the description " phenomenal " justifiably may be applied. It has definitely become part of the public health organisation of the country, and is accepted by the service and local authorities as one of the bodies to which application for assistance may be made with absolute safety and with the assurance that any service rendered will be on lines appropriate and free from all objectionable " stunt " elements.

The record of work performed, which was submitted by Dr. George F. Buchan, the Chairman of the Advisory Board, at the luncheon preceding the annual meeting of the Council on March 20th, was most impressive. The field of publicity covered by the Council had widened to an astonishing extent, and when it came to talk of the distribution of propaganda material—books, booklets, posters and other publications—the necessity for thinking in millions became urgent. It is particularly interesting to note the extended advantage taken of the services of the Council by local education authorities. The future in this, as in other regards, lies with the children, and it is only another evidence of the foresightedness of this body, its Advisory Board and its extremely active secretary (Miss Norah March), that there has been, and is, so much concentration upon work amongst school children.

Many complimentary things were said by

Colonel Fremantle in his thoughtful and inspiring address with regard to the Health and Cleanliness Council, and all of these may very safely be echoed by every member of the public health service.

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Medical Research in Malaya.

THE annual report of the Institute for Medical Research at Kuala Lumpur for 1927, may, in a sense, be described as a remarkable document. It is remarkable on account of the variety of the work undertaken, and equally so on the valuable results achieved.

To those who, a few years ago, had never heard of Kuala Lumpur, it must be a surprise indeed to discover that in this far off part of the Empire, public health research work is being carried on by a large staff of physiologists, biologists and chemists, and an insight gained into many problems which, though largely affecting races in the Tropics, have in many instances an abiding interest for those at home.

To refer to one or two points. Beri-beri, of course, is prominent, and an account is given of experiments with vitamin B extracts for treatment and prophylaxis.

Malaria, too, as the chief cause of death in Malaya is dealt with fully, and among other matters an account is given of the investigations and conclusions reached by Dr. W. Fletcher in the treatment of the disease by the synthetic preparation "Plasmochin." The conclusions are that under certain circumstances it has a marked value, and has none of the unpleasant by-effects of quinine. It is, however, more toxic. Dr. Fletcher is strong on the point that it is unsuitable for general circulation, and should only be administered under medical care. "Radion Alfa" (fluorescent radium quinine) a Roman preparation, was experimented with, but it was not found to fulfil the claims of its sponsors.

Tuberculosis receives much attention, and an account is given of the treatment of this disease by Sanocrysin. The preliminary conclusions drawn are that it promises to be of value in early cases, but must be given cautiously to advanced cases, because of the great liability to severe reactions.

Another interesting investigation was that made into the viability of B. typhosus and V. choleræ in Kuala Lumpur waters. In water from the Kuala Lumpur pipe supply, both organisms were viable for three days.

The report deals with many other points, including work under the Sale of Food and Drugs ordinance, and that undertaken for excise and customs and, indeed, every department of government.

It is a valuable and gratifying document, particularly pleasing to the home public health service, for its members can feel that their colleagues on the outskirts of the Empire are well bearing their part in maintaining the high traditions of British public health work.

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The New Year Honours.

ALTHOUGH the New Year Honours List contains no reference to medical officers of health, amongst the recipients there are several who have association in one way or another with the public health service, and honour as a result is to some extent reflected.

Congratulations are offered to, amongst others, Sir William Arthur Robinson, Permanent Secretary of the Ministry of Health, who receives the exceptional distinction of the G.C.B.; Professor Louise McIlroy, President of the Maternity and Child Welfare Group of the Society, who becomes a Dame Commander (D.B.E.) of the Order of the British Empire; Dr. Hubert Bond, a Commissioner of the Board of Control, who is made a Knight Commander (K.B.E.) of the Order of the British Empire; and Miss H. S. Cooper-Hodgson, County Superintendent Health Visitor, Durham, who receives the M.B.E. Gratification may also be expressed at the recognition of the public health service in the Dominions and Colonial Office lists, which include a C.M.G. for Dr. J. H. L. Cumpston, Director-General of Health for the Commonwealth of Australia, and an O.B.E. for Dr. J. C. Stuart McDouall, Director of Medical and Sanitary Services for Sierra Leone.

THE Royal Institute of Public Health announces a series of lectures on Port Sanitary Administration by Dr. Charles F. White, Medical Officer of Health, Port of London, on Tuesdays, April 9th, 16th, 23rd, and 30th, and May 7th, 1929, at 3 p.m. The lectures will be delivered in the Lecture Hall of the Institute, at 37, Russell Square, London, W.C.1

Herds and Individuals.

By SURGEON-COMMANDER SHELDON F. DUDLEY, O.B.E., M.D., M.R.C.P., D.P.H., D.T.M., R.N., Professor of Pathology and Lecturer in Tropical Diseases, Royal Naval College, Greenwich.

In addition to finding an explanation of the term "herd" and of the phenomena of "herd immunity," readers of this paper, delivered to the Naval, Military and Royal Air Force Hygiene Group as a Presidential Address by Commander Dudley, which it is regarded as a great privilege to publish, will find a wealth of interesting comment on matters clinical, pathological and bacteriological that have been observed and considered by one who has definitely established a reputation as a keen and thorough researcher.

THE term "herd" as a prefix to denote properties of a community, or group, as distinct from similar properties of the individual members of the group, was first popularised by the psychologists with the phrase "herd-instinct." Topley, I believe, was the first to use the word to describe physiological and pathological qualities of the community. He coined the term "herd-immunity" to express the resistance of a population to the spread of epidemic disease in contradistinction to the sum of the individual resistances of the members of the group. In some quarters the term "herd" has been criticised as out of place when applied to human beings. However, since the time of Huxley, it has been realised that there are no significant anatomical differences between man and the higher primates, and recent studies, in human and other animal behaviour, indicate the mental differences are quantitative rather than qualitative. But, unfortunately, just about the time that the new Adam looked round his garden to re-name the animals in it, he was beginning to think he had found out most of Nature's secrets; also, since he had for centuries believed he was created in God's image, he felt justified in calling himself *Homo sapiens*. To-day, I think, the new Adam is more modest and would have been more likely to suggest *ignoramus*, or at least *inquirens*, as his specific designation, and left *sapiens* for a future product of evolution. Because, although it is absurd to pretend that man has found out nothing from the mass of facts and observations he has accumulated in recent years, yet he is getting a glimmering idea that, before he can expect an answer to many of the questions he is asking of Nature, higher intellects and better instruments, than any that are at present in use, will have to be evolved; as doubtless they will be in the distant future. For these reasons the term "herd" is a very appropriate prefix to describe the attributes of human beings considered collectively, instead of individually, because it emphasises the biological truth that there is little fundamental difference between a herd of deer, a herd of swine, and a herd of *Homo sapiens*.

Every district or environment supports a community of animal and plant life consisting of many species. The species in the same area are adapted to different parts, niches, or corners of it. These habitats overlap and the species in them clash with each other to a greater or lesser extent, and in doing so interact on each other's life histories. The study of the mutual relationship between living organisms and their environment is known as ecology. Preventive medicine is mainly applied ecology; since it is based on the study of the mutual relationships between man, other living organisms, and the environments they occupy, and the way these relationships affect human health. All the factors which form the human environment are continually changing. For example, consider the weather, the amount and type of movement in the human herd, and the ever-changing character of the bacterial herds whose environment is man himself. Therefore, it is obvious no species can exist without some mechanism by which it can adjust itself to the alterations which continually take place in its surroundings. The power and rapidity of adaptation to different environments vary enormously in different species of animals. This quality whereby a species as a whole, or an individual, can vary in response to different environmental stimuli may be called plasticity. Men and microbes are very plastic groups, and are thus able to adapt themselves to a wide range of physical and biological conditions. The ubiquity of bacteria has rendered it essential

that, in order for man, or any other animal, to survive as a species, he should be able to respond as easily to changes in the bacterial flora of his environment as, say, to changes of temperature. It is important to distinguish the adaptive variations in animals, which are impressed on them by the environment during their life-time, from the hereditary specific characters, which may also be adapted to fit a particular environment, but which have been imprinted on the germ plasm during the passage of the species through geological time. In this respect plasticity, or the quality of producing adaptive changes when the need arises for them, is an hereditary specific character, but the resulting adjustments themselves are acquired non-inheritable characters. For example, the potentiality of producing diphtheria antitoxin in the blood is an inherent specific character of human germ plasm and as such is present in all individuals; but this potentiality only becomes apparent when the human animal finds itself in contact with the diphtheria plant. Other individuals of the species in whose environment there are no diphtheria bacilli, though possessing this power of forming antitoxin, never do so, because there is no need for it. The potentiality of forming antitoxin may vary in degree and such variations are true hereditary differences; but the actual presence of diphtheria antitoxin in the blood is an acquired character, and not inherited. The mechanism by which highly specialised animals attained their hereditary adaptive specific characters is too controversial a subject to touch on here, but it seems that a species which in the course of evolution has become, probably through competition with other species, very closely adapted to a special environment sacrifices its plasticity in the process. The young of such a species may be likened to rigid metal castings, which will only fit the one special environmental mould wherein their ancestors were cast; while the young of a plastic species are like lumps of soft wax which slowly take the impression of any surface they happen to lie on. A rigid species may have become so specialised to one form of existence, by the evolution of elaborate organs and apparatus, that it becomes unable to fit any other. Such a closeness of adaptation is a great advantage as long as the environment remains constant. But should the surroundings alter, the highly specialised organism may find itself unable to fit the new conditions. In this way over-specialisation may have accounted for the extinction of many of the species in the geological record. Over-specialisation, however useful to the individual, is a grave danger to the species. It may be that this remark also applies to the medical herd! Man has fortunately remained a very primitive animal in general structure, and thus retained a large degree of plasticity. Perhaps a surgical analogy will make my meaning clearer. One can remove the top of a tonsil easier with a guillotine, which is closely adapted to this single environment, than with a scapel; but if the environment changes from the tonsil to the leg, the guillotine becomes useless, while the scapel can still do its job—it is the more plastic and less specialised instrument. Again, a man may not be able to exist on oats, or cross the prairie, as efficiently as the highly specialised horse, but he can still climb a tree and live on nuts, while, as far as I know, the horse can do neither. The horse is a more specialised, but a less plastic and primitive animal than man. Man has also wonderful powers of adaptation to the various parasitic flora and fauna which inhabit his range of environments. Considering the extent of this range, and the rapidity and magnitude of the environmental changes man submits himself to, it can only be due to man's remarkable plasticity that there is relatively so little symptomatic parasitic infection in the world. When years ago I used to wander about Canton city, and travel up and down the Pearl river in one of His Majesty's gunboats, I marvelled, fresh from reading a text-book on hygiene, how the Cantonese managed to keep alive. There was no sanitation, no ventilation, and a density of population as great as that in any part of the world. The Pearl river itself is the main drain of a huge agricultural basin as well as the water supply of the thousand towns and villages on its banks. On the pea soup waters of this river dwell myriads of families whose home is the junk or sampan they work on. Frequently the proprietor of one of these floating dwellings can be seen relieving nature over the bow, while his spouse collects the family drinking water over the stern. Although typhoid fever and intestinal diseases were common among sailors and other Europeans, yet as far as I could learn the Cantonese rarely suffered from clinical enteric fever. It might be argued that the escape was due to lack of contact with the parasitic causes of enteric fever, but Mendelson[1] gives some precise figures from Bankok, an environment not unsimilar to Canton. He states that among 35,000 Asiatics admitted to hospital, he has not seen more than two or three patients with a clinical picture of typhoid fever, but that, among 600 of the ordinary population, 98 (or 15·5 per cent.) gave positive Widal reactions, which means they must have been in contact even if not infected subclinically, with *B. typhosus*. I cannot see how we are to explain such observations as this, except on the theory of a special adjustment to the bacterial environment. The Asiatic baby is born with a passive immunity passed over to him from its mother by way of the placenta and milk. The mother's immunity has been acquired by continual doses of subinfections with the intestinal organisms which must contaminate almost everything she eats and drinks. In the native races of the East, it would almost seem as if there can only be two alternatives for the infant—death from infection, or adaptation to the local intestinal pathogenic flora by the acquisition of an active immunity before the congential passive immunity has completely faded. Herein, perhaps, lies one of the causes of the very high infant mortalities of the Asiatic peoples. The absence of enteric fever is therefore not due to the absence of the specific organism, but to mutual adjustment between it and its human environment. I have only given this one series of observations to illustrate the importance of studying human infections as a part of the general biological problem of adaptation to the environment, since I feel convinced that it is only by approaching human infection from the ecological point of view, and looking on epidemics as manifestations of a loss of balance between the mutual adjustment of host and parasite, that the natural laws controlling the periodicity, extent and malignancy of diseases of herd or individual will finally be defined.

Important as this subject is, to-day I wish to dwell chiefly on another biological quality which also is an adaptative character. Just as one species has to adjust itself to other species whose habitat coincides with, or overlaps, its own, so do the members of those species who live in herds or communities have to adjust their behaviour to each other, in order to fit the special conditions of a gregarious life.

During the struggle between species to avoid elimination, certain members of the same species evolved the quality of acting together as units for their mutual benefit. The character of co-operative action was obviously an advantage, since it became preserved in many species, including man. With the social community or herd, a new quality, or modification of the sex instinct, had to be evolved in order that the individual would act for the herd as well as for himself. This quality is generally known as herd instinct. Herd-instinct is such a powerful force in all human behaviour that it makes normal psychology a more important subject than most of those who are responsible for medical education seem prepared to admit. Anyhow, it seems to me that medical men who are responsible for the health of herds ought to give more attention to group psychology than they do. Generally speaking, it is the custom before anyone professes a trade, to learn how to use the appropriate tools. For instance, no histologist would imagine he could do good work unless he knew something about the mechanism of the microscope and, above all, the definite limitations of this instrument. It seems very strange, therefore, that the one tool which every human being has to use in order to exist, namely the brain, or engine of the mind, is the only one of the limitations of which it is thought worth while to warn the users. I propose to spend a little time in considering the frailties of this complicated machine, which is liable to all sorts of errors and breakdowns. The brain as a machine is exceptionally dangerous because it seldom gives its owner any indication of when there is a screw loose in its gear box. My apology for venturing to talk about herd psychology, of which I have little knowledge, is that, even if I say things that are absolutely incorrect, in doing so, I shall be furnishing a practical example of the importance of proper instruction in the subject, because it is self-evident that a naval officer, especially a medical one, should know something about group pyschology, on which depends *morale*, *esprit de corps*, *elan*, and that subtle difference between happy and unhappy ships, as the Navy terms them. All of which are of paramount importance to the fighting efficiency and the health of the services. Perchance a little knowledge of psychology might also be of more use to the ordinary public health administrator ashore than even a sound knowledge of lavatory fittings, if it enabled him to coax his district council into putting up an abattoir, or rebuilding a slum in his district when the public health interests demanded it. I think that anyone who tries to get behind the fact, fiction, sound sense, and meaningless verbiage that has been written round the subject, since Freud enunciated the theory of unconscious mental

conflict between antagonistic instincts and complexes, must realise that man is the unconscious plaything of his own emotions all the time he fondly imagines that he is a reasonable animal. That this is possible is largely due to that most important mental process called "rationalisation," by which we unconsciously repress all the evidence against anything we wish to believe, and exaggerate everything in favour of our own desires. It is as well the human mind has this faculty; without it, life would be unbearable to the individual, and co-operation impossible for the herd. If anyone has not sufficient power of introspection to see himself as an irrational being, he will anyhow be able to agree the proposition is true of his friends or his wife. If we can become aware of the fact that our motives are not always what we imagine them to be, the fact itself becomes less dangerous. Every honest research worker must have experienced the sort of feeling of temptation to ignore a piece of evidence, or belittle the result of some experiment which does not fit in with a favourite hypothesis. What, however, most workers do not realise is that such temptations may be succumbed to without the worker himself even becoming aware of the fact that his work has been vitiated by his own unconscious bias. This unconscious repression of significant facts probably accounts for much conflicting evidence in medical research, and makes it wise to keep an open mind with regard to all new scientific discoveries, until they have been confirmed—preferably by an enemy of the originator. The above sources of error are caused by what may be termed endogenous suggestions, which arise out of the individual's own subconsciousness. Exogenous suggestion from a fellow-member of the herd may have an equally unrealised influence on the results of investigations, or on the behaviour of herds and individuals. The following illustrations are from my own experience. At a time when I was examining the mechanical ventilation of one of H.M. cruisers, an officer complained that he was not getting a fair share of the air supply. I placed my hand over the air inlets in his cabin and mine, and agreed that there was less air coming into his cabin than into mine. But when an anemometer was substituted for the palm of the human hand, the instrument, being insusceptible to the power of suggestion, showed that air was entering the complainant's cabin at 22 miles an hour, which was at a rate three miles an hour more than in mine. Suggestion had made my hand an unreliable instrument for judging draughts. This illustrates why it is advisable to use instruments of precision in medical work, whenever possible, rather than trust to sense organs which are subject to all sorts of inhibitory and amplifying stimuli from the higher centres. Those honest, but credulous, individuals who are able, by the aid of Abram's box, to percuss out any area of dullness they subconsciously happen to think of, are another good example of the terrible limitations of sense organs when under the influence of suggestion. A more homely example of the power of exogenous suggestion has been seen by every naval officer who has had much experience of wine catering in the ward-room. If a self-opinionated but popular member of the mess declares "this wine is filth," three-quarters of the mess, being gregarious animals like sheep, will probably agree, and that wine is damned. The wise wine caterer says nothing. He merely removes the offending wine for a week or two, and then replaces it without comment, with the almost invariable result that the reappearance passes unnoticed, and the whole mess starts re-drinking "the filth" with gusto. This little anecdote introduces one of the greatest of the sub-conscious forces that sway us against our reason—the so-called herd-instinct. I know that advanced Freudians say there is no such thing, and that what is called herd-instinct is merely modified sex-instinct, but for the non-elect, herd-instinct by any other name would be just as real a force. Herd-instinct is a biological necessity for gregarious animals such as man in order to get a group of individuals to act collectively. For example, imagine party government without it. If politicians, who I believe are as consciously honest as most herds, were really rational beings, how would it be possible for 600 members of parliament to divide completely into the *same* two groups, each group completely convinced they were right on all sorts of subjects where, in most cases, the question to be answered is such that a definite "yes" or "no" is impossible. For example, take an issue like Free Trade. On such a subject the scientific attitude of a parliamentary candidate should be something like this: "I regret that I have only studied the difficult subject of political economy for twenty years, and I therefore do not feel fit to express an opinion that might, if acted on, ruin the country's trade. The factors which are involved in determining the success or failure of any tariff reform are so complicated, numerous, unknown, and uncontrollable, that the government must organise some carefully controlled experiments under all kinds of commercial conditions before I dare express any opinion on the subject." One can scarcely imagine any parliamentary candidate getting elected after such a speech, yet to my irrational mind, it is the only possible attitude on the majority of political questions, and on many medical ones. Perhaps herein is the reason why a scientifically critical mind makes a poor politician and often a poor medical practitioner. It is the horrid doom of the biological research worker, who so often has to mistrust the apparent causes and effects of the events he sees happen in a test tube, to become more than sceptical of the loose explanations of the completely uncontrollable events which are recorded in the wide world outside his laboratory.

The world is sub-divided into all sorts of herds—nations, races, social classes, professions, religions, and so on. Every individual is a member of many overlapping herds and sub-herds, each of which has its own prejudices, customs and taboos, and the urge not to offend against herd conventions is very great. Such traditions of the herd are scarcely founded on reason. At the time I was a medical student the controversy between certain London schools on the use of antiseptics in surgery was very keen. The contempt of St. Thomas's students, who were "aseptic," for King's men who were "antiseptic" was only equalled by the scorn of the King's students for the St. Thomas's technique. I do not suppose half-a-dozen of the hundreds of students expressing these opposite convictions ever bothered to find out that there was no statistical evidence in favour of either technique when practised by efficient surgeons. In this case, as usual, both sets of students blindly followed the leaders of their respective herds. Loyalty to tradition and the leaders of one's herd are worthy manifestations of herd-instinct; without them the community life of a gregarious species would become unstable and chaotic, but at the same time they may become terrible barriers to scientific progress. If some great man, especially if he has a handle to his name as a mark of his herd's admiration, makes a statement on some subject he obviously knows nothing about, that is contrary to the pronouncements of some obscure investigator who has given his life to the study of the subject, nine out of ten people prefer to accept the great man's opinion rather than examine the carefully arranged evidence of the unadvertised scientific worker. And naturally so, since the great man knows he is right, while the obscure worker is full of reservations and doubts. As regards the rank and file, which most health administrators have to deal with, the ship's company, the industrial worker, and the regiment, the announcement that some famous film star or pugilist uses a quack medicine seems a far better advertisement than an endorsement by the whole College of Physicians. No one seems to use their reason to consider the very fact of a person being an exceptionally beautiful woman, or a champion boxer, means they must be physically perfect animals who can really have no need for medicine. I am not sure that public health administrators should not make more use of this peculiar quality of herd-instinct and subsidise some notorious criminal, or other herd hero, to broadcast genuine health propaganda.

Loyalty to the great intellects of the past is another form of hero-worship which often has a stultifying effect on scientific progress. The amazing sway Aristotle had over the opinion of the educated herd right through the middle ages is the best example of this phenomenon. There is a story illustrating Aristotle's influence which I have probably got wrong in detail, but which nevertheless illustrates the strength of authority over reason. Leonardo da Vinci showed one of his patrons a dissection of the aorta arising from the heart. At the conclusion of Leonardo's demonstration the patron congratulated him on his lucidity, and generously admitted he could have believed the aorta did arise in the heart if Aristotle had not said it came from the stomach. He preferred to believe Aristotle rather than the evidence of his own eyes. Even nowadays many educated men have their pet hero of the past, such as Moses, Darwin, or Hippocrates, of whom it is sacrilege to suggest that he may have been at fault in some detail on which the advance of knowledge has shed further light. There is something pathetic about this type of partisanship, since these great geniuses would have been the first to adapt their administration, methods, or hypotheses to fit fresh facts or environments, and would have rebuked their disciples for appealing to tradition and authority rather than to observation and experiment. An aspect of group psychology which affects the public health is the behaviour of the antagonistic individual who, owing to some psychic trauma or other cause, generally suffers from

an inferiority complex. Such people are prone to band themselves into sub-herds, against the authority of the larger group which includes them. In the medical herd the anti-vivisectionist and the anti-vaccinationist are the most obvious examples of this type. The "anti-fanatics" form a very difficult administrative problem. They are consciously perfectly honest in their convictions, but their power of dissociation and rationalisation is so great that they often seem to the saner members of the herd to be absolutely unscrupulous and dishonest, whereas, really they are only completely inaccessible to logic. In a way it is lucky they are so, since they generally destroy their own cause by overstating it, and making the most absurd accusations against those who dare to differ from them. If you should be fortunate enough to meet one of these people who has successfully dissociated his pet aversion from contact with the rest of his reasoning powers which are otherwise good, you will see better than in any other way what I am driving at. A friend of mine, in general a common-sense fellow, a keen sportsman and rider to hounds, was, he said, a great lover of animals, but for some reason or other could not bear the idea of vivisection, which he had probably got from posters of eviscerated dogs begging to brutal looking pathologists waving large knives at them. He took me to book for my brutal habit of puncturing guinea-pigs, but I never could persuade him that hunting to death the animals he loved so much, or wounding them with shot guns, was just about as cruel as giving a guinea-pig a hyperdermic injection. It was impossible to convince him that we were both cruel from motives, which may or may not have justified the cruelty, according to our respective notions on the relative values of sport and research. The more I said, the more convinced he became that I was no sportsman and was probably satisfying some perverted sex instinct by torturing guinea-pigs. It is most important to realise that these "logic-tight compartments" exist to some extent in all our minds, though rarely developed to the extent one sees in the "anti-crank," and in more definite mental diseases. Occasionally, of course, someone in the minority to the general opinions of the medical herd hits on a great truth, as, for example, Lister, but such genius always gets recognition in the long run. Although educated authority should always be on guard against missing any real contribution to knowledge and critically examine all new work on its own merits, yet to-day, probably as the result of the lessons from history, the leaders of medical thought seem almost too tolerant. Every half-educated lunatic who gets smitten with the delusion that he has discovered a cure for cancer or something else, seems able to collect a following. Orthodox medicine dare not be equally dogmatic in repudiating these "discoveries," and if it does suggest that such a man is an ignorant fool, the latter never hesitates to compare himself to Galileo, or some other scientific martyr, whom a corrupt and jealous medical profession refuses to recognise, in case they find themselves out of a job. I think psychologically it is better entirely to ignore these people; certainly it is waste of good men's time and money to undertake laborious researches to prove them wrong, because even if they are not completely inaccessible to logic with regard to their delusion, they are generally by the very nature of the mental process that must have led them to their so-called discoveries, incapable of judging scientific evidence. It is wise, perhaps, just to state as simply as possible why they are wrong, for the sake of those among their followers who may be accessible to reason but not in possession of the relevant facts.

For the sake of argument, imagine all doctors to have no instincts and no other interests except the preservation of the health of their medical charges. The medical attendant of an individual will do what he thinks best for his patient even if others have to suffer in the process. In fact, this is often done when one member of a family contracts disease from nursing another by the doctor's orders. If we assume that the medical man considered his duty was to the whole family, as well as the individual patient, and that his patient would suffer if moved, the family practitioner would then have to weigh the probabilities as to whether the harm likely to accrue to the family as a whole, by not moving his patient, was greater than the extra damage to the health of the sick man if moved, and act accordingly. When we pass from the family to the institution, ship, or barracks, it becomes more obvious that the primary duty of the herd doctor is to keep his herd in as high a degree of health as possible, even if individuals have to be sacrificed. For example, a sailor may have had tuberculosis and appear cured, but it would not be fair to the rest of the ship's company to let him return to the mess decks and risk his relapsing and infecting others; therefore his individual interests are sacrificed for the benefit of his herd.

Again, in the Royal Navy, there is no question but that vaccination against small-pox is a benefit to the whole herd, even if all its members have to suffer from a sore arm and a few days pyrexia. Because in such an environment as the mess decks of a ship, a case or two of small-pox once introduced, would cause an attack rate of about 100 per cent. among a ship's company who had had no previous experience of either small-pox or vaccinia virus. And, since the Navy gives leave all over the world, in many places where small-pox is endemic, such a disaster would soon occur if vaccination was not enforced. On the other hand, should it be possible, as some experts argue, to control severe small-pox by quarantine and limited vaccination after the introduction of infection, it would not be to the benefit of the English herd as a whole to produce, in all its 40 odd million members, a mild indisposition in order to save a few dozen from a severe illness, or even death. If the above argument were true, the policy of universal vaccination would then have to be critically examined by the health dictators, who should decide whether the expected number of cases of small-pox would cause more damage to the herd, than the amount of disability produced by the vaccinia necessary to prevent them. I may add that my private opinion is that, under present social conditions, malignant small-pox could not be safely controlled in a completely unprotected community, since, if alastrim is small-pox, it is not controlled, even in a partially protected population.

The primary duty of an officer in charge of a sub-herd is the health of his own group only; he cannot be expected to consider the health of other sub-herds. Sometimes the health interests of two herds clash. In such cases the matter should be referred to a higher authority, who would be the health administrator of a group of sub-herds and would see that no individual group was allowed to benefit at the expense of the whole herd. He would weigh all evidence produced by the doctors of any sub-herds whose interests were antagonistic, and always give his verdict in favour of the health of the majority at the expense of the minority. Similarly, it is the primary duty of a herd specialist, who looks after only an individual organ of the body, to do his best for those parts he is responsible for—the rest of the body is someone else's business. As is well known, specialising on one organ of the body does tend to make a man lose sight of the other parts. In a fleet on a foreign station an aural specialist pointed out that bathing was causing a lot of ear trouble. The prohibition of bathing was seriously discussed. As protector of the fleet's ears, the aural specialist's primary duty was to keep as many ears as possible continouusly in working order; but the fleet medical officer, whose view was not restricted to the tympanum, considered the healthy habit of sea bathing did more good to the bodies of the herd as a whole, even should an extra individual ear or two suffer, and accordingly continued to encourage bathing.

Of course, in actual life, herds and health administrators have to compromise with each other when interests clash. But it is a salutary mental exercise to try and define what one's duty as a herd-doctor would be apart from all other interests and influences, because other interests and forces, which may be as important as health and scientific progress, sometimes clash badly with preventive medicine. Nowhere can this be seen better than at a meeting of one of the societies for the prevention of venereal disease. It is seldom that half a dozen men can discuss this subject as dispassionately as they would, for instance, the prevention of measles. The subject invariably drifts from prevention to ethics, religion, and herd customs, or the prevention of fornication, which is not the same thing as the prevention of syphilis. In fact, the control of venereal disease is so mixed up with the two strongest forces in animal life, sex and herd instinct, that it is unreasonable to expect any half dozen men all to talk reasonably about the subject.

For the sake of argument, suppose we imagine an all-powerful health dictator of the world, who has no instincts, no sentiments, and no interest whatever but to produce the healthiest human stock. He would survey the population of the world as a farmer does his herds. All individuals below a certain physical and mental standard, who could not, or would not, do enough work to keep themselves, and were, therefore, an uneconomical proposition and parasites on the rest of the herd, would be exterminated. War, of course, would be forbidden; our passionless dictator could not tolerate the absurd idea of allowing 8,000,000 or more of his prime selected cattle to blow each other to bits merely to gratify their herd-instincts, any more than he would allow them, for the same reason, the privilege of preserving about the same number of physically or mentally

inefficient animals comfortably housed in palatial asylums, jails and institutions, while good young stock was deteriorating for lack of the shelter and the fodder which was used to keep useless animals alive. Further, this supreme health dictator, knowing a little general biology, would realise that the unchecked fertility and fecundity of *Homo sapiens* was sufficient to replace, in a generation or two, any losses due to the wholesale slaughter of the unfit. He would, therefore, probably combine carefully selected breeding from what he considered the best human stock, with ruthless slaughter of those races with less physical and mental ability. He would in time be able to breed out such irritating characters of the herd as patriotism, sentiment, and romance, and in fact eliminate everything which we poor irrational beings, on a lower plane of evolution, imagine make existence worth while. However, mercifully, all of us will have been dead for some eons before such a millennium of perfect health administration becomes possible. But I do think a nightmare of this sort makes us wonder whether more of the medical and social services might not be better employed in looking after the fit, and those who can be made fit, rather than in spending so much time on the care of cripples, cretins, and criminals. Truly, medical men are far too sentimental to do their job scientifically. I can offend none if I give myself as the horrid example of this statement. For about nine years I had been studying the relationship in a school environment between *Homo sapiens* and *Bacillus diphtheriæ*, and was under the delusion (a delusion is a fact to its possessor) that I was about to make a useful addition to medical knowledge, provided that I could only get in another two or three years' of observation. The school medical officer who, correctly, only considered his own medical charge, and did not give a button for posterity, asked me to immunise the school. Owing to a special set of circumstances, the decision to do so practically rested with me. After an exhausting mental conflict between my herd instinct and scientific duty, I yielded to the school doctor's importunity and the herd was immunised. The anticipated calamity followed. The diphtheria bacillus found the sudden alteration in its environment too great for its power of adaptation, and so diphtheria faded away, and with it the opportunity of this epoch-making discovery. Although a crime of the first magnitude had been committed against science—for what does a few children getting or dying of diphtheria matter, compared with the march of medical knowledge and the ultimate benefit of the many at the expense of the few—yet my reason is so warped by herd instinct that I actually count this crime a virtue. The above paragraph is, anyhow, a good instance of the limitations of one brain. On re-reading it, I find my introspective powers are not good enough to decide how much of it I mean literally or satirically: therefore the audience can take it either way their instincts urge them.

A critic may justly remark that all that has been said is instinctively known by the tactful and tolerant man, who realises that neither himself nor others always behave rationally. But all are not born tactful and tolerant and, in my opinion, a little psychological reading is most helpful in getting public health measures carried out by those in authority and coaxing the herd we are in medical charge of—the sailor, the soldier, and the man in the street—into a healthier way of living.

Diseases of the herd are known as epidemics or endemics. There is no hard and fast line between epidemic and endemic disease, just as there is no sharp division between the acute and the chronic infections of individuals. Fatality, which is the ratio of the number who die of a disease, to the total number who shew its symptoms, is one index of the malignancy of the infection as it affects the individual; whereas mortality or the ratio of those who die to the whole population at risk, can be used as an index of the malignancy of the infection as it affects the whole herd in contrast to the individual. The fatality is the probability of the average individual once infected with symptoms, dying. The mortality is the probability of the average member of the herd, whether infected or not, dying. To the general practitioner, fatality is the more important ratio on which, in combination with clinical observations peculiar to each patient, he bases his prognosis. To the public health administrator, mortality and morbidity, which indicate the malignancy and extent of the disease as it affects the community as a whole, are the more practical figures. A comparison of these ratios for two diseases as they affected the same herd, while living under the same environmental conditions, will illustrate the relative importance of these common ratios to the individual and the herd. Among the 90,000 men who manned the Grand Fleet in 1918, the morbidity for meningitis was less than 2 per 10,000 per annum. The fatality was about 50 per cent. of cases. The mortality was, therefore, less than 1 per 10,000 men. The corresponding figures for influenza were: morbidity 2,000 per 10,000; fatality 1 per cent., and mortality 18 per 10,000 men. The individual once infected with meningitis had to face a chance of dying which was fifty times as great as in influenza, but the probability of any member of the herd dying of influenza was eighteen times as great as his dying of meningitis, and the risk of getting influenza was at least a thousand-fold greater than of catching meningitis. The preservers of the Navy's health never had the slightest fear that meningitis would seriously interfere with the efficiency of the fleet, whereas at one time man-power was so crippled by influenza that it was doubtful if some ships could have left harbour. Therefore, the herd doctor need not waste much time over meningitis, but owing to its severity, meningitis is of grave import to the medical attendant of an individual. The position is reversed in the case of influenza, which is always a cause of the gravest anxiety to the health administrator, but to the infected individual, a 1 per cent. risk of death is almost negligible. These figures introduce one of the chief uses of simple statistics in practical medicine, which is to substitute a precise quantitative measure for that vague sense of proportion and relative values which everyone acquires, to a greater or less extent, by observation and experience. A man with no sense of proportion is nearly as irritating as a man with no sense of humour; in fact, humour depends on a feeling for relative values. In the example just given, the importance of meningitis and influenza to the naval herd is quantitatively measured, and I think the statistics show the relative importance of influenza to be much greater than many would have believed, because owing to the striking character of the meningitis cases, our intuitive sense of proportion might have led us astray. Moreover, sense of relative values, uncorrected by statistics, is often completely smothered by herd prejudices or sex instinct. The most blatant example of this is the disappointed lover, who, having been let down by one woman, declares the whole sex is false. Less forgivable is the man who condemns some method, or forms a general opinion, from one event. In the days when the Wassermann reaction was under trial, I more than once heard the remark made that the test was useless, because a case, which the speaker had decided was syphilitic, had given a negative reaction.

In the first example I have not collected sufficient data to tell you what percentage of women are false, but as regards my own experience of some 50,000 Wassermann tests, the results are false in not more than 5 per cent. of clinically diagnosable syphilitics. This is as close an agreement as one can hope for between a complicated immunological reaction and clinical diagnosis. Statistical methods are really fundamental and are used unconsciously by all of us every day. For instance, when we stand at the hall door and debate with ourselves whether or not to take an umbrella, we are estimating the probability of its raining from our past experience of the frequency with which rain has fallen on similar looking days. The whole principle of the medical diagnosis of individual patients is based on statistics, which show the frequency with which certain signs and symptoms are associated in a series of cases. In the better text-books an actual statistic is generally given, as, for instance, when Osler states that out of 88 cases of pleurisy at the Johns Hopkins' Hospital, 30 subsequently were found to be tuberculosis. If this sample was a representative one, it becomes known that the probability of a case of pleurisy being tuberculosis is about one in three. In the study of disease collectively the statistical method has chiefly to be employed because, although the easier experimental method will generally produce quicker and more trustworthy results, there seems to be a very strong herd taboo against experimenting on human animals. All the same, one sighs to think of all the good material, going to waste in jails and mental asylums, that should be available for this purpose, more expecially as so few of us have either the ability or time to acquire a deep knowledge of statistical theory and technique. Nevertheless, if anyone really understands "the rule of three," and takes the trouble to acquaint himself with the common pitfalls in handling medical statistics, quite useful work may be done, especially in collecting data which can be used by the mathematical statistician. Undoubtedly the most difficult part of the statistician's manipulations is in attempting to correct his mathematical results for the way in which the data were collected. Many people distrust statistics because they are consciously or subconsciously frightened of them, and excuse themselves for lack of interest by some such fatuous platitude as, "that statistics are useless since they can be made to prove anything." Now, when a class of schoolboys are set a

sum in arithmetic, between them they may produce a dozen solutions, but only one answer is correct and has proved anything. When, in addition to crass ignorance of arithmetic, a person commits all kinds of blunders in collecting his data, I suppose a set of figures can be maltreated to such an extent as to produce any sort of false result, but this has not proved anything except the inefficiency of the would-be statistician. Probably in many cases the dislike of statistics is really instinctive, because when anyone is trying hard to rationalise evidence to suit his own case, he is prone to use indefinite expressions such as few, many, a negligible number, or a considerable percentage, instead of an exact figure. Any of these vague expressions of quantity could, according to circumstances and the individual using them, stand for 5 per cent. Therefore, as far as possible, all such terms should be avoided in a scientific paper. Even if the exact number is not known, often an approximation such as more than half, or less than 10 per cent. can be substituted for many or few. Sometimes an author will, without thinking, substitute a vague expression for a known number because he is unconsciously trying to sway his reader to his point of view. The reader should at least be given the opportunity of judging for himself what the writer considers a fair percentage or a negligible number. In searching epidemiological literature I have often come across most interesting papers, which have been made most tantalising, and useless for my purpose of comparing the behaviour of disease under different conditions, because the author would not report his figures, which it was obvious he must have known.

After excluding subconscious bias, I think by far the greatest difficulty in collecting material for medical statistics is the question of diagnosis. Accurate diagnosis is essential in order to recognise, with some degree of certainty, the thing that is being collected as coming within the definition of its class. Owing to obvious pyschological causes, most people must tend to under- rather than over-estimate the number of diagnostic mistakes which they make. All honest clinicians are fully conscious of cases they have had to put a name to where the probability that the name was wrong was not small; but the difficulty of obtaining any precise index of the magnitude of the average number of diagnostic errors seems almost insuperable. Those who, like myself, have performed post-mortems on their own patients who have succumbed in spite of, or because of, their treatment in the wards will realise how it is sometimes very difficult to rationalise what the patient was alleged to be suffering from before death with what is exposed at the autopsy. Cabot[2] compared the clinical and post-mortem diagnosis of 3,000 patients. He listed twenty-eight diseases, and the agreement between the pre- and post-mortem diagnosis declined from 95 per cent. in diabetes to 16 per cent. in acute nephritis. Active phthisis was only discovered before death in 59 per cent. of the cases who presumably died of it. These startling figures were from an up-to-date hospital with all its advantages for accurate diagnosis. Therefore, if they are from representative samples they should be the measure of a better standard of diagnosis than what prevails under ordinary conditions of practice. Cabot says "that a study of the details of the cases before and after death convinces me . . . . . that few of the mistakes tabulated could have been avoided." The value of this striking article is, however, greatly diminished, since it is not clearly indicated how these 3,000 autopsies were selected. If they were a pure random selection, that is, if the series refers to consecutive deaths in hospital from the diseases mentioned, the results are a great eye-opener. But, on the other hand, suppose that these cases were examined post-mortem only because the clinical diagnosis had been in doubt, the figures would then have little significance. Again, to my mind, an unpardonable statistical sin is giving such percentages without mentioning the size of the samples they refer to. For example, if 41 per cent. of those who died of phthisis were not recognised in life, it gives one "furiously to think," provided the percentage was obtained from over 100 random autopsies. But if there were only ten cases of phthisis in this series, then the four missed cases which 41 per cent. would represent might have easily been an exceptional group, and the statistic would have little significance. However, this paper strongly suggests that between a quarter and half of the clinical diagnoses of cause of death at an up-to-date hospital were wrong. In my opinion, it is merely avoiding unpleasant facts to rationalise them away by comfortably assuming that the medical staff of this hospital were more ignorant than the average. Looked at dispassionately, the very fact that such figures found their way into print is a testimonial to the ability and conscientiousness of the clinicians concerned. A negligent or ignorant hospital staff would not have tolerated their publication. As regards medical diagnosis, the old aphorism that "a man who never made a mistake never made anything" contains a very great truth, so long as it is not used as cover by the man who never makes anything else. If Cabot's paper represents anything near the truth, it becomes possible to realise the difficulties of the medical statistician, who, if he is investigating the causes of death in a community, would have to allow for errors in diagnosis, which vary from 5 to 84 per cent. according to the nature of the fatal disease. If these numbers are a reflection of real facts they also demonstrate how precise figures correct our instinctive sense of relative values. I do not believe my clinical acumen to be worse than the average, or that I make over 30 per cent. of false diagnoses, but, from the little I know of psychology, there are so many sub-conscious reasons why I should be loth to admit such a huge error in diagnosis, that I would not really be surprised if a statistician was able to prove, that on the average, I did make a mistaken diagnosis once out of every three attempts. Recently, Raymond Pearl[3] has emphasised the fundamental importance of statistics in the study of "the biology of groups," of which subject preventive medicine is, of course, a part. He says: "If the group of living things be considered as group or "whole," it plainly has attributes "which are peculiar to itself." These attributes demand description and measurement, just as much as do corresponding attributes of the individual. Upon them will rest the foundations of any science of group biology. . . . Statistical technique furnishes the only means available for accurately and adequately describing and measuring the attributes of groups. . . . Ordinary methods of description fail because they are fundamentally incapable of giving a description of the group (whatever its magnitude) in terms of anything but the individuals which compose it." Of later years, thanks largely to the inspiration of Major Greenwood, many workers in preventive medicine realise that this is true. But most of us are too dull, too tired, or too busy to acquire the difficult mathematical technique. The proper place for instruction in mathematics is at school or university. The subject "applied mathematics" bulks largely in many educational syllabuses, but the mathematics do not seem to be "applied" to the study of the attributes of the human herd. One might think the subject could be modified to do so with advantage to the young of a gregarious species, whatever their future careers. The elements of biostatistics should form part of the herd's general education, instead of being considered a special subject only of interest to a few peculiar individuals.

I have kept you an hour discussing three fundamental subjects, to wit, evolutionary biology, normal psychology and statistical theory. As yet, these sciences, or at least the two first, do not bulk largely in the medical curriculum. Medical students, and I include all qualified men in this herd, have little enough time to digest the mental pabulum they already receive; but the little I have been able to glean for myself about these sciences has been such a help in connecting up in a rational manner so many incongruent and otherwise irrelevant facts and hypotheses, that I believe the time spent on these subjects is regained in the way they have made technical and practical medicine easier to memorise and understand. Therefore, at the risk of exposing my own ignorance, I have tried to prove that the prevention of disease in herds and individuals necessitates a proper understanding of their evolutionary biology and psychology.

REFERENCES.

[1]Mendelson, R. W. Philippine Jour. Sci., 1923, xxii, 115.
[2]Cabot, R. C. Jour. Am. Med. Ass., 1912, lv, 2295.
[3]Pearl, R. "The Rate of Living." London, 1928.

THE Joint Tuberculosis Council have arranged a Post-Graduate Course to be held in Paris commencing on May 10th next, at 10 a.m., at the Clinique de la Tuberculose, Hopital Laennec, 42, Rue de Sevres, and ending May 18th, in the evening. It is anticipated that the Course will rank for Grant from the Ministry of Health, and it is suggested that intending members should write to the Ministry direct to get approval for Grant. All communications with regard to the Course should be addressed to Dr. William Brand, The Larches, Farnham Royal, Bucks. The Council announce also that a practical class on Artificial Pneumothorax will be held each Tuesday at 5 p.m. at Brompton Hospital, commencing immediately after Easter. Application should be made to Dr. L. S. T. Burrell, 9, Chandos Street, London, W.1. No fee will be charged.

Ut Ita Dicam.

(Being Comments, apropos and otherwise, on Sundry Matters.)

The Royal Sanitary Institute Dinner.

The Royal Sanitary Institute dinner the other evening was the first since that held just before the war, and in order to celebrate the occasion properly they had quite a galaxy of distinguished guests. Also they had more or less of an orgy of speechmaking, most of those taking part being members of the medical profession. That this should have been so in an Institute which is composite of a variety of professions and callings appeared to me peculiar, and not entirely appropriate. Possibly, because I am a member of the profession, I always find medical speakers less exhilarating than most others. They invariably talk shoppily, and always dwell upon some grievance or other which the medical practitioner is called upon to suffer. The occasion naturally called for some talk about preventive medicine, and it was given by, amongst others, the President of the Royal College of Physicians and the President of the British Medical Association. The note in regard to this, and the relationship between it and curative medicine I notice is entirely changed. Formerly the cry was of the necessity for union between the two branches; now it appears, the preventive branch has ceased to exist, and there is only one medicine. Very interesting. There was inevitably much about the voluntary hospitals, and one is almost inclined to imagine that a sort of instruction had been issued that on all and every occasion the subject is to be discussed and particular things said. Some astonishing figures illustrative of the value of the voluntary hospital to the nation were given by the President of the British Medical Association, who said that he had worked it out that for every £50,000 put into a hospital of 450 beds, a million and a half pound's worth of value was taken out, through patients returned cured to their various callings. Talk of voluntary hospitals led to talk about the Local Government Bill, and this gave Sir Arthur Robinson an opportunity of telling us something about what it aimed at doing. Sir Arthur's speech was one of the most interesting and helpful delivered, and many of those present, including those who had introduced references to the measure into their own contributions, were given really valuable information about it. The function was an extremely enjoyable one, and a fitting termination to a day which had seen the annual meeting of the Institute, when the fact that it was in a sound condition was announced, and another meeting at which a most fascinating address on "Industrial Disease and its Prevention" was delivered by Sir Humphry Rolleston. On all its meetings of the day the Royal Sanitary Institute may be congratulated, and particularly they should be congratulated on having in the Duke of Northumberland a President willing to shoulder all the responsibilities of the position, and to perform them so attractively and acceptably.

The Medical Adventurer.

At some time or other some distinguished French author must have written "He who writes a book explains himself." If none of the many distinguished French writers did say so, there is a definite omission since there lies in it very much of truth. To me, and of this book of Dr. Ernest Ward—"Medical Adventure"*—it is certainly true. Indeed, of Dr. Ward himself, it is quite true, for it explains him fully and his insatiability so far as work is concerned, and his obvious happiness in relation to it. He is happy in it, of course, because it is all an adventure; he attacks any piece of it with the spirit of an adventurer entering upon a new adventure. Gone about in such a way, work could not possibly fail to yield anything but joy—a joy influencing the whole outlook of the individual. In his book Dr. Ward shows himself finding adventure in the most unexpected of places and in regard to matters that to the ordinary individual would appear devoid of all colour of adventure. Most of the adventures are, of course, medical and have reference to particular cases with which Dr. Ward had concern during the time he was in general practice. In the descriptions he gives, the cases cease to be cases—if ever, indeed, they were to him—and the patients change from patients to sharers in the adventure. In these descriptions he shows himself to be a keen observer and a careful and picturesque recorder. These medical adventures, in such unexpected fields as those of obstetrics, dermatology, and epidemiology, are definitely entertaining and informative,

* MEDICAL ADVENTURE. Some Experiences of a General Practitioner. By ERNEST WARD, M.D., Cambridge, F.R.C.S., England. London: John Bale, Sons & Danielsson, Ltd., 1929. pp. 291. Price 8s. 6d. net.

and will be read with pleasure and can be so read even by members of the public health service whose work is so very rarely clinical. Apart from medical adventures there are legal ones as well, in relation to compensation cases particularly, and then, of course, there are many in the field that is Dr. Ward's own—that of tuberculosis. In all probability this is the part of the book that will be read with the keenest interest. That to be read with greatest sympathy, by those who know Ward best, is the last chapter, in which is given a subjective study of encephalitis lethargica. Not only will there be sympathy in the reading, but gratitude also that it could be written and all the rest of this entertaining volume which is all the more entertaining because of its unexpectedness.

Marchant.

To me personally, as it must to almost numberless members of the medical profession, and particularly those in public health, the news of the death of Marchant, of U.C.H., came as a distinct shock. Mr. Marchant became part of University College Hygiene Department in the early days of Professor Kenwood's association with its work, and as the years went on became more and more closely identified with it; indeed, so closely that it is not improbable that to many he appeared to be the department. Practically there never was a University College D.P.H. student who did not owe very much to Marchant. He had an extraordinary grip of the subject, and a remarkable knack of imparting knowledge. Conundrums innumerable were continually being submitted to him, and always he found an answer; endless requests for guidance through the course or the examinations were submitted and nobody went empty away. To any who knew him, there never appeared to be need for wonder at all that wherever people who worked in the department came together the talk always came round to Marchant; or that when one turned up from the ends of the earth to visit the laboratory it was as much to see Marchant as anybody else. He was a lovable character; zealous in his work and his loyalty. He never spared himself anything in order to ensure that the people who studied in the department should get to know their work and pass the various tests. Of his association with Professor Kenwood he was very proud, and very proud too that he was, jointly with Professor Jameson, author of the very widely read text-book familiarly known as "Jameson and Marchant." His appointment upon the staff of the new School of Hygiene was a source of great gratification to him, and he was looking forward to the time when work there would commence. It is pathetic that the end for him should have come before he had an opportunity of sharing in the opening of the School. This loss is a serious one to the teaching side of public health in London, and the new School will have the utmost difficulty in finding anyone capable of replacing him. The sympathy which I have to offer to Marchant's relations and colleagues will find an echo in many a heart throughout the length and breadth of the Empire, if not the world. P.

THE Royal Sanitary Institute dinner was held at the Hotel Metropole, London, on March 21st, under the chairmanship of its President (The Duke of Northumberland, K.G.). Following the loyal toast, that of "The Public Health" was proposed by Sir John Rose Bradford, K.C.M.G. (President, Royal College of Physicians) and responded to by Sir Arthur Robinson, G.C.B. (Secretary, Ministry of Health) in a masterly speech in which he reviewed the work of the Ministry and indicated a number of important health problems to be faced in the future. The ever-widening influence of the Institute, its steady development and increasing membership were leading points in the remarks of Sir Ewen Maclean (President, British Medical Association) who submitted the toast of "The Royal Sanitary Institute," to which the President, in a charming and interesting speech, made response. "The Visitors," proposed by Professor A. Bostock Hill, brought replies from Sir Humphry Rolleston, Bt., K.C.B. (Regius Professor of Physic, University of Cambridge) and Sir Holburt Waring, C.B.E. (Chairman, Court of Governors, London School of Hygiene and Tropical Medicine). A vote of thanks to the Chairman, proposed by Professor H. R. Kenwood, C.M.G., was briefly acknowledged by the Duke of Northumberland. In a distinguished company numbering over a hundred the public health service was represented by, amongst others, Lieut.-Col. F. E. Fremantle, O.B.E., M.P., Major-General H. P. W. Barrow, C.M.G., Dr. S. Monckton Copeman, Dr. R. P. Garrow, Dr. F. Garland Collins, Major-General Sir Wilfred Beveridge, K.B.E., Dr. Charles Porter, Dr. W. M. Willoughby, Dr. J. A. H. Brincker, Dr. G. F. Buchan, Lieut.-Col. G. S. Parkinson, and Mr. G. S. Elliston.

The Society.

Reports, Proceedings and Announcements.

THE SOUTHERN BRANCH.

President: Dr. Percy Moxey, Chief Clinical T.O., Southampton.

Hon. Secretary: Dr. H. D. Kelf, Assist. M.O.H., Hants. County Council.

A meeting of this Branch was held at Southampton, on February 1st, 1929, the President occupying the chair. Twelve members were present.

The discussion on the Local Government Bill, 1928 was again postponed, in view of the fact that Dr. Lyster had written to say that the Bill was still likely to have substantial amendments.

Dr. Livingston referred to the discussion of a clinical case described at the meeting held on November 2nd, 1928, when a diagnosis of "Sub-acute arthritis of infective origin" had been made. The final report was that the surgeon at Southampton Hospital had stated that it was a typical case of tuberculosis of bone, and had amputated the affected foot.

After discussing certain questions relating to venereal disease, referred to the Branch by the Council of the Society, the following resolutions were passed :—

1.—This Branch strongly approves a proposal to amend the present Act so as to permit the sale of materials for disinfection, together with the necessary instructions, and, in the opinion of the Branch, practical prevention forms the first step in dealing with the curse of venereal disease in this country.

2.—This Branch approves of the principle of compulsory notification and treatment only as possible steps, after all means have been taken to carry out prevention.

With reference to the third question—that the parents of congenitally affected children should be brought within some measures of treatment—the general view was that the reply was included in resolution two.

It may be of interest to recall that in March, 1917, after a discussion on the prevention of venereal disease, it was decided unanimously :—

1.—That in the opinion of the Southern Branch a special meeting of the Society of Medical Officers of Health should be called for the discussion of the prophylaxis of venereal diseases.

2.—That in the opinion of the Southern Branch the one essential factor in any scheme for the prevention of venereal disease is the education of the public in practical preventive measures.

Dr. R. A. Lyster read a paper on "The Teaching of Preventive Medicine in the Medical Schools." He pointed out that during his twenty-five years' continuous experience in teaching and examining in public health he had been impressed specially by two important facts: (1) The wide differences shown in the teaching in these subjects in different medical schools, and (2) the general lack of adequate training in public health and preventive medicine in the curriculum which is provided for the average medical student before qualification. Enquiries had resulted in the following returns :—In the London medical schools the subject of public health and preventive medicine was officially allocated about ten hours of the medical curriculum, or about ·3 of the whole. In the English universities the amount was 30 hours, or ·8 per cent., while in the Scottish universities this allowance was almost doubled again, being 55 hours, or 1·4 per cent. of the curriculum. In the American model curriculum the subject of public health and preventive medicine received 3 or 4 per cent. of the entire course, *i.e.*, about 140 hours.

Dr. Lyster urged the necessity for increased attention to this important subject, and suggested that the immediate step indicated was the establishment of adequate courses of instruction in public health and preventive medicine in all medical schools, together with special examination in these subjects at all qualifying examinations. In all schools the courses in public health should serve as a centre or focus for the comprehensive permeation of the whole medical curriculum with the preventive idea. Interesting examples of such permeation in American medical schools were given.

An interesting discussion followed, most of the members agreeing that their first real contact with preventive medicine and public health was when studying for the D.P.H.

The following resolutions were carried :—

1.—The present system of medical training and education in this country is not such as is likely ever to produce in the average medical practitioner any real knowledge of, or liking for or interest in preventive medicine. This lack of adequate instruction, moreover, is likely seriously to prejudice the supply of recruits for the health services of the country.

2.—In view of the generally accepted opinion that preventive medicine can attain reasonable effectiveness only when the whole *medical profession* is trained in it and takes an active part in the practice, and in view also of the fact that the interest of the *public* in preventive medicine has increased enormously recently, and is still increasing, it is desirable that efforts should be made forthwith by the Society in order to secure.—

(*a*) The establishment in all medical schools of a thorough and comprehensive course in state and preventive medicine as part of the ordinary medical curriculum and, associated with this course, as its centre, the comprehensive infiltration of the whole of the medical curriculum with the preventive idea.

(*b*) The requirement by the General Medical Council of proof of adequate instruction in preventive medicine before any candidate can proceed to any qualifying examination for a degree or diploma in medicine, and the requirement also by the General Medical Council of a special and adequate examination in this subject as part of all such qualifying examinations.

It was also resolved that the above resolutions be forwarded to the Council of the Society with a request that action be taken by the Council on the lines suggested, at the earliest possible moment.

A hearty vote of thanks was accorded to Dr. Lyster, and the hope was expressed that the full paper might be published at an early date, in view of the urgency and importance of the subject.

A further meeting of the Branch was held at Winchester, on March 1st, 1929, ten members being present. In the absence of the President, Dr. Lockhart Livingston was voted to the chair.

Dr. Livingston showed an interesting case of a man, aged 55, with aneurism of the ascending aorta, with X-ray photographs.

Dr. J. G. McNaught, Assistant Medical Officer of Health, Hampshire County Council, read a paper on "Ante-Natal Syphilis," dealing first with the statistics of untreated and treated cases of pregnant women. He showed the necessity for early treatment, referring to the excellent results obtained at Dr. Adam's Clinic at Thavies Inn, Holborn. Dr. McNaught described in detail several cases which had been under his care for several years to illustrate the result of routine treatment.

A discussion followed, and at the conclusion, a hearty vote of thanks was accorded to Dr. McNaught for his interesting paper.

Dr. Bruce Young referred to the case of Brown *v.* Dagenham Urban District Council, which had recently been concluded in the King's Bench Division, and stated that it showed a very serious position for all public officials, including medical officers of health.

After a brief discussion, the following resolution was passed :—

This Branch would like to draw the attention of the Council of the Society to the recent legal decision in Brown *v.* Dagenham Urban District Council, and, in view of that judgment, would be glad to know what is the actual legal position as regards security of tenure of non-County medical officers of health.

THE YORKSHIRE BRANCH.

President: Dr. Cyril Banks, M.O.H., Nottingham.

Hon. Secretary: Dr. G. H. Pearce, M.O.H., Batley.

A meeting of this Branch was held at the Education Offices, Calverley Street, Leeds, on February 22nd, 1929. The President occupied the chair, and was supported by Drs. Bates, H. A. Channon, A. B. Dunne, M. Esslemont, W. M. Frazer, W. Bertram Hill, J. Johnstone Jervis, E. K. MacDonald, J. Mair, L. Pickering-Pick, J. C. Pickup, W. Scatterty, R. L. Thornley, R. Weaver, and the Hon. Secretary, together with the following members of the veterinary profession: Messrs. D. S. Rabagliati (Chief Veterinary Officer, West Riding C.C.), D. D. Canning (Doncaster), E. F. M. Clare (Leeds), J. W. Dixon (Leeds), W. A. Ireland (Halifax), A. B. Kerr (Huddersfield), W. T. MacGregor (Skipton), J. C. Moss (Wakefield), R. S. Smith (Harrogate), and S. B. Vine (Settle). Apologies for absence were received from Drs. Buchan, Daley, Gibson, Kaye, Linton, McNaught and Moore.

It was reported that Dr. Francis, Medical Officer of Health, Barnsley, was seriously ill, and the Hon. Secretary was requested to convey to Dr. Francis the sympathy of the members and their sincere wishes for his speedy recovery.

Communications were received from: (1) Dr. Lawrence Pick, Medical Officer of Health, Spenborough U.D.C., stating that he had assumed the additional surname of Pickering, and that in future he would be known as Dr. Lawrence Pickering-Pick. (2) The Executive Secretary of the Society respecting the election of medical officers of health holding irregular appointments to membership of the British Medical Association, and consideration was given to a letter from Dr. Cox forwarded by Mr. Elliston. The members were unanimously of opinion that it should not be possible for persons who do not conform with the policy of the Society of Medical Officers of Health and the British Medical Association to be elected members of the latter body, as is the custom at present. (3) An Assistant Medical Officer

of Health requesting re-consideration of the unanimous decision of the Branch at a meeting held at Wetherby on June 25th, 1926, when it was resolved "that the Branch does not approve of the nomination, but that after five years it would be prepared to discuss the matter again provided that, in the meantime, Dr. ——'s conduct be such as to make this course desirable." It was decided to adjourn further discussion until the next meeting of the Branch on Friday, March 29th.

It was agreed that the reference from the Council of the Society, respecting certain questions in relation to venereal diseases, should be the main subject for discussion at the next meeting.

A most interesting and helpful paper entitled "The Consideration of Certain Practical Points arising out of the Administration of the Milk and Dairies Order, 1926," was read by Major D. S. Rabagliati, O.B.E., B.Sc., F.R.C.V.S., D.V.S.M., Chief Veterinary Officer, West Riding County Council, followed by a discussion in which a number of medical and veterinary officers took part.

The President welcomed the visitors, and made special reference to the nine veterinary surgeons, each of whom is an Associate of the Society of Medical Officers of Health. This welcome was heartily endorsed by those present, it being realised that close co-operation between members of both professions must necessarily be of considerable advantage to all parties concerned, including the general public. A vote of thanks was unanimously accorded Major Rabagliati, who, in his reply, urged the necessity for uniform administration of the Order throughout; co-operation between all officers concerned; and education of the public, who are entirely responsible for existing conditions because of their indifference. The paper will be published in PUBLIC HEALTH in due course.

A meeting of the Council of the Branch preceded that of the Branch.

THE HOME COUNTIES BRANCH.

President: Dr. F. T. C. Linton, M.O.H., Tunbridge Wells.
Hon. Secretary: Dr. W. A. Muir, M.O.H., Gillingham.

The sixth meeting of the 1928-1929 session of this Branch was held at the house of the Society, on March 1st, 1929.

The President occupied the chair, and thirteen members were present. Apologies for absence were received from Drs. Buchan, Belam, McMaster and Garrow.

Drs. Mayberry, Lorraine and Renwick were appointed representatives to the Tuberculosis Group.

A paper entitled "The Training of the Staff of a Public Health Department" was read by Dr. Neil R. Beattie, who emphasised the necessity of health propaganda and the desirability of improved training of medical officers, sanitary inspectors, health visitors, clerical staff, etc.

A good discussion followed in which most of the members present took part. Dr. Nash stressed the desirability of keeping administration in the hands of the medical officer of health, and said that there was some danger of administration passing into non-professional hands, as had happened in certain branches of the the Civil Service where administration was left to the clerical staff. Mrs. Stalker put forward a suggestion that a post-graduate course should be arranged for health visitors in hospital. The President congratulated the speaker, but differed from him in that he thought it unwise that health visitors should be other than fully trained nurses.

The hope was expressed that Dr. Beattie's paper would be published in the Society's journal.

THE MIDLAND BRANCH.

President: Dr. R. H. H. Jolly, M.O.H., Wolverhampton
Hon. Secretary: Dr. B. C. Haller, Asst. M.O.H., Wolverhampton.

The fifth meeting of the session of this Branch was held at Burton-upon-Trent, on March 7th, 1929.

The members were first conveyed from the Town Hall to the Sewage Pumping Station, where the methods adopted for dealing with Burton effluents were demonstrated.

The party afterwards returned to the Town Hall, where an ordinary meeting was held. In the absence of the President, Dr. Cowie took the chair, supported by Drs. Bracey, Grant, McKeggie and the Hon. Secretary. Apologies for unavoidable absence were received from eighteen members.

Mr. G. T. Lynam, M.Inst.C.E., F.S.I., Borough Engineer, and Mr. G. F. Matthews, B.Sc., F.I.C., Chemist, Burton-on-Trent Corporation, who had already explained the practical

side of the subject, read papers on "Burton Effluents and their Treatment." It was pointed out that the so-called "sewage" dealt with comprised only 20 per cent. domestic sewage and 80 per cent. trade effluents. This explained the great difficulty presented in treating such effluents, and accounted for the very large sums of money spent upon experiments and treatment. The volume dealt with and pumped to the Sewage Farm was over 2,000,000,000 gallons per annum. The temperature of the effluent ranged during last year from 38° F. to 83° F. The Sewage Farm had an area of 854½ acres, of which 613½ acres were underdrained and prepared for the distribution of sewage. The farm effluent was watched daily, and samples examined weekly and formally reported upon.

The discussion which followed was taken part in by all present. A hearty vote of thanks was accorded to Messrs. Lynam and Matthews for the valuable and instructive information they had given, and great regret was expressed that so few members had been privileged to benefit by them.

At the conclusion of the meeting Dr. Cowie very kindly entertained the party at tea.

THE NORTH-WESTERN BRANCH.

President: Dr. F. T. H. Wood, O.B.E., M.O.H., Bootle.
Hon. Secretary: Dr. G. W. N. Joseph, M.O.H., Warrington.

A visit was paid by members of this Branch on March 8th, 1929, to the "Coalite" Works, near Barnsley. The party was met at Sheffield by Mr. Williams, General Manager, representing the Directors of Low Temperature Carbonisation Limited, and conveyed to Gawber, where they were shown over the works by Mr. Williams and the Resident Manager, and the process of the manufacture of "Coalite" and separation of the bi-products of carbonisation fully demonstrated. The members were afterwards conveyed to the Grand Hotel, Sheffield, and entertained at tea by the management.

Dr. Stallybrass proposed, and Dr. Bennett seconded, a vote of thanks to the Directors for their kindness in offering facilities for the members to see the works and for their hospitality. Mr. Williams responded on behalf of Low Temperature Carbonisation Limited, and stated that the Chairman regretted his inability, owing to illness, to be present meet the members of the Branch.

THE SCHOOL MEDICAL SERVICE GROUP.

LONDON AND HOME COUNTIES SUB-GROUP.

President: Dr. Annie M. Gurney, Asst. M.O. Cambridge.
Hon. Secretary: Dr. Dorothy W. Roughton, A M.O.H., London County Council.

A meeting of this Sub-Group took pla at the house of the Society on February 19 1929, when Mr. H. R. Jeremy, F.R.C. gave an extremely interesting lectue on "T Diagnosis and Treatment of Eye Conditio in School Children." This was followed by general discussion. The Sub-Group is especia indebted to Mr. Jeremy for a lecture deali with matters of such great practical help.

DR. AUSTIN PRIESTMAN has been appoint Medical Officer of Health for Folkestone succession to Dr. M. G. Yunge-Bateman.

MR. G. P. CROWDEN, M.Sc., M.R.C. L.R.C.P., has been appointed Lecturer Applied Physiology in the Division of Pub Health at the London School of Hygiene a Tropical Medicine, as from August 1st, 19

AT the invitation of the United Dair (London) Limited, a most interesting a instructive visit was paid on March 12th, a number of members of the public hea service, to the firm's new bottling and p teurising premises at Stroud Green, wh the plant was fully inspected under the guidar of Mr. Tustin and other members of the st Following the demonstration, the party p ceeded to the Ideal Home Exhibition Olympia, and, after a tour of the exhibi dined in the Pillar Hall, at the invitation of Exhibition management. The guests includ Major-General Barrow, Dr. Willoughby, John Moore, Lieut.-Col. Parkinson, Lennane, Dr. Orr, Dr. Shinnie, Dr. Scra Dr. Howell (President, Metropolitan Branc Dr. Garrow, Dr. Fenton, Dr. Charles Port Mr. G. S. Elliston, and others.

Royal Commission on Local Government.

Memorandum of Evidence submitted on behalf of the Society by Dr James Fenton, on February 28th, 1929.

1. I am the Medical Officer of Health of the Royal Borough of Kensington, but appear as a Member of the Council of the Society of Medical Officers of Health and as their representative. The Society represents Medical Officers in all branches of the public health service, including the school medical service.

STATUTORY PROVISIONS.

2. There are many statutory provisions in regard to the appointment of a Medical Officer of Health and it may be well to summarize these briefly.

(*a*) The Public Health Act, 1875 (sections 189 and 190), requires every Urban and Rural Sanitary Authority to appoint from time to time a fit and proper person to be Medical Officer of Health. Section 191 of this Act states that a person shall not be appointed as a Medical Officer of Health unless he is a legally qualified medical practitioner. If any part of his salary is to be paid out of moneys voted by Parliament, the Minister of Health requires to be satisfied in regard to the qualification, appointment, duties, salary and tenure of office of the person appointed. The Minister of Health may by Order prescribe the qualification and duties of those Medical Officers whose salary is not paid partly out of moneys voted by Parliament. One person may, with the sanction of the Minister of Health, be appointed Medical Officer of Health for two or more Districts.

(*b*) The Local Government Act, 1888 (section 17), empowers a County Council, if they see fit, to appoint a Medical Officer of Health.

(*c*) Section 18 of the Act of 1888 provides that, unless the Minister of Health otherwise sees fit, no person shall be appointed as a Medical Officer of Health unless he is legally qualified to practise medicine, surgery and midwifery. Under this section, it would appear that, with the consent of the Minister, a man without medical qualifications may hold the position of Medical Officer of Health; but to the best of my knowledge no such person has been appointed in any District. This section states that no person shall be appointed Medical Officer of Health of any County or of any District with a population of 50,000 or more unless he (*a*) is a legally qualified medical practitioner, and (*b*) is registered as the holder of a Diploma in Sanitary Science, Public Health or State Medicine, or has been during three consecutive years the Medical Officer of a District with a population of not less than 20,000, or has been for not less than three years a Medical Officer of the Local Government Board. Section 24 requires a County Council to pay to each District Council one half of the salary of the District Medical Officer of Health if his qualification, appointment, salary and tenure of office are in accordance with Regulations made under the Public Health Act, 1875. If the Minister of Health certifies to the County Council that any Medical Officer of Health has failed to forward the necessary reports and returns, the contribution payable by the County Council shall be paid into His Majesty's Exchequer.

(*d*) The Housing, Town Planning, etc., Act, 1909 (section 68), requires every County Council to appoint a Medical Officer of Health, and states that his duties are to be such as may be prescribed by General Order of the Minister of Health, and such other duties as the County Council may specify. The County Medical Officer is prohibited from acting as a Medical Officer of Health of a District within the County, but this is without prejudice to any appointments made before the Act came into operation. The section gives a County Medical Officer powers of entry to premises similar to those possessed by District Medical Officers. It provides that he shall be removable by the County Council, with the consent of the Minister of Health, and not otherwise; and that he must not be appointed for a limited period only. He must not engage in private practice or hold any other public appointment without the consent of the Minister of Health.

(*e*) The Public Health (London) Act, 1891 (section 106) requires every Metropolitan City and Borough Council to appoint one or more Medical Officers of Health. The person appointed can, with the consent of the Minister of Health, serve two or more Districts; but there is no instance where use is made of this provision. Section 108 states that the Minister of Health must be satisfied in regard to the qualification, appointment, duties, salary and tenure of office of every Metropolitan Medical Officer of Health; and one half of his salary must be paid by the County Council out of the Exchequer Contribution Account. A Metropolitan Medical Officer of Health (*a*) must be legally qualified to practise in medicine, surgery and midwifery, and (*b*) must also be a registered holder of a Diploma in Sanitary Science, Public Health or State Medicine, or have been, prior to 1892, a Medical Officer of Health of a District having a population of not less than 20,000, or have been, before 1888, a Medical Officer of the Local Government Board for three years. A London Medical Officer of Health is removable by the Sanitary Authority with the consent of the Minister of Health, or by the Minister, and not otherwise; he must not be appointed for a limited period only.

(*f*) The Public Health (Officers) Act, 1921, amends the law relating to the appointment and tenure of office of Medical Officers of Health. Section 1 applies (*a*) to a Medical Officer of Health of a County Borough where part of the salary of the Medical Officer was paid out of moneys voted by Parliament before it was constituted a County Borough, and (*b*) to a Medical Officer of Health of a County District any portion of whose salary is paid out of the County Fund and charged to the Exchequer Contribution Account. Such officers, provided that they are restricted from engaging in private practice, shall not be appointed for a limited period only, and shall be removable by the Local Authority with the consent of the Minister of Health, or by the Minister, but not otherwise.

The Medical Officers of Health of forty-two of the eighty-two County Boroughs in England and Wales are not covered under the Act.

3. The Society believe it is in the best interests of local government that all whole-time Medical Officers of Health should be given that protection in the discharge of their duties which is conferred on those towards whose salary the Government make a contribution.

4. The Sanitary Officers Order, 1926, relates to Medical Officers of Health and Sanitary Inspectors appointed by County Councils, Local Sanitary Authorities and Port Sanitary Authorities. From June 1st, 1926, the appointments of Medical Officers of Health in London, and similar appointments outside London, where it is desired that repayment of one-half of the salary should be charged to the Exchequer Contribution Account, must comply with the Order. If a Local Authority outside London do not desire to receive repayment of one half of the Medical Officer of Health's salary, the only provisions in the Order which apply are those relating to the qualification and duties of the Medical Officer of Health. As regard County Medical Officers, the only provisions which apply are paragraphs one, three and four of Article 14, which prescribe the duties of these Officers. The Order appears as Appendix I. to this memorandum of evidence.*

5. The following are extracts from Ministry of Health Circular 701, dated May 29th, 1926, relating to the Order:—

"Article 5 provides, like the Order of 1922, that a Medical Officer of Health must possess (in addition to any other qualification prescribed by statute) a registered Diploma in Sanitary Science, Public Health or State Medicine, or have had not less than three years' previous experience of the duties of a Medical Officer of Health. The Minister recognizes, however, that in small Districts it may not always be possible for the Authority to obtain the services of an officer thus qualified, and in Article 21 of the Order he has reserved to himself the right to dispense with this requirement. He will, however, expect Local Authorities to make every endeavour to appoint as Medical Officers of Health persons holding the prescribed qualifications, and he will be prepared to waive the requirement only in cases where it is clearly shown that the Authority were not able to comply with it."

"Under Article 10, Medical Officers of Health . . . who do not give the whole of their time to public duties . . . must be appointed in the first place for a specified term ending on the 31st March next following the date of appointment. On the expiration of that term the officer (unless the Local Authority, not less than three months before the expiration of the term, give notice to the contrary) will continue to hold office from year to year, subject to the provisions of the Order, without further appointment by the Authority or approval by the Minister. Power is reserved, however, to the Authority themselves to determine the appointment on the 31st March in any year by giving not less than three months' previous notice."

*Not reprinted.—Sanitary Officers Order, 1926, (S.R. and O., 1926, No. 552; Price 2d. net).

QUALIFICATIONS.

6. As appointments are invariably open to competition, a medical qualification and the Diploma in Public Health are generally not sufficient to enable a man to obtain a position as Medical Officer of Health except in very small Districts. It may, therefore, be desirable to set down a brief outline of the career a man must follow in order to be successful as a whole-time Medical Officer of Health in the local government service. After having passed a matriculation or preliminary examination approved by the General Medical Council, the student must devote not less than five years of full-time study at a University (or a Medical School attached thereto) and a recognized teaching hospital. Generally speaking, five years are found insufficient, and six must be regarded as the average length of time occupied by the medical student of average ability in securing his qualification to practise medicine, surgery and midwifery. On obtaining this qualification, which may be the degree of M.B., Ch.B., or the diplomas granted by the Colleges of Physicians and Surgeons in England or Scotland, the student usually takes up a general hospital appointment for the purpose of gaining practical experience in the exercise of his profession. This appointment may be for a period of six or twelve months. Frequently, two or three of these appointments are held in succession. Board and lodging are generally provided in the hospital, and the salary may vary from nothing up to £100 a year. It is generally during this twelve or eighteen months that the young medical man decides upon the branch of the profession he will enter. If he resolves to take up public health work, he will be advised to commence at once the necessary course of lectures, laboratory classes, demonstrations, etc., prior to sitting for the statutory diploma in that subject. There are certain junior appointments in the public health service in which it is not an essential requirement that this diploma should be possessed, but without it there is no prospect of obtaining a senior position; and when a man has once obtained a whole-time junior appointment he very rarely has the time and opportunity to attend the necessary lectures, etc.

7. Most of the Medical Schools provide a course of lectures, laboratory classes, etc., in public health work, and the various Universities and the Royal Colleges of Physicians and Surgeons hold examinations for the Diploma. As a minimum requirement for the Diploma, the General Medical Council have stipulated that thirteen months must be devoted to the whole-time study of public health work; and the examination cannot be taken until the candidate has been a qualified medical man for two years. If, therefore, a young man commences his professional studies at the age of 18, he may secure his medical qualification at the age of 24, and obtain his Diploma in Public Health at the age of 26. If, however, he is anxious to improve his prospects, he may now decide to study for a higher medical qualification, such as the degree of M.D., or the Membership of the Royal College of Physicians. This will take another year or two. In some cases, the higher medical qualification is taken before the student works for the Diploma in Public Health. It will be seen that few are qualified to receive a medical appointment

under a Local Authority before the age of 26 years; but the vast majority are not less than 27 or 28, and probably the average age at which a man secures his first appointment in the local government service is round about 29 years.

8. The first position obtained may be that of Assistant School Medical Officer, Assistant Tuberculosis Officer, or Resident Medical Officer in a fever hospital. After one, two or three years in this position, the young officer may be appointed Assistant Medical Officer of Health in a larger area, and after having spent one, two or three years in such an appointment, he may move to a still higher assistant post. All this time, he is generally watching the medical periodicals for advertisements for Medical Officers of Health, and usually he will apply for vacancies occurring in smaller Districts. The progress made by individuals varies considerably, but a man who is successful generally becomes a whole-time Medical Officer of Health at an age varying from 35 to 40.

Methods of Appointment.

9. Certain requirements are specified in the Sanitary Officers Order in regard to the appointment of Medical Officers of Health one-half of whose salary is to be paid by the County Council. When a vacancy occurs, the Local Authority must submit to the Minister of Health a statement showing the salary proposed to be offered, duties, and various other particulars. On receiving the approval of the Minister to the proposals contained in the statement, the Local Authority must invite applications by newspaper advertisement. Generally speaking, the age limit for senior posts is fixed at 40, but in a few of the most important appointments, applications are invited from candidates up to 45 years of age. Thus, the position a man reaches at the age of 40, or occasionally at the age of 45, is the highest he can hope to attain in the local government service. The Local Authority select from among the applicants several of those who appear to be the best qualified and experienced men, and make their choice after one or more interviews.

The experience of the Society is that Local Authorities generally take great care in making their selections.

Promotion within the Service.

10. Sometimes, in Counties or large towns, a junior Medical Officer receives promotion to a more highly paid assistant post under his own Authority. Occasionally, he may be promoted to the post of Medical Officer of Health on those rare occasions when his chief dies or retires from office at a time when he is at a suitable age for promotion; but, as a rule, advancement in the public health service is secured by applying for advertised appointments under other Local Authorities. It is unfortunate, however, that owing to the rapid growth of the public health service in recent years, with the consequent large increase in the number of Assistant Medical Officers employed, these junior officers have a poor prospect of obtaining a chief appointment. Perhaps not more than one out of six medical men engaged on whole-time service at the present time will eventually become a Medical Officer of Health. The others must be content to fill subordinate positions throughout their official lives. This difficulty in securing senior appointments is rapidly becoming recognized by the profession, and there is a danger that the right type of man will cease to be attracted to the public health service unless the conditions of service are made sufficiently good. One of the unsatisfactory features in connexion with promotion is that each Local Authority is an independent unit, with the result that loyal service to one Local Authority does not stand a man in such good stead as in the case of the Civil Service. The general lay-out of the form of application and the personal appearance and address of the candidate before the Selection Committee are often of far more value in obtaining promotion than the devotion of many years of steady and loyal work as an assistant under another Local Authority. In Ireland, there has recently been established an Appointments Board which nominates men for appointments under various Local Authorities; but this body has not yet been in operation sufficiently long to show whether it will be more successful than the present method of promotion in this country.

The Duties of a Medical Officer of Health.

11. These are laid down in Article 14 of the Sanitary Officers Order of 1926 (Appendix I to this Memorandum*).

In 1925, the Ministry of Health issued a Memorandum on the duties of Medical Officers of Health in England and Wales, which gives a very clear guide to Local Authorities and their officers. This appears as Appendix II to this Memorandum.† The Memorandum does not apply to the London County Council Medical Officer of Health or to Port Medical Officers.

General Observations on the Duties of Medical Officers of Health.

12. The Medical Officer of Health is the expert adviser to the Local Authority on all questions relating to health and sanitation, and the chief officer of the public health department.

His work varies considerably as to whether he is a part- or whole-time officer, and also as to whether he serves a County, a Town, or a County District.

The Part-Time Medical Officer.

13. A part-time Medical Officer is generally engaged in private practice within the area, and the time he can devote to his public work is limited. He thus does not possess the same opportunity as the whole-time officer to look into the many health questions which arise within his District. The routine work of the public health department is necessarily largely in the hands of the Sanitary Inspector and the clerk of the department.

14. The number of part-time Medical Officers of Health is gradually diminishing, for as vacancies arise there is a growing tendency, encouraged by

* Not reprinted.—Sanitary Officers Order, 1926, (S.R. and O., 1926, No. 552; Price, 2d. net).

† Not reprinted.—Ministry of Health—Memorandum on the Duties of Medical Officers of Health in England and Wales (1925; Price 2d. net),

the Minister of Health, for several Districts to combine for the purpose of appointing one man who will devote his whole time to the duties of Medical Officer of Health. This system has been in operation in various parts of the country for many years and has been found to work uniformly well.

15. In at least two Counties it is the custom for an Assistant County Medical Officer to be appointed to fill the post of Medical Officer of Health of a District within the County when a vacancy occurs. Experience of this scheme is not yet sufficient to show whether a Medical Officer's dependence on the County Council for a portion of his income (as Assistant County Medical Officer) and his subordination to the County Medical Officer in regard to some of his work will limit his initiative and authority as a District Medical Officer of Health. With this qualification, it may be stated that the practice of filling Medical Officer of Health vacancies with whole-time men is one which is acceptable to the public health service and to the medical profession, for it is recognized that, with the ever-growing importance of preventive medicine and the widening of the scope of public health work, fully trained and experienced Medical Officers of Health devoting their whole time to the work are essential in order to secure the best results.

16. The growth of the public health work of Local Authorities has been such that a District of 20,000 population which would give but little work for a part-time Medical Officer of Health twenty-five years ago will now find full-time occupation for one man, if he acts as Medical Superintendent of the Fever Hospital and carries out in his area the duties in connexion with the recently established maternity and child welfare and school medical services in addition to those of Medical Officer of Health. A salary of £200 per annum would have been considered adequate for a part-time man of twenty-five years ago in such a District, but to-day the work is sufficient to entitle the whole-time officer to a salary of £800 as a minimum.

Whole-Time Medical Officers.

17. *Medical Officers of Counties.*—It is only since 1907 that Counties generally have appointed Medical Officers of Health. Their appointment was first made mainly for the purpose of carrying out school medical work under the Education (Administrative Provisions) Act, 1907. Subsequently, the appointment became compulsory in all Counties by the Housing, Town Planning, etc., Act, 1909. Apart from school medical inspection and treatment, the duties of a Medical Officer of Health for a County are to keep a general watch over the County area; to see that public health matters are receiving proper attention; to act as supervisory officer under the Midwives Act; to act as Chief Tuberculosis Officer; to enforce the provisions of the Rivers Pollution Act, 1875; to make special investigations, for example, in connexion with epidemics; and to prepare an annual report based largely upon the reports submitted by the Medical Officers of Health of the Districts within the County.

As far as executive work is concerned, the field of the County Medical Officer has steadily widened and, though the administrative and supervisory duties are still prominent, the executive duties are becoming more and more extensive.

18. *Medical Officers of Towns.*—In the smaller towns of 30,000 population, there is generally a whole-time Medical Officer of Health who finds it a heavy task to administer his department and carry out all the medical work which falls upon him. In addition to superintending the work of the clerks, sanitary inspectors and health visitors, he frequently undertakes the clinical work at maternity and child welfare centres and the medical inspection of school children. He generally acts also as visiting physician to the local fever hospital, of which he is in administrative charge. When the population exceeds 30,000, it is almost impossible for one whole-time man efficiently to administer his department, undertake the school medical work, maternity and child welfare and fever hospital work without an Assistant Medical Officer. When we arrive at a population of 60,000, it may be said that there is ample work in connexion with administrative and office routine to give whole-time occupation to the Medical Officer of Health. If he is required to attend clinics or to undertake school medical inspections, his administrative work is bound to suffer. In the larger towns of 120,000 population, there is generally an assistant who is the resident physician at the fever hospital, another who acts as Tuberculosis Officer, another who acts as School Medical Inspector, and perhaps one other for general purposes. These assistants multiply in number as the population increases.

19. *Medical Officers of County Districts.*—The majority of the appointments in Urban and Rural Districts are still held by part-time Medical Officers to whose duties reference has already been made; but there are many large Urban Districts, especially round London and near big towns, where whole-time Medical Officers of Health are appointed; their duties are similar to those of Medical Officers of Health of towns.

20. In the cases where several areas are combined for the purpose of appointing a whole-time man, the work is very arduous owing to the wide area to be covered and the difficulties of supervising adequately the staffs in the various areas. As the recently established services (maternity and child welfare, school medical, and tuberculosis) are generally carried out by the County Council, the work of a combined district Medical Officer of Health is to a great extent limited to that of administering the Public Health Acts and the Acts relating to infectious disease.

21. In addition to the difficult nature of the work and its narrow scope compared with that of Medical Officers of towns and Counties, the combined area appointment has another great disadvantage from the officer's point of view, in that he rarely receives an increase of salary. His remuneration is fixed by the constituent Authorities of the combined area when the appointment is first advertised, and any future application for an increase must be submitted to each one of them. Experience proves that rarely can all the Authorities of the combined area be found to agree at one time that an increase is merited. This is a distinct hardship on combined district Medical Officers for which a remedy is desired.

Medical Officers of Port Sanitary Authorities.

22. The work of a Medical Officer of Health of a port is chiefly confined to (*a*) the visitation of ships coming from abroad for the purpose of detecting and isolating cases of infectious disease, (*b*) the routine inspection of shipping within the port from the point of view of hygiene and general sanitation, (*c*) the supervision of hospitals provided for the isolation of patients removed from ships, and (*d*) the inspection of imported foodstuffs. The inspection of aliens is delegated by the Home Office to the Minister of Health, who in turn, makes use of the services of Port Medical Officers wherever possible.

23. In recent years, the duties in connexion with imported meat and other foods have greatly increased, and at the important ports one or more medical assistants and a staff of Sanitary Inspectors are required for this purpose. In the larger ports practically every ship coming from foreign ports is visited on arrival. In the smaller ports where the trade is mostly coastwise, the Medical Officer of Health seldom visits ships unless requested to do so, and such requests generally come from the Customs Officer. The general supervision of the sanitary condition of wharves, sheds, etc., within the area of the Port Sanitary Authority, is undertaken by the Port Medical Officer of Health and the Sanitary Inspectors working under him.

School Medical Officers.

24. The Education (Administrative Provisions) Act, 1907, (section 13), imposes on all Local Education Authorities the duty of providing for the medical inspection of school children at specified age periods, and gives these Authorities power to provide treatment for certain defects found. This work has added largely to the medical duties of Local Authorities, and perhaps no extension in public medical work has led to such an increase in the number of medical personnel serving Local Authorities. Every Local Education Authority must appoint a School Medical Officer, but the large majority of Authorities have invested the Medical Officer of Health with this appointment. This combination has been advocated by the Ministry of Health and the Borad of Education.

In the larger Districts the routine work is undertaken by assistants who may devote their whole time to school medical work or who may work partly in the school medical service and partly in some other branch of the public health department.

In a District of more than 30,000 inhabitants, the Medical Officer of Health cannot, with efficiency, undertake school medical work without medical assistance.

Assistant and Specialist Medical Officers.

25. It is only in the larger areas that assistants for general purposes are appointed, the usual procedure being to appoint a medical man as a part-time or whole-time officer for maternity and child welfare work, tuberculosis work, school medical inspection, etc. If such an officer devotes his whole time to the service, he may receive the title of Assistant or Deputy Medical Officer of Health or Assistant School Medical Officer. Frequently, it is an essential requirement of appointment that he should possess the Diploma in Public Health. As a rule the best candidates do possess this Diploma, for they know that there is little prospect of becoming a Medical Officer of Health unless this qualification is held, and they know also that if the Local Authority have a choice of candidates, it is their almost invariable practice to make their selection from amongst those possessing it. This policy of the Local Authority usually follows the recommendation of the Medical Officer of Health who desires his assistants to have what might be termed " the preventive outlook."

26. No part of the salary of Assistant Medical Officers is recoverable from County funds; but tuberculosis, maternity and child welfare and venereal disease Medical Officers are concerned in work to which the Minister of Health contributes part of the expense in the form of grants; thus, it follows that a portion of the salaries of assistants is refunded to the Local Authority from the Government funds, and consequently the appointments of these officers are more or less subject to the approval of the Minister.

The appointment of an Assistant Medical Officer of Health is not statutory, and the officer has no official position or duties under any Act or Order.

27. The Society desire the same security of tenure for all full-time Assistant Medical Officers as that possessed by Medical Officers of Health.

THE IMPORTANCE OF THE POSSESSION OF MEDICAL QUALIFICATIONS BY THE CHIEF OFFICER OF THE PUBLIC HEALTH DEPARTMENT.

28. Mr. E. D. Simon, who gave evidence before the Commission in May, 1928, stated that there was much to be said in favour of having a layman as the chief officer of a public health department.* Mr. Simon mentioned at the beginning of his evidence that his personal experience was confined to Manchester, though he had certain knowledge of other County Boroughs.

29. The Society of Medical Officers of Health do not consider it possible that in a city such as Manchester, the position of Medical Officer of Health, involving as it does the supervision of medical work undertaken by a large staff of medical men, could be efficiently undertaken by any person who has not had medical training. It is true that the Medical Officer of Health of a large city has no opportunity of undertaking medical work himself, but during the course of the working day problems are constantly arising in which medical knowledge is essential. This probably applies in the case of the Medical Officer of Health more than it does to the Town Clerk in respect of legal knowledge.

30. The Society are strongly of the opinion that the efficiency of public health work in any district would suffer seriously if the suggestion of Mr. Simon were adopted; but whatever may be said in favour of Mr. Simon's view in respect of large areas where the Medical Officer of Health is mainly an administrative officer, his contention is clearly erroneous in respect of the small areas which, it must be remembered, are in the majority. In these, the Medical Officer, in addition to being the administrator of his department, may be required (*a*) to undertake the work of

* *See* Simon, Q. 35,806 (XI, 2213).

medical inspection of school children, (*b*) to conduct medical examinations at infant welfare centres, (*c*) to treat patients in fever hospitals, (*d*) to consult with medical practitioners in regard to the diagnosis of infectious disease cases, and so on. For these purposes medical qualifications are absolutely essential.

SALARIES.

31. The Public Health Service as we know it to-day is comparatively new; it has grown with such rapidity that local authorities have been faced with difficulties in arriving at a basis for fixing salaries which would give satisfaction. There has been an enormous increase since 1907 in the number of assistants, both whole time and part time, engaged in Public Health work. For example, in my own district of Kensington, there are twenty part-time Medical Officers serving the voluntary Infant Welfare Centres in connection with Maternity and Child Welfare work; in 1907, there was only one.

Owing to the large number of part-time officers, it is difficult to say how many medical men and women are engaged in the work, but the number of whole-time assistant medical officers must be on a conservative estimate five or six times as great as it was in 1907. This extension has thrown additional cost on the rates, not only in respect of additional medical salaries, but also for offices, clinics, hospital bed accommodation, nursing assistance, etc. In these circumstances, it will be understood that many members of local authorities, who recognise that they are elected for the purpose of safeguarding the pockets as well as the health of the rate-payers, try to secure as cheap a service as possible; and it is unfortunate that in many areas cheapness has been placed in front of efficiency.

32. In 1924, the Society of Medical Officers of Health and the British Medical Association, adopted a scale of salaries which was approved by the Minister of Health, and commended by the Association of Municipal Corporations, and which has been adopted by the vast majority of local authorities which have had occasion to make appointments since the publication of the scale.

It will be observed that this scale is elastic. It was hoped when it was first published that local authorities would consider the character of their areas, the kind and type of work to be performed, and fix within the fairly wide limits provided a commencing salary which would be regarded as fair both to the local authority and the Medical Officer. It is unfortunate, however, that local authorities have shown a tendency to overlook the spirit of the scale. They ignore the elasticity and almost invariably adopt the least minimum permissible.

33. Some authorities have not seen fit in the first place to offer salaries within the scale and in these cases the professional journals have refused to accept advertisements in respect of vacancies because they are satisfied that the salary offered would not induce satisfactory candidates to apply. In these circumstances and generally in the absence of suitable candidates, there have been only a few cases in which the local authorities have not eventually resolved to offer a salary within the scale. In some cases where appointments have been made below the scale, the Minister of Health has refused to give his sanction, with the result that the local authority are called upon to pay the whole of the Medical Officer's salary out of the rates, whereas in respect of those appointments which come within the scale and receive the approval of the Minister, the local authority receive back from Government Funds an appropriate percentage of the salary.

The Medical Officer who accepts an appointment which is not regarded by his colleagues as offering a suitable remuneration is liable to forfeit the sympathy of the general medical practitioners of his district and his colleagues in the Service; thus he faces his new task with great disadvantages.

34. The scale has, from the point of view of the Society of Medical Officers of Health, proved successful in that it has been adopted in such a wholesale way, but the Society desire modifications which will enable their members to obtain improvement in their salaries with length of service.

It seems probable that in the near future the revised scale will be generally accepted, for the importance of the Public Health is being more and more recognised, and on every hand there is witnessed a growing desire to have as Medical Officer of Health a highly qualified man who is likely to be held in high esteem by the profession of medicine and the general public.

THE TYPE OF MAN ENTERING THE SERVICE.

35. Unlike other branches of the local government service, the type of man entering the public health branch is fairly well defined, for he must be a medical man. In spite of the low remuneration offered, the public health service, in pre-war days, attracted highly qualified medical men.

36. It is interesting to note that the public health branch of the medical profession is the only one in which it is a legal requirement to have a special qualification in addition to the ordinary qualification to practise medicine, surgery and midwifery. A consulting surgeon, a consulting physician, a consulting obstetrician or an oculist may practise his speciality without possessing any qualification other than that which enables him to practise in medicine generally. It is true that his prestige will suffer in many cases if he does not take a higher degree or diploma in his particular branch of work, but nevertheless this is not essential. In the public health service however, a man cannot secure a post as Medical Officer of Health unless he takes the Diploma in that subject. But, in addition to taking that Diploma, most of the men who entered the service as whole-time officers in pre-war days took the higher degree of doctor of medicine, some obtained the membership of the Royal College of Physicians, and not a few became barristers-at-law.

37. From an academic point of view, the standard of the medical men entering the service in pre-war days could not have been improved; and it may be said that the highest officers in the public health service to-day possess the same mental calibre, ability and high devotion to duty as is possessed by the leading consultant physicians and surgeons in the country. There is, however, an enormous difference in their respective remunerations, and the probable explanation of the attractiveness of the public health service in the past lies in (*a*) the certainity of

an income, even though low, (*b*) the great interest found in the work, and (*c*) the security of tenure. Unfortunately, there has been since the war a growth of evidence that unless the service is made more attractive from the point of view of remuneration, the type of medical man entering will fall below that of pre-war years. The comparatively small and diminishing number of men who now apply for advertised posts supports this view.

THE RELATIONSHIP EXISTING BETWEEN THE VARIOUS CHIEF OFFICERS.

38. The relationship existing between the heads of the several departments of a Local Authority is a matter which depends entirely on the officers concerned, and particularly the Town Clerk.

If the Town Clerk possesses broad vision, tact and a good knowledge of men, his position as the official mouthpiece and representative of the Council and its Committees enables him to secure that co-operation between departments which is essential for good local government.

39. The Society believe that it is impossible to devise regulations or orders which would secure co-operation, and they consider that this problem must be left for the chief officers of each Authority to solve by informal understandings arrived at by conferences between those officers, which should be arranged and presided over by the Town Clerk.

If chief officers show goodwill and a desire to co-operate, the work of a Local Authority under the existing system proceeds very smoothly; and neither efficiency nor harmony would be promoted by placing the Town Clerk in a position of authority over the other heads of departments.

40. Whilst the Society hold the opinion that the Medical Officer of Health is the most highly trained officer serving a Local Authority, they consider that it is in the best interests of the local government service that all chief officers should be regarded as equal in status; but they desire to express their view that the salary of any one chief officer should be fixed on a basis which his particular qualifications and work merit, without reference to the other chief officers serving the same Authority.

CITY MANAGERS.

41. The present system of local government in this country would not be improved by the appointment of City Managers, as in America, or of Burgomasters, as in Germany.

If the powers of a Local Authority were vested in one man who is accessible each day, chief officers could obtain immediate decisions in regard to the approval of building plans, the institution of legal proceedings, and other matters which frequently call for prompt attention; but this one advantage of the City Managership system could be secured by a wider delegation of powers by the Council to its Committees, which in turn could make appropriate delegations to chief officers.

42. The City Manager, however well-trained and widely experienced he may be, cannot possess that technical knowledge which would enable him to be an efficient administrator of all the departments into which the work of a Local Authority is divided. Moreover, the power he exercises would deprive the chief officers of that independence of action and sense of responsibility which encourages devotion to duty.

It is the view of the Society that the adoption of the City Managership system, involving the subordination of the Medical Officer of Health to a man without medical qualifications, would seriously interfere with the efficiency of the public health work in this country and drive from the local government service the best types of medical men.

ORGANIZATION OF WORK IN THE PUBLIC HEALTH DEPARTMENT.

43. This is a matter which depends very largely on the recommendations of the Medical Officer of Health and the policy adopted by the Public Health Committee.

In some departments, it is customary to detail Officers, both medical and other, for one special branch of work, and to confine their labours thereto. For example, one medical man may be engaged entirely in school medical inspection duties, whilst another may be occupied whole-time in tuberculosis dispensary work. From the point of view of administration, this is a simple course to adopt; on the other hand, however, this scheme of specializing does not enable the officers concerned to gain that wide experience which will assist them to become efficient chief officers. With a view to the training of future chief officers, it is desirable that tuberculosis work, maternity and child welfare work, and other branches of medical work, should be divided amongst all available assistants, so that each may obtain a varied experience.

44. Many Town Clerks, Borough Treasurers and Engineers have served their articles in the employment of a Local Authority, and their years of studentship are added to the period served for the purpose of calculating pensions to be paid under superannuation schemes. As medical men are unable, owing to the special training they have to undertake, to enter the local government service until they have reached an age when other officers may have served ten years or so under a Local Authority, the Society consider it reasonable to ask that officers with medical qualifications should have the right to add the time taken to qualify (not exceeding ten years) to their period of service for superannuation purposes.

45. It is a grievance with the public health service, as with all other branches of the local government service, that there is no general adoption of superannuation schemes by Local Authorities. This question should receive the early attention of Parliament; and new legislation should provide that previous service should be allowed to count for superannuation when an officer transfers to another appointment.

THE Fourth Imperial Social Hygiene Congress, organised by the British Social Hygiene Council (Incorporated) will be held in London, from July 8th to 12th, 1929, when various aspects of the venereal disease problem will be discussed. On this occasion it is proposed to abandon the previous arrangement of grouping contributions according to their geographical origin, and to group them under subjects. Full details of the Congress may be obtained from the Secretary General of the Council, Carteret House, Carteret Street, London, S.W.1.

The Literature of Preventive Medicine.

THE DERMATERGOSES OR OCCUPATIONAL AFFECTIONS OF THE SKIN. By R. PROSSER WHITE, M.D., C.M., Ed., M.R.C.S., Lond., President, Certifying Factory Surgeons' Association, etc., etc. London: H. K. Lewis and Co., Ltd., 1928. pp. 734, illustrated. Price 35s. net.

Dr. Prosser White is the outstanding authority on affections of the skin associated with occupation, and this is, of course, the standard work on the subject. The first edition was published in 1915, and since then, in addition to a second English edition, there have been editions in other countries and other languages, Russian particularly. In this, the third edition, considerable revision has been carried out and new matter introduced. As a result its value and usefulness have been increased and it will, as it deserves, be consulted and quoted more widely than ever.

MATERNITY AND CHILD WELFARE. By ETHEL CASSIE, M.D., Ch.B., D.P.H. (Edin.), Assistant Medical Officer of Health for Maternity and Child Welfare, and Medical Superintendent of the Carnegie Infant Welfare Institute, Birmingham. London: H. K. Lewis & Co., Ltd., 1929. pp. 228, illustrated. Price 8s. 6d. net.

It is easy to accept the statement in the preface that the author has been asked, by medical officers of health and medical officers engaged in child welfare work, to write a book dealing with maternity and child welfare for the use of public health workers by a maternity and child welfare worker in the public health service. Such a book has long been wanted. At once it may be said that Dr. Cassie was just the person with the qualifications for providing what was required, and that she has, in fact, provided it. Books innumerable almost, have been poured out for some time, all with some reference to child welfare in their title or their contents. Some good, some not so good, none has given exactly what was wanted in the way of practical information that the person on the job or preparing for the job wanted. Dr. Cassie appears to have found the right line at once, and the embryo as well as the fully-fledged health visitor (it is suspected that Dr. Cassie would like to call her the "public health nurse"—an expression with which she disfigures her preface) will quickly learn that this is her book.

It deals with extraordinary completeness with all the activities in which the health visitor is concerned; from home visiting to conduct of clinics of all kinds. It discusses the subject of health talks, food and food values, child management, and so on. It gives excellently clear and simple instruction on infectious diseases, the skin and its affections, heliotherapy, and numbers of other medical subjects. It is all extremely well done. Pleasantly and readably written, authoritative and practical, the book is welcomed heartily and recommended strongly.

OUR BABY. By MRS. J. LANGTON HEWER, State Registered Nurse, Certified Midwife, etc. Bristol: John Wright & Sons, Ltd., 1929. pp. 186, illustrated. Price 2s. 6d. net.

THE BABY OF TO-DAY. By the same author and publisher. pp. 32. Price fourpence net.

The first of these books was originally published in 1891, and was written "for those mothers and nurses who know that there must be a right way of bringing up a child, and who are anxious to ascertain what that way is." That it has appealed to those for whom it was intended may be accepted, since this is the nineteenth edition in which is completed a total issue of 180,000 copies.

The "Baby of To-day," the second from the author's pen, is intended for persons undergoing training as nurses, and appears to be on the way to attain as great a popularity as the larger volume, as it is now in its third edition.

HERITAGE OF ILLS. By ETHEL BROWNING, M.D. London: William Heinemann (Medical Books), Ltd., 1928. pp. 132. Price 3s. 6d. net.

The intention of this short volume is to attack some of the commonest and most troublesome of human illnesses from the preventive point of view. It states briefly the extent to which heredity may be said to play a part in

such things as rheumatism and tuberculosis; emphasizes the general importance of all that is included in the term "environment" in the causation of most complaints, and explains the elements of psychological reactions of various kinds and their starting of certain neuroses. The book is extremely well written and should prove helpful to a considerable public.

In the Annual Reports.

AN OUTBREAK OF DYSENTERY.—During the year under review it will be noted that there were five cases of dysentery. My attention was drawn by a medical practitioner to three children who were ill in a family, and at his request they were seen by me. At the same time I had the question of the food partaken gone into and the drains inspected. The drainage was found to be defective. At the time of my visit there was also another child isolated in an anteroom. I was of opinion that the three children were suffering from dysentery, and with the concurrence of the medical attendant they were removed to hospital the next day. The other child and the mother subsequently developed the disease. Meanwhile the stools were examined and the "Flexner" bacillus of dysentery found, confirming the diagnosis. The bacteriological history is interesting. The clinical diagnosis was confirmed in all cases of this family sent to hospital, by serological or bacteriological means. An organism of the "Flexner" type of the bacillus dysenteriæ was isolated from the mother, a daughter and a son, whilst another daughter and son gave serological evidence of suffering from the same infection. The organism in one case gave reactions of a "W" strain of Flexner, while in another case reactions of the "X," "V" or "W" type were given. The subsequent history of these cases as mentioned is interesting as showing that in a small house such cases cannot be adequately attended to. First of all we had the three cases, then another child taken ill a few days afterwards, and then a week afterwards the mother, but we think the mother may have been ill a day or two before she admitted it. There remained at home the father, who kept well all through, although he did a considerable amount of the early nursing. Another child of school age, fourteen years, who was from home, escaped infection. The source of infection of this family was never satisfactorily cleared up. There was, of course, a drain defective, but one looks in dysentery for infection from another case, or through contaminated food.—*Dr. G. Clark Trotter, Islington.*

THE BIG AND THE LITTLE TRADER.—It is my opinion that very few cottage houses are suitable for the making of ice cream and it is not advisable the trade should be carried on under such conditions, and here I may repeat what was said in regard to the milk business, *viz.*, the more it is in the hands of large companies with capital and scientific advice at their disposal, the safer for the general public. Two out-of-town firms established depots during the summer for the storage and distribution of ice cream under strict hygienic conditions, and I think such people should be encouraged if we wish to limit the chance of infection as much as possible. It would be advisable if, at some future date, the ice cream trade could be put on the same footing as the milk business as regards registration. At present any person can start ice cream making, whatever be the condition of his premises, and it is only by coming across his barrow in the street or seeing a card in the window of his shop that we become aware of what is taking place.—*Dr. Stephen Rowland, Northampton.*

THE DIAGNOSIS OF DOUBTFUL CASES OF TUBERCULOSIS.—Of all the tests the subcutaneous O.T. test is the only reliable one in absolute diagnosis. If one gets a positive sputum or a focal reaction the diagnosis is certain. This test has been relegated to oblivion by the majority of workers because of its supposed danger in reactivating a latent lesion. I think it is dangerous if it is used in the way some people have used it, but I have seen no single case harmed by its use when the test is done with the most careful precautions. There is no absolutely reliable single test of an active early case, laying stress on the words single and active, and in the end one often has to rely upon one's clinical instinct by a general impression of the result of every enquiry and especially on the presence or absence of symptoms that need treatment.—*Dr. W. M. Ash, Derbyshire County Council.*

DISINFECTION *v.* EARLY DIAGNOSIS.—Disinfection of premises and clothing is still practised in the case of the most infectious notifiable diseases. From experience one would say, however, that far too much importance is attached by the general public to disinfection and that too little consideration is given to what is regarded as a slight indisposition. It is obvious that in the spread of disease the detection of the mild case is a factor of greater importance than disinfection as now practised.—*Dr. H. Gordon Smith, Lincoln.*

"SUMMER TIME" MAKES HEALTHY WORKERS.—The general health of the workers, particularly the younger ones, has, I believe, improved during the past few years. The factors which have contributed to this improvement are many, and not the least, I consider, is "summer time," which enables the workers to take advantage of the recreational facilities now provided by many employers. An increase of such facilities, whether by individual firms or by municipalities, will, in the future, be reflected in the improved health of the workers. There can be no doubt that the arrangements for welfare now made by many firms, benefit the health of their employees. Progress has been made from year to year in this movement, but there is still a tendency to limit the application of welfare to female employees. Of particular importance are those projects which have for their object recreation outside working hours for juvenile employees. These, if well organised, cannot fail to counteract the potential ill effects of monotony and tedium consequent upon the many mechanical and repetitive occupations unavoidable in modern industry.—*Dr. John C. Bridge, Senior Medical Inspector, Factory Department, Home Office.*

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Editorial.

The Local Government Act.

IT may possibly be the case, as some stated while it was still in the Bill stage, that the Local Government Act of 1929 is not really a health measure: nevertheless it appears certain to lead eventually to additions to the duties of every medical officer of health, and in the meantime to a great deal of extra work and possibly worry and anxiety to most, if not all. During the time the measure was passing through Parliament, the Council of the Society, as, indeed, did the various Branches also, gave serious consideration to the provisions that appeared to have reference to matters falling within the sphere of the health officer, and sent forward to the Ministry of Health various observations and suggestions with regard to several of these. In order to ensure the fullest and most detailed consideration the Council set up a Special Committee to watch the progress of the Bill and to report thereon from time to time. Useful assistance was rendered by this Committee, which was finally constituted as the Local Government Act Committee with an extremely representative personnel. That this Committee for some time will have arduous work to perform under the Chairmanship of Dr. Butterworth, Medical Officer of Health of Lancashire, is certain. In the meantime the bulk of this will have reference to the matter of schemes under section 5 of the Act, and the providing of guidance to medical officers of health generally on the lines to be followed in advising their authorities. Not improbably definite need will arise in some districts for safeguarding the interests of the

medical officer of health to ensure that his position may not be weakened; or, as is just as likely to occur, that his burdens are not increased without a corresponding increase in salary. At the moment it seems not improbable that the changes in organisation, which ultimately should be great, will occur very gradually, the authorities carrying on with arrangements as they are and altering them as knowledge and experience of their working are gained. Works performed by boards of guardians and capable of being regarded as health works will be dovetailed into similar, or more or less similar, works performed by the health department of local authorities and insensibly almost the operations of health officers in a number of fields will be greatly extended. When extension occurs in this way there is a definite possibility that there will be a tendency on the part of local authorities to overlook, or to affect to overlook, the fact that extensions have occurred and to grant adequate, or indeed any recognition. For this, if for no other reason, there is need of watchfulness. And apropos of the Local Government Act and the question of remuneration on account of the alterations that inevitably must occur in the position and duties of the medical officer of health in consequence of its operation, it seems almost unfortunate that, before it is actually known what the changes may be, the Society and the British Medical Association find themselves in conference with representatives of municipal authorities on the matter of salary scales, the basis of the scales being the population of the areas and the duties performed prior to the passing of the Local Government Act and the re-organisation and the distribution of duties consequent thereon and the break-up of the poor law. That the representatives of the Society who are engaged in the negotiations are alive to these things may be taken, and that the British Medical Association's representatives and those who are acting for the authorities on the other side of the table may be conscious of them is most devoutly to be hoped.

* * * * *

Medical Research in 1927-1928.

IN general, it is more profitable to consider what *is* being done, than what should or should not be done, and for this purpose the annual report of the Medical Research Council provides an excellent opportunity. That most recently published* shows that a remarkable amount of work is being carried out in numerous avenues of research, notwithstanding that on account of pressure on its resources, the Council have had to exert rigorous selection of the actual fields to be investigated. It cannot be easy to know " whether shall prosper, either this or that, or whether they both shall be alike good "; but the ground covered is so extensive that there is an obvious genuine attempt to include everything which is most promising for the future or most urgent for the immediate present.

The references in the report to the treatment by artificial light have already been given wide publicity in the medical and lay Press, and have aroused considerable controversy and dissension of opinion. The Council outline the prodigious and startling rise in popularity of medical treatment by artificial ultra-violet light (as distinguished from sunlight) which is now used in a multitude of serious and mild disorders. Reference is made to the scientific findings of the value of these artificial rays activating a particular sterol in the fat of the skin to produce vitamin D, which repairs the food deficiency of which rickets is the most apparent sign. But there is no evidence that the supply of vitamin D is better obtained by the ultra-violet rays than by the administration of cod-liver oil.

Moreover, the discovery of this powerful effect of sunlight on nutrition led to the hope and expectation that it might act beneficially in other unrevealed ways. The two series of experiments referred to, those of Dr. Helen Mackay in 1925 and of Dr. Dora Colebrook in 1927-8, show that, *ceteris paribus*, the results of the artificial light on groups of children were wholly negative. And it is observed that " the Council are aware of no properly controlled experiments which have been made elsewhere to set against these two series." The other effect of local inflammatory reaction by the artificial ultra-violet rays is referred to, and the benefit is noted of its regulated use in chronic infections, especially in those of tuberculosis.

The Council, however, considered it right to draw attention to these various negative results; and it would seem to be the duty of those who take the responsibility of prescribing this treatment " not only to secure that its known dangers shall be avoided, but also to find and announce evidence of its benefits that do not come only from strong commercial advocacy on the one hand and popular credulity on the other." The Council have nothing detrimental to state about the value of carefully regulated exposure of patients to *natural* sunlight; but there are other influences in this true heliotherapy which cannot yet be accurately appraised.

To those who have so vehemently denounced this section of the report, there lies the obvious course of producing or obtaining the results of properly controlled experiments to prove their side of the question. Meanwhile, it may be hoped that the interest so typically stimulated by the reference to a " mustard plaster " may cause a deeper search for accuracy of work and of statement which will be all to the betterment of the public health.

Disease in cattle is the subject of a favourable section; the past year having seen brought to completion a piece of work in this connection in which the Council have been engaged for the past seven years. Briefly, it is concluded that in the diagnosis of tuberculosis in cattle the " double intradermal " test is much more trustworthy than the old subcutaneous tuberculin test, besides being easier to perform; and, in fact, the new test has already " passed into almost universal use among serious veterinary practitioners." Moreover, a by-product of this investigation is that there has now been prepared a trustworthy diagnostic agent " Johnin " for the early detection of Johne's disease in cattle; and the results are enough to justify complete confidence in the test, which can be made simultaneously with the tuberculin reaction. It is not commonly realised that Johne's disease brings immense annual loss to the country (more than £1,000,000) and some owners were amazed to find 40 per cent. of their herds infected.

Congratulations are due to workers on these results, which have such an important direct bearing on the milk supply; and the value of an abundant good milk supply has its indisputably beneficial effect in child welfare and on natural health. It is interesting to notice, and it should impress that large and unfortunate section of humanity who can think in no other term but that of money, that this relatively minor by-product of research has brought to the agricultural community " an effective means of saving national wealth in the future to an amount in sterling which, in a single year, would exceed the total cost to the national exchequer of all the medical research work of all kinds supported by the Council during all the years of work from the beginning."

The whole report is a most creditable record of steady work which is being carried out with quietness and steadfastness of purpose; for, in spite of the intolerant railings of an impatient twentieth century, John Hunter's advice is still the guide to progress—" Do not think but try; be patient, be accurate."

* Report of the Medical Research Council for the year 1927-28. Cmd. 3276. H.M. Stationery Office, 1929. pp. 165. Price 3s. net.

* * * * *

Local Government Act Memoranda.

ONE of the first publications to be issued under the Local Government Act—or, at any rate, to reach the medical officer of health—was probably circular 1,000, dated April 10th, 1929. In this the Minister of Health sets out, in the first place, what appeared to him to be the outstanding defects of local government as it now exists, to remedy which the Act was devised, and, in the second place, some of the main points of general principle underlying the Act. In due course, it is promised, detailed memoranda will be issued as to action required under the various parts of the Act. Of such as have been issued, L.G.A. 5 has reference to the requirements of section 101, relating to the submission of schemes for approval for securing the payment by county and county borough councils and metropolitan councils of annual contributions towards the expenses of voluntary associations, if any, providing maternity and child welfare services in or for the benefit of the area. The first schemes prepared under the section, memorandum L.G.A. 5 points out, are to be submitted to the Minister by September 30th next, and forms (L.G.A. 6 and L.G.A. 7) to be used by the councils in submitting schemes have been issued with the memorandum. In the case of London, under section 101 (6), the scheme so far as these grants are concerned, is to be made by the Minister of Health after consultation with the London County Council, the Common Council of the City of London and the Metropolitan Borough Councils. As a preliminary the Minister asks to be supplied with information on certain points by the two bodies last named in a memorandum, L.G.A. 8. The queries in this case have reference to the amount of contributions in the year 1928-29, the nature and extent of work done by the association, etc., and for the preparation

of most of the return, no doubt, the medical officer of health will be held responsible.

These few memoranda noted here, it may be taken, are merely the first of the flood that is certain to pour from the Ministry, and no doubt medical officers of health will take steps to ensure that none is overlooked. Inevitably, following the operation of the Act, there will become more and more obvious a necessity for consolidating the law generally with regard to public health. By members of the health service this has been desired long and ardently, and if work in this direction, so far as regards the Public Health Acts at any rate, is not already in hand, they will hope that it may not be delayed.

* * * * *

Adenoids and Tonsils.

AS a result of general medical inspection of school children extending over some twenty years, certain outstanding abnormalities were persistently reported by school medical officers. Sir George Newman therefore appointed four small medical committees in 1924 to investigate and report on these conditions, " in order," as he says in this report, " to enable the medical officers to perform their duties more effectually."

The four subjects requiring investigation were—

(1) The prevention of adenoids and enlarged tonsils.
(2) The prevention of defective vision and squint.
(3) The anthropometric survey of school children.
(4) The problem presented by the mentally defective child.

The report now under review* is an interim report of the medical committee on adenoids and enlarged tonsils. Sir George Newman states that this committee was inaugurated to investigate these conditions by reason of the fact that they are present, in greater or lesser degree, in about 10 per cent. of all school children in this country, and the effects, he says, " are liable to prove detrimental both to the health and education of the child."

The findings of the committee are summarised under five separate chapters :—

(1) *Factors in the Etiology of Enlarged Tonsils and Adenoids.*

The committee have surveyed a very wide field and explored, amongst many possible factors, the influence of infectious diseases, rickets, rheumatism, catarrhs, defective teeth, etc. The evidence collected seems to show that the majority of adenoid conditions occur before the fifth year of life; that they seldom develop after eight years, whereas enlargement of the tonsils may occur at any time during school life.

(2) *Comparison of General Conditions of Cases and Controls.*

The committee here draw attention to the difficulty of differentiating between causes and results. With this proviso, their conclusions are that (a) rheumatism is not a cause of the development of tonsils and adenoids, but that these two conditions are more likely to result from similar predisposing causes; (b) there is a definite association between the presence of rickets and the development of enlarged tonsils and adenoids, and they suggest that a deficiency of the calcifying vitamin may be an important etiological factor in these nasopharyngeal abnormalities. There is every indication that this line of research should be carefully surveyed, owing to the importance of nutrition of the child *in utero* and in the early stages of its independent existence. Cramer, and others, have already shown that vitamin deficiency promotes bacterial growth, interferes with absorption from the mucous membranes and, in this way, may produce lowered vitality and consequent infection of the mucous membranes themselves. Finally, there is a definite relationship between dental disease and the presence of enlarged tonsils and adenoids, but the nature of this relationship has, so far, not been worked out.

(3) *Frequency and Association of Special Symptoms.*

The main result of these pathological conditions is that the child suffers educational retardation which is increasingly apparent as the child grows older and often shows itself as " aprosexia." The chief signs met with in children suffering from these conditions are nasal obstruction, intermittent febrile attacks, enlargement of the cervical glands, ear disease, disturbance of sleep and eneuresis.

(4) *The After-History of Enlarged Tonsils and Adenoids.*

A certain but small proportion undergo rapid and complete spontaneous cure, but so rarely does this occur that it cannot be relied upon. Sooner or later children require operative interference if the condition is not to lead to permanent and irremediable injury. The report gives the result of 391 cases operated upon in which a cure was effected in 39 per cent. of the cases; the condition improved in 31 per cent.; remained unchanged in 19 per cent., and was worse in 1 per cent. The want of improvement was decidedly noticeable in cases in which the ears had already become affected.

(5) *Conclusions Deduced from the Inquiry.*

The committee has made it clear that these abnormal conditions are already established before the child comes to school. The committee will now continue its inquiries, more especially in regard to children at or before birth, with a view to discovering the possible relationships of these defects with a deficiency of the calcifying and other vitamins, as well as to children in the earliest months of life before the onset of enlarged tonsils and adenoids.

It will be of particular biological interest to see whether the committee will be able to show that the seeds of a pathological mucous membrane are already sown *in utero*; that the condition, therefore, is inherited and due to malnutrition of the mother.

* Interim Report of the Medical Committee on Adenoids and Enlarged Tonsils. Board of Education. H.M. Stationery Office, 1929. pp. 29. Price 6d. net.

* * * * *

Cancer—A Review of Recent Progress.

AN extremely valuable contribution to the literature on cancer was submitted by Dr. C. O. Stallybrass to the North-Western Branch at their meeting on April 12th. This it is hoped to publish *in extenso* at an early date. Reviewing the views with regard to the influence of sex, race, nutrition and occupation, Dr. Stallybrass expressed the opinion that a large part, if not the whole of the recorded increase in cancer mortality was apparent and statistical, depending upon increased longevity and upon better diagnosis of internal cancers: in the countries with the highest mortalities, cancer mortality had shown only a slight rise, or none, in recent years. Even as regards cancer of the lung it was doubtful if its more frequent recognition was the result of more frequent occurrence. Both statistics and laboratory experiments had confirmed the well-known influence of chronic irritation; the irritants were often highly specific as regards the tissues affected, and there were considerable differences in the sensitivity of animal species as regards certain irritants. Except for arsenic, the chemical composition of the effective chemical irritants was unknown. Other irritants were mechanical, physical, bacterial and parasitic, and here also curious differences in sensitivity were observed. Displacement of cells from their context was one of the factors predisposing to cancer. Each anatomical site had its appropriate group of carcinogenetic stimuli, and the study of the differences in site in varying racial, geographical, and occupational groups was of great value. The discovery of Warburg that malignant cells showed an altered glucolytic metabolism, and the confirmatory discovery of Lewis that malignant cells were acid in reaction, the acidity varying in proportion to their malignancy, were commented on. The various theories in relation to the etiology of cancer were discussed, and none were found entirely acceptable, though that of Caspari agreed closely with those metabolic changes. The close relation of the cancer problem to such questions as the control of normal cell proliferation, the action of ferments, and the nature of ultra-viruses, was asserted. Failure to understand the abnormal was perhaps due to ignorance of the normal. In reviewing the methods of treatment and prevention, Dr. Stallybrass expressed the view that the selective action of X-rays, gamma rays, and lead, appeared to be mainly upon cells during actual division, and in conclusion emphasised the need for the provision of at least one fully equipped and staffed centre of treatment in each area, and for much earlier diagnosis especially in old people.

* * * * *

Maternal Deaths.

IN a circular (971), issued from the Ministry of Health, further reference is made to the question of obtaining particulars as to maternal deaths by maternity and child welfare authorities. The circular points out that, the matter having been taken up with the Registrar-General, there has been issued from his department a circular to registration officers—a copy of which is set out in the Ministry's circular—in which are indicated the difficulties associated with the identification of maternal deaths " in the sense of deaths due to puerperal sepsis and other diseases of pregnancy and parturition " —a grouping which comprises over 150 individual causes of death. The contention in the circular is that, apart altogether from the labour that would be involved for the registrars, being without the considerable medical knowledge required, they are not really competent to make the final identification. Under these circumstances the Registrar-General suggests that in areas in which arrangements are not made for full returns from the local registrars by the local authority, if information as to maternal deaths is really desired, partial returns should be secured in which the deaths of all females between, say, 15 and 45 years of age should be obtained. This appears to be an obvious suggestion, though clearly the proper course for all local authorities to adopt is that followed, it is believed, by all who regard their duties seriously, of arranging for full returns of all deaths week by week. Not unnaturally, perhaps, the circular of the Registrar-General contains no note as to the possibility of changes in this connection when

the appropriate provisions of the Local Government Act, 1929, come into operation. Whatever arrangements may be made, and whatever part the medical officer of health may be called upon to play in relation to death registration, it is certain that steps will be taken to ensure full and proper and early notification to him, with particulars as to causation of all deaths occurring in his area.

In respect of maternal deaths, the fact that on April 12th 1929, the Ministry issued a circular, marked "Confidential," to medical officers of health on the "Investigation of Maternal Deaths," will have been noted and attention given to the suggestions contained therein.

* * * * *

The Minister of Health and Brown v. Dagenham U.D.C.

THE decision in Brown v. Dagenham Urban District Council, which suggests that there is a real element of uncertainty for officers of local authorities so far as regards security of tenure, not unnaturally attracted much attention. In order that some official declaration on the point should be obtained, the National Association of Local Government Officers and the National Union of Public Employees approached the Minister of Health with a request that he should receive a deputation. This he agreed to do on April 17th.

The deputation was introduced by Sir Herbert Nield and Mr. Wills, who drew attention to the fact that the purport of the decision was that certain local government officers were liable to dismissal without notice or reason given, even in the case of an appointment that had been made upon condition that its termination should be subject to a specified notice.

The Minister said that he appreciated the serious results of the decision, which he accepted, of course, as a correct interpretation of the law. While he agreed that the matter could not be left where it was, he pointed out that legislation would be required to alter the present position, and that it was obviously impossible for him either to introduce legislation in the present Parliament or to give at the moment any pledge binding a future Government. In the circumstances it seemed to him that the best course would be to refer the matter to the Royal Commission on Local Government for their examination, and he undertook that this should be done at once.

Industrial Nursing Conference.

IT is easy to define the help which can be given by the medical man or woman in the factory to employers of labour, no less than to the employee. That a suitably chosen, fully-trained nurse may render valuable assistance also may be accepted, and at the First Conference on Industrial Nursing, arranged by the Industrial Welfare Society (Incorporated), and held at the Hotel Metropole, London, it was shown; just as there was shown how interesting and useful was the field of work provided for the nurse in the factory. The work clearly is only in its infancy, but happily there are indications of great development, many large factories already having made provision for maintaining at a high level the health of their employees. It is interesting to learn that some employers go so far as to reinstate tuberculous workers who have been discharged from sanatorium as "fit for work," keeping them under close observation by frequent examination, and changing their occupation if advised to do so—points of significance having regard to the difficulty, noticeable in every health department, of finding work for the tuberculous citizen. The keenness of the enthusiasm of the workers in the sphere of industrial welfare was shown in the discussions which followed the reading of the papers; also there was revealed the readiness on the part of welfare directors and organisers to be of use in this and in all other works for the benefit of the employees. A question discussed at some length was as to whether or not contacts absent from work on account of infectious disease, smallpox particularly, in the home should receive payment of wages. Practice differs considerably, and the possibility of obtaining uniformity amongst employers is great. In the course of this discussion it was noted that while in all matters relating to infectious disease the advice and help of the medical officer of the particular undertaking was invaluable, in this connection the medical officer of health in some districts gave great assistance. It was fully recognised, indeed, that the co-operation of medical officers of health in welfare work generally was extremely desirable, if not essential, if the fullest measure of success was to be secured.

The Conference all round was a most interesting one, and may be counted a triumph so far as the organisers are concerned, and a real benefit from the point of view of the participants.

Ophthalmic School Clinics.

By T. HARRISON BUTLER, M.A., D.M. Oxon., M.R.C.S., L.R.C.P., Oculist, Coventry School Clinic.

In preparing this attractive paper, Dr. Harrison Butler has drawn upon an experience extending over a period of sixteen years, and in it he provides information and offers suggestions that greatly exceed in value the modest estimate he himself appeared to attach to them when he read the paper before the Midland Branch on November 8th, 1928.

THERE can be no question of the value, of the absolute necessity of ophthalmic school clinics to the well-being of the nation.

Uncorrected errors of refraction, and subnormal visual acuity, may have far-reaching effects, detrimental not only to the physical health, but to the normal psychic development of the child.

High degrees of astigmatism and myopia, and in older children hypermetropia, result in defective vision. A child who cannot see well will not develop along exactly the same lines as one with full acuity. He cannot see his friends across the street and does not develop the wish to recognise them. As time goes on he becomes what the Americans call a "bad mixer," introspective and perhaps even more selfish than the majority of his fellows. Visual defects and the absence of binocular vision associated with squint do not tend to proficiency in ball games, and here again, full social intercourse is hindered. On the other hand the myope, enjoying a contracted sphere of clear vision, is more likely to cultivate his brain than his muscles, and unless his education has been stunted in a myope school, may become one of the world's thinkers.

In times past a child half blind from an error of refraction was misunderstood, and unjustly punished at school. His inability to learn was put down to stupidity, not to its real cause. The child ignorant of correct sight, came to regard himself as mentally weak, his values were distorted, and his subsequent outlook on life jaundiced. When, in addition, severe headache and ocular pain accompanied bad sight, can we wonder that the child grew up morose and suspicious on the one hand, or diffident and retiring on the other, according to his natural disposition? A relative of mine achieved high academical distinction, but never knew what it was to read with comfort till, after leaving Oxford, it was discovered that he had eight dioptres of hypermetropia.

So much for the psychic side of the question. On the physical side, there is no doubt that the constant pain and headaches caused by uncorrected astigmatism acting upon a neurotic inheritance may cause latent tendencies to neuroses to become manifest, and may even lead to actual disease.

In these days, when the railroad is safer for children than the highway, we must not lose sight of the obvious fact that the half-blind child is, especially at night, more likely to be run over than the normal sighted, not only because he cannot see well, but also because he has not cultivated habits of attention.

Much more might be said and without exaggeration about the evil effects of bad sight upon the present welfare and future development of the school child.

A considerable number of children are brought to the oculist both at the clinic and perhaps less often in private, complaining of headaches. Quite a large number of these are found to have no error of refraction. Careful examination might shew that some suffered from muscle imbalance, but there remains a fairly large percentage with normal eyes. Again, not all children suffering from headaches are relieved by the most painstaking correction of all refractive and muscular errors, and have to be referred to the physician for further investigation. Probably in the majority of cases the headache is due to the fact that the child does not come of a studious strain, and is by heredity unfitted for the stress of brain work. I saw striking examples of this factor in Palestine. The native Arab or Fellah woman, spending her days working in the fields, grinding at the mill, engaged in physical work, never shews a sign of the neurotic failings of civilised women. Place the same girl in a mission school, replace her natural avocation by that which is unnatural, and the worst forms of hysteria become manifest.

From these general considerations we must pass to the consideration of the details of the work of a school clinic, which I propose to classify under definite heads.

Preliminary Examination.—The children are

sorted out for reference to the clinic by sight-testing in the several schools. These preliminary examinations are carried out by the clinic nurses and by the teachers. It is essential that the test-types used shall be correctly illuminated, otherwise the results obtained in the various centres will vary within wide limits. The letters must be printed on a stout card and not on linen rolls. The illumination must either be ordinary daylight or a shaded electric light. Standard illumination is furnished by two 20-watt bulbs hidden by shades, not mirrors, and placed about one foot from the types. The distance of the child from the types should be measured and will be six or five metres with corresponding charts.

Small children do not invariably read the smaller lines even when well able to do so. I find that not infrequently a child at the first visit has a sub-normal acuity but that on a subsequent examination he will read the smallest letters. There are infants who will not make the mental effort to decipher the lower lines. Others are nervous, and do not do themselves justice. It is probable that the teacher or the nurse will get better results in many cases than the doctor.

What is to be our visual standard for reference to the oculist?

It is almost certain that a child who really is unable to read 6/6 in good illumination has some ocular defect, but it is more usual for financial reasons to fix a lower limit: 6/9ths or even 6/12ths. Personally, I think that nothing lower than 6/9ths should be passed. Mere sight-testing will not sort out all the hypermetropes. A child has an enormous reserve of accommodation, and even with such an error as 8 dioptres can read 6/6, at any rate for a time. For this reason every child should be made to read all the letters beginning at the top, for towards the end of the sheet signs of fatigue may become manifest and high hypermetropes may be detected.

The Clinic Buildings.—Few towns have specially built clinics; in most cases existing rooms are adapted often with small success.

At Coventry, we have a large room where the children and parents wait and where the sight-testing is done. A smaller dim room, not a dark-room, is curtained off and is used for retinoscopy and ophthalmoscopy. I think that it is advisable for all the children to be present so that they can see what is being done, and not only overcome any nervousness, but gain an insight into what is expected of them.

It is quite unnecessary that the dark-room shall be actually dark. Retinoscopy is quite easy in a dim light so long as direct light does not fall upon the patient's face. It is far less tiring to work in a subdued light than in actual darkness and the children are less subject to terror. Ophthalmoscopy with an electric instrument is quite easy in subdued light, or even in the ordinary midland daylight.

Illumination.—Retinoscopy cannot be accurately performed unless the source of light is small, and the smaller it is the brighter it must be. The best light is furnished by a 40-watt Osram light with a sand-blasted bulb, housed in a Thorington's chimney furnished with an iris diaphragm. An aperture the size of a shilling is most suitable. This method, excellent for the hospital or the consulting room, has some disadvantages for the clinic. The room is apt to be very dark and a special reading lamp is necessary to see the trial lenses and the notes. A long sitting, say with sixteen children, is apt to be fatiguing, and some of the infants may get frightened. Again, speed is lost under this form of illumination. I adopt a compromise at Coventry. I use one of Robinson's bulbs which has a diameter of about an inch and a half. This gives a source of light sufficiently small for reasonable accuracy and at the same time affords the general illumination which is necessary for rapid work.

The Examination.—Each child has his vision recorded by the nurse both with the naked eye and with any spectacles he may have. He is then put under a cycloplegic.

Two methods may be adopted: either the child may be given drops to use at home, making a second visit necessary; or the drops may be instilled at the clinic. For many years we adopted the former method, but when country children were admitted to the town clinic it became undesirable to ask for a second visit, especially as a third would be necessary to inspect the glasses. For the past few years, therefore, we have used the second method. Both have advantages and disadvantages. If the drops are put in at home, there are always cases where the instillation has been inadequate or has been limited to one eye. The clinic method demands a long stay at the clinic, and now and then we see eyes which are not fully paralysed. On the whole, I think that it is far better to instil the drops at the clinic. I always use a one per cent. watery solution of atropine; I have found that homatropine in children is unreliable. The parents are asked

to come two hours before the time of the examination and an instillation is made every half hour, three times in all. At the end of from an hour and a half to two hours the large majority are well under the cycloplegic. Occasionally I find a child who in spite of the three instillations and the requisite lapse of time is not fully paralysed. In such cases we give atropine drops to be put in at home, and if we know that this is unlikely to be done properly the child comes up daily for an instillation.

The Retinoscopy.—A flat mirror is used; the concave mirror is now an anachronism, and except in cases of high myopia yields inaccurate results. I find that the Priestley Smith model is the best and the most accurate. I work at arm's length and use a refraction stick. A battery of lenses are placed along each side of a frame. This is held before the child's eye and moved up till the correcting lens is found. Much time and considerable fatigue are saved by using the frame instead of the trial lenses. In difficult cases the results are corrected and amplified by the trial lenses.

There are only two common sources of error in retinoscopy. The child may not be completely under the cycloplegic, in which case varying figures will be obtained, or the estimation is not made at the macula. This is a common fault, and one that can give rise to a large error. In some eyes with high myopia the refraction off the macula may be several dioptres away from the actual amount. Not only is there a quantitative error but there may be a qualitative error, and astigmatism may be registered that does not actually exist. The child must be made to look at the light and generally the reflex must be in the centre of the cornea. I say *generally* advisedly, for in some cases the macula is not situated at the geometric pole of the eye, which may therefore converge or diverge without actual strabismus.

In all cases the fundus is examined by the indirect method and if any abnormality is seen a further investigation follows by the direct method with the electric ophthalmoscope.

It is often necessary to make an examination of the eye by focal illumination. For this purpose I have behind me a half-watt sixty candle-power bulb which I can switch on when required. The half-watt bulb enables one to focus a linear image of the filament upon any part of the eye, and to direct a beam into the media which may to some extent take the place of the beam of the slit-lamp.

Putting up Glasses.—Some ophthalmoscopists have such confidence in their retinoscopy that they order the glasses without further examination. I often do this in cases of high hypermetropia without astigmatism. Here one is not ordering the full correction, and there is little room for error. In all other cases I think that the child should be tested with the trial frame and lenses. This is very necessary in astigmatism to obtain the correct angle for the cylinder.

The intelligence of the average child is apt to be under-rated. I find that many children are far more helpful in choosing the correct glasses and in gauging the angle of the cylinder than some adults.

I have always taught my nurse to put up the glasses, not only at the school clinic, but at the Coventry and the Leamington hospitals, and I have not seen any reason against this plan. In the case of children I think that an intelligent nurse will obtain better results than the surgeon; she has generally more patience and the children have more confidence in her than in an unknown man.

Ordering the Spectacles.—While I work in the dark room my nurse is putting up the glasses. When I have completed the dark room work I take the cards one by one and compare the retinoscopy with the figures obtained by the nurse. Generally there is complete harmony, but if there is any material difference I repeat the retinoscopy and put up the lenses myself. I do not feel satisfied till I get agreement of the objective and subjective tests.

The exact glasses ordered must always be a matter for the judgment of the surgeon founded upon experience. I generally, in cases of hypermetropia, deduct one dioptre for the cycloplegic, but if the hypermetropia exceeds eight dioptres I deduct one and a half, and two dioptres for the higher errors. Thus, if the child took ten dioptres under atropine I should order eight. For eight I would order six and a half. In moderate myopia I prescribe the glass chosen under the cycloplegic. At the Coventry clinic we had a large number of myopes up for a post-mydriatic test and found that almost invariably they took the same lens both with and without atropine. There are exceptions, and in the lower grades, say under one and a half dioptres, I practically always make another test a fortnight later. This period allows the effect of atropine to pass off. It is essential to order the full correction for myopia, and it is a great mistake to imagine

that a minus 11 will give almost as good acuity as minus 13. The question must always be considered arithmetically and not geometrically. A child with minus 2 of myopia will see about 6/24 and an under-correction of any degree of myopia to the extent of minus 2 will reduce the acuity to about 6/36. I always order the full cylinder up to about 4 dioptres, if I am quite certain that I have made the exact estimation. If there is any doubt about it I take off about half a dioptre, because an over-correction of astigmatism is more harmful than an under-correction. I do not always prescribe a very large astigmatic correction in full. For example, I might order 5 D instead of 6, at any rate, for a time. It is unnecessary to emphasise the necessity for meticulous exactitude in adjusting the angle of a large cylinder. I am most insistent that in the case of round lenses there shall be an easily seen scratch on the lens, and urge the parents to make periodic inspection of the spectacles to see that lenses have not rotated. Metal rims enlarge in summer and the lens turns with considerable ease. It not only rotates during cleaning but does so spontaneously. One firm, Spiller, makes a notch in the lens which engages a projection on the frame and makes rotation impossible.

Refraction without a Cycloplegic.—In my private work I refract many children, especially myopes, without a cycloplegic. I am aware that this is a high controversial question; in fact, the profession is arrayed in two almost hostile groups on this subject, but my own experience has convinced me that it is perfectly safe for an expert to dispense with atropine when he is dealing with intelligent children possessing powers of concentration. The conditions of the clinic make it impossible to work without a cycloplegic. The children must be alone in perfect quiet without any distractions, and the retinoscopy must be performed in a room at least twenty feet long, unless the distance is doubled by a mirror. Then all the work must be done by the surgeon himself and it takes more time than can be given in the hurly-burly of the clinic.

In putting up the lenses in the post-mydriatic examination of a myope there is one source of error that is not generally recognised. In compound astigmatism a myope will, if the sphere is not high enough, take his cylinder at right angles to the correct position. This simply means that he sees better with one meridian fully corrected, even if the astigmatism is doubled, than he does with the astigmatism corrected but the spherical factor under-corrected.

After Treatment.—All the children are told to return in a month. At this visit the acuity in the glasses is recorded, and the spectacles are examined with the spherometer and inspected for good fit. A certain number do not obtain the necessary acuity. A further post-mydriatic test is made to try and get an improvement, and if this fails the child is seen again in three months. Not infrequently after this interval the acuity has improved, but in some children, mostly hypermetropes, there is a definite amblyopia which persists throughout life.

Treatment of Strabismus.—The form of squint generally seen in the clinic is the concomitant variety, and I do not propose to deal with paralytic squint. The concomitant is of two varieties, divergent and convergent. The divergent form is not common, and is generally of the essential alternating type. The eye wanders out but can be recalled to duty at will. Naturally an error of refraction if of any magnitude will be corrected, and then if the divergence is sufficient to be unsightly it can be treated by tenotomy of the external recti. These operations are rarely called for in children although they may be necessary in later years.

Convergent concomitant strabismus is very common, and because it not only causes a distressing deformity but also leads to serious loss of acuity, its treatment is one of the most important functions of the clinic.

In the large majority of cases squint first appears after one of the epidemic diseases, generally whooping cough or measles. The fundamental cause is probably due to congenital weakness or even absence of the fusion faculty. This theory, suggested by Javal and elaborated by Worth, seems better than any other to account for the facts. The disturbance of the balance between accommodation and convergence caused by hypermetropia is the ultimate cause. A good fusion faculty will overcome the effect of hypermetropia with perhaps the penalty of asthenopia and headache, and in emetropia the eye does not always converge even when the fusion faculty is weak. Such being the case, it is obvious that the first step towards the cure of strabismus must be a full correction of any hypermetropia. In the majority of cases this treatment will sooner or later cure the convergence. A minority, and these are nearly all of high degree, will need operation. I never operate till glasses have been tried for a year or more, and I prefer to wait till the child is eight. Most children of this age submit to operation under cocaine—a perfectly painless procedure. Older children are apt to be apprehensive and need a general anæsthetic and the same is true in a less degree, and for other reasons, in the case of younger children.

My operation is almost invariably advancement of the external rectus and recession of the internal. I abominate pure tenotomy which yields a large crop of late divergences, and weakness of convergence. In the case of children I rarely operate upon squints under 30 degrees.

Amblyopia.—This is by far the most important factor in squint and calls for determined and prolonged treatment. A squinting eye is not used, the image is suppressed: constant suppression leads to lack of function. It has been urged that we are putting the cart before the horse, and that amblyopia is the cause, not the effect of squint; that the eye converges because of a congenital amblyopia. It is true that there are amblyopic eyes that do not squint and also converging eyes that never become amblyopic. But I have in at least three carefully recorded cases seen a squinting eye with full acuity become amblyopic, and it is well known that young eyes with congenital cataract and acquired cataract become amblyopic.

Amblyopia may vary from slightly sub-normal acuity, say 6/18, to an eye which cannot count fingers. It is obvious that it is a very serious condition and one worthy of the deepest attention. Fortunately, if taken in time the condition is eminently curable. There is only one way to treat the condition: there is no room for compromise; putting atropine into the better eye, or covering it with a shade is perfectly fatuous; the fixing eye must be bandaged up *so that no light can enter*, and this occlusion must be continuous from dawn to eve. Under this treatment the eye will generally recover at the rate of one line of the test types a month, my impression being that about 70 per cent. of the children gain full acuity, and others are greatly improved. There are failures and these are chiefly among the boys. It is difficult to get improvement after about ten years of age; very difficult after thirteen. I have not seen one case among hundreds in which the occluded eye suffered in acuity. Relapses are common, and it is advisable to leave off the occlusion gradually. When the eye is nearly well I occlude on alternate days and see the cured cases every three months. The result of the treatment of amblyopia by complete occlusion is most gratifying both to the surgeon and to the mothers.

Fusion Training.—Much has been written about fusion training, but as far as I am aware, little is done to-day. The instruments used are the amblyoscope, the haploscope, the diploscope, and the stereoscope. Bar-reading is another method of training fusion. Fusion training demands a youngish and intelligent child and a trainer endowed with unlimited time and superhuman patience. At one time I made attempts at fusion training using the stereoscope with Kroll's plates. I have Hamblin's latest set of pictures but so far I have not used them. In one case, and one only, I obtained binocular vision but the child ultimately relapsed. It is obvious that fusion training cannot be carried out in a school clinic; there is no time. In private work I am loth to take fees for work which in the majority of cases seems to lead nowhere. Probably if fusion is possible the child will obtain it for himself when his vision has been equalised in both eyes and the squint cured, but if there is no tendency to fusion I doubt whether the most painstaking attention will develop it. In any case, no patient has ever complained to me of lack of binocular vision, and it would appear that for most purposes alternate vision sufficiently takes its place. Bar-reading is a simple procedure which can be carried out by the child himself, and the same is true of the stereoscope. It is questionable whether either method is of great value. In treating a squint I keep two objects before me; first, the foremost, to prevent and cure amblyopia, and, secondly, to correct a disfiguring deformity.

In the case of infants who cannot read, my practice is to bandage the fixing eye till the strabismus becomes alternating, and to examine the acuity with pictures in the stereoscope.

The Care of Myopia.—The causes and treatment of myopia are subjects upon which there is a wide divergence of opinion. A whole paper could be devoted to the argument, and I can only sketch out the main lines of thought. Axial myopia is due to stretching of the posterior part of the sclerotic coat of the eye, gradually lengthening the antero-posterior diameter of the globe. Why does the sclera stretch? In the first place, it is certain that the tendency to elongate is inherited and may be familial. I have made a practice of enquiring into the family history of every case of myopia at the clinic and in quite half the cases there is no

difficulty in obtaining evidence of short-sight in the forebears. Quite frequently one is told that the grandmother, eighty years old, has such wonderful sight that she could thread a needle without glasses! I have seen several families of myopes, and the same is true of squint. Not only is myopia hereditary, but the degree of the defect tends to be the same in forebears and children. The only real guide one has in forming a prognosis in a case of myopia is knowledge of the refraction of the parents and grandparents. High-grade myopia is most common in mining villages; the agricultural neighbourhoods come next, while the urban districts furnish the lowest incidence of extreme short-sight. The reason is obvious. Close intermarriage is rife in mining villages; most of the families in a country village are related, but no such intermarriage takes place in a town. I have seen most advanced short-sight with extensive fundus changes in a Bedwân Arab who had never read a book in his life. Again it is quite a common thing to find one eye with advanced short-sight while the fellow is emetropic.

These facts all speak against the theory that the advance of myopia is caused by the close use of the eyes. It has been suggested that during the act of accommodation the intraocular pressure rises and elongates the eye. As a matter of fact, if the pressure of the eye is raised artificially the eye yields, not at the posterior pole but behind the cornea, and ultimately bursts in this situation. The high tension of glaucoma does not cause myopia, but the changes produced by recurrent scleritis and by interstitial keratitis do, by allowing the eye to stretch over the ciliary body. Again, it has been urged that when the head is bent over a book the eye pulls upon the optic nerve and so draws out the posterior part of the sclera. This is mere rubbish, for the eye is suspended by the ligament of Lockwood and there is no possibility of any pull on the optic nerve. The tonus of the muscles alone would keep it in position.

On the other hand, there is no doubt that any debilitating disease, and close confinement in stuffy schools, will cause general laxness of the tissue of the body including the sclera. It is my habit to keep a graph of my private cases of myopia, and on such a curve the effect of a serious illness will be obvious.

If we accept these facts, how are we to treat myopia?

In the first place we must not overlook the most important asset of the child—his intelligence. It is criminal to stunt the mental development of myopic children by submitting them to the absurd routine of the myope school. It is monstrous to refuse scholarships to the most intelligent children in the community, the myopes; as a matter of fact they are debarred from many occupations and are more dependent upon the results of brain activity than normal individuals. Special schools are necessary for children who cannot see well enough to attend the ordinary schools, whether the bad sight be due to myopia or to other causes. Ordinary myopes I would educate in the normal manner, but I forbid music and novel reading in term time. If the child is working hard for examinations he must use all his spare time out of doors toning up his tissues with games and fresh air. He must not be allowed to mope over novels, or to spend hours practising the piano. If he is to take up music then he must give up intensive preparation for examinations. The higher degrees of rapidly advancing myopia need still more open air life, and I forbid afternoon school and insist that the rest of the day shall be spent in manual exercise. It is noteworthy that the introduction of games into schools in Sweden was followed by a marked diminution in myopia. A myope demands special care after the ordinary childish illnesses. Convalescence must not be hurried, and return to school life must be delayed for some time longer than in the case of the normal sighted. Great attention must be paid to general hygiene; sleep in the open air or with wide open windows; cold baths, restriction of sweets; and the provision of good plain food are all desirable. Come what may, whether it is good for the eyes or not, the child's education must not be truncated. If it were even probable that resting the eyes had the slightest effect upon the progress of myopia then I might think differently, but as things are, I am wholly opposed to any material restriction of the child's education because a German hung rabbits up by the tail and found that they developed myopia! We must mould our treatment on fact, not on mere theory.

Changes in Refraction.—All the schools are examined periodically, and it is intended that each child shall be examined on entrance and before he leaves. We therefore have the means of watching any changes that take place during the growth of the eye. I have given special attention to this subject and have noted the following facts: There is a tendency for some cases of hypermetropia to diminish, and some of these cases develop scleral rings even when still hyperopic. Myopia with few exceptions shews a steady increase as years pass and in general, the bad cases increase by one dioptre a year. This deterioration is not of necessity continuous. There seems to be a tendency to reach a definite point determined by the family idiosyncrasy, and when this stage is attained the increase either ceases or becomes very slow. The pernicious forms on the contrary develop rapidly: here the myopia often begins in infancy and increases, probably till the eye is blind. Astigmatism alters considerably in one type of child; in another it never varies and is probably stereotyped for life. The eyes that vary do so in a regular manner. The general tendency is for astigmatism with the rule to diminish till it disappears and then to develop against the rule, although the latter ending is not seen in school life. The axis may alter in the sense that astigmatism with the rule tends to become oblique and finally to lie against the rule. These changes are seen in hypermetropic astigmatism. Mixed astigmatism tends to become compound myopic astigmatism.

During the past few years I have noted that myopic astigmatism with the rule is becoming the rarer form, and that I see an increasing number of eyes in which the minus cylinder tends to the vertical position.

General Considerations.—It will be obvious from what has gone before that the work of a school clinic does not consist merely in refraction, and that refraction in children depends almost entirely upon accurate retinoscopy. The medical man in charge should, wherever possible, be a fully-trained ophthalmic surgeon with a sound knowledge of general medicine and of the special diseases of children. It is highly desirable that he shall be on the staff of the local hospital so that he can himself perform any necessary operations upon the children and carry out investigations and treatment that cannot be done in the clinic. He must be an expert retinoscopist, a faculty demanding some years of training in the out-patient work of an ophthalmic department. It is quite impossible to attain the necessary skill by a few weeks work as a clinical assistant. Unfortunately, children will wear for years, without complaint, spectacles that are quite unsuitable for them, and for this reason alone, the work of the clinic should be carried out by real experts and not by amateurs.

The work of an ophthalmic school clinic has its dull side, but if treated in the proper spirit has a real and abiding interest, centred not only in the ophthalmic side but in close association with children. An old Irishman on his death-bed was asked by the priest whether he had any regrets in life. "Yes," he said, "I regret that I have had so little to do with children." The child is the real refining influence in the world, and those whose privilege it is to attend a school clinic gain a reward which is not measured by material advantage.

"SUPPLIES from the Vegetable Kingdom and the Public Health" is the title of a Chadwick Public Lecture to be delivered by Mr. H. V. Taylor, O.B.E., A.R.C.S., B.Sc., Commissioner of Horticulture, Ministry of Agriculture and Fisheries, at the Chelsea Physic Garden, Swan Walk, London, S.W.3, on Thursday, May 30th, 1929, at 5 p.m. Admission to the lecture is free, and no tickets are required.

A SPECIAL Course in Infants' Diseases, for Medical Officers of Welfare Centres and others, will be given at the Infants' Hospital, Vincent Square, Westminster, London, S.W.1, from May 27th to June 9th, 1929. Full particulars of the course, the fee for which is three guineas, may be obtained from the Secretary, Fellowship of Medicine, 1, Wimpole Street, London, W.1. Further courses at the Infants Hospital are announced as follows: September 9th to 21st, and December 2nd to 14th, 1929.

THE Royal Sanitary Institute, having been urged to arrange an examination dealing generally with food hygiene that would enable stewards of institutions, abattoir assistants, butchers, meat traders, and others to obtain a certificate of competency qualifying for admission to Associateship of the Institute, announce the holding of such examinations in London and provincial centres on certain dates during the remainder of the present year. The new certificate will be distinct from that for sanitary inspectors or meat inspectors, and will be worded to indicate its validity as a qualification for Associateship of the Institute as distinct from a professional qualification for any kind of appointment under a health authority. Full information regarding the examination may be obtained from the Secretary of the Institute at 90, Buckingham Palace Road, London, S.W.1.

Ut Ita Dicam.

(Being Comments, apropos and otherwise, on Sundry Matters.)

Some Lines of Indiscretion.

Before I die—and, as they say, one never knows the minute—I should so much like to see one more page of advertisements in this journal. I go positively green (my dear) when I regard other and less deserving organs with their pages *and* pages (my dear) of advertisements. It is not, pray believe, the financial aspects that I worry about, though it may be taken they have a certain importance. No, it is the look of the thing chiefly that concerns me. How nice must be the feeling of the editor of a magazine, the literary portion of which is so encompassed by advertisements that search for it leads to a denuding of the epithelium of the tongue tip and cramp in the ball of the thumb. Take *Hygeia*, the health magazine of the American Medical Association, because this it was that induced these thoughts. Page after page after page of advertisements it contains, many of them beautifully illustrated and all of them quite irresistible. And tucked away amongst them you find—after a time—little health talks like—more or less—those we are accustomed to read, and with much less difficulty discover, in our own publication, *Better Health*. *Hygeia*, in fact, is the *Better Health* of America, just as (this is natural politeness I think, or hope, anyhow) *Better Health* is the *Hygeia* of this country, but much less stylishly produced and magnificently illustrated. While trying to find phrases in which to express a comparison of the two journals there kept rattling round in my head a couplet met long years ago in a picture alphabet book for, I imagine, sophisticated children. It referred to the letter S, and ran: "S stands for Scotland, the land of the Scot; its wetter than England and not quite so hot." The applicability of the rhyme to the matter under discussion is not clear. Its inadequacy, indeed, is its chief charm, and for that reason I allow it to stand, passing on (as the guides say) to give you two extracts from the leading article in the April *Hygeia*, entitled "The Doctor and His Patient," which is by no less a person than William J. Mayo, one of *the* Mayo's. Permitting myself the pleasure only of supplying the headings, I leave the quotations to speak for themselves:

THE THINGS THEY BELIEVE.

If America is to succeed in maintaining her position in international commerce and to continue to pay the laboring man wages proportionate with the American scale of living, it must be done by rendering the American laboring man more efficient and longer lived, that he may produce more. In this way only can we compete with the nations of the old world, where the laboring man lives on a lower wage scale, is short lived, and consequently less efficient and less an asset industrially . . . . If we are to continue as leaders of the world's civilization, we must have legislation that will provide money and power to prevent and control disease, money to place force behind the pure food laws, and laws that will remove public health service from the influence of local politics.

BACCHUS, HEALTH OFFICER.

It is assumed that the drinking of spirituous and fermented liquors is due to an evil inborn longing to be stamped out only by the exercise of individual self-control. Is this actually a fact? In France and Italy the drinking of billions of gallons of wine saved the people from extinction; they could not have lived had they drunk their polluted water. The Teutonic countries turned to beer to secure a sterile drink; England had ale and wine, and temperance countries, such as Turkey, had tea and coffee.

Apropos this (I might have known I could not obey my self-denying ordinance) I must tell that, myself, some four or five years ago, on a public occasion in Boston, sitting between a Frenchman and an Italian, whom with difficulty I restrained, I heard Mayo enunciate this self-same theory. Evidently he regards it as something of a gem in his, no doubt, large collection of rather bright thoughts, and loses no opportunity of displaying it.

France, Vaccination, and Us.

It was the French who were responsible for engraving upon the heart of one of England's queens, the word "Calais." Had that monarch (of bloody memory) been alive to-day (said the Irishman) when she was dead there would be found engraved also a series of orders, each contradicting the other, and having reference to the necessity for the production by travellers from England of a certificate of vaccination or a yellow card indicating their willingness to submit to supervision by a policeman or other health expert in France for a period of fourteen days. Since the first announcements, in each case non-official, of the issue of orders under the Convention of 1926, I have heard many explanations of the step or steps taken or proposed to be taken by the French, including even that it was intended to secure protection against a small-pox-ravaged England. Me, I think that what the gesture or gestures evidence is that France has come to the point of determining to re-organise, or, perhaps better, organise, her health service. Health organisation and re-organisation, as a matter of fact, are rather in the air at the moment, as witness our own Local Government Act, and it is not at all improbable that France has been infected by us and desires to make a beginning. As so very often happens, at the beginning there is often a tendency to go too far. Here certainly France shows very distinct signs of going too far. Both of the traveller and vaccination, in fact, they appear to me to be asking too much. Why every individual leaving this country, Britisher or non-Britisher, and whether or not he has been in contact with a case of smallpox, should be written down as contaminated is not clear. After all, the person who has been within miles of a case is very definitely the exception; the chances against contact being one in goodness knows how many millions. In such circumstances it really is hard that a slur should be cast upon every traveller and not upon travellers alone but upon the nation as a whole.

Wanted—A Court of Nations.

Imagine any business organisation treating another in such a manner as France is treating Britain. The air would be full of actions for damages at once. It is almost a pity that there is no court of the nations to which this case could be referred, since it is clearly a matter for somewhat wider discussion than can be secured merely as a result of a meeting between the two parties. In such a court could be determined the question as to what sort of guarantee of safety France hopes to obtain from a certificate of successful vaccination within two months or five years or whatever the period may be. As becomes fellow-countrymen of Jenner, we are convinced of the efficacy of vaccination, but obviously we have a long way to go before we can compare with the French in belief in its powers as an indicator of safety. Also at this court there would be examined the capacity of the nation imposing such requirements as it is stated are laid down in the order, to carry out these requirements and the general effect on transport and trade of imposing them. So often at the beginning of an organisation the aim alone is thought of, no consideration being given to the possibility and difficulty of attaining it. In this case, almost it appears that this might have occurred.

The Uncounted Cost.

Further, it appears that the cost, either immediate or eventual, has not been counted. That to France herself it will be a costly business to enforce the requirement is certain. That the cost to us may be considerable as a result of the effect of the embargo upon other nations appears not unlikely, and though there is some consolation in the thought that vaccination will receive a fillip that perhaps it needs, to France there is no such consolation; frankly, indeed, there appears to be none at all, certainly not the one she seeks—the safeguarding of her people from smallpox. As a fact, the only way in which she can ensure safety is by giving attention to matters at home, vaccinating or re-vaccinating every individual and tracking down and dealing with every case of smallpox that may occur. In the matter of vaccination, France claims to be much better covered than we are. Badly done as we are, however, in areas in which outbreaks are thoroughly dealt with serious spread does not occur. France should know this. Though she has never entertained any British health officers, no French interchange ever having been held, on every occasion upon which the League of Nations has sent groups here, France has been well represented. Surely these representatives who saw everything that could be shown might have been consulted. Had they been, there is little doubt but that they would have been able to produce evidence enough to bring conviction that, having regard to the activities of the health service, conditions could not possibly be so bad as supposed or capable of constituting a threat to France justifying the taking of action on lines such as those suggested.

P.

THE National Baby Week Council are willing to supply, free of charge, copies of their leaflet on Vaccination (No. 27). In view of the prevalence of smallpox in various parts of the country, it is not unlikely that advantage will be taken of this offer to secure, for distribution at infant welfare centres and elsewhere, copies of a useful publication—one among many—issued by the Council. Application should be made to the Secretary at 117, Piccadilly, London, W.1.

The Control of Venereal Disease.

By E. TYTLER BURKE, D.S.O., M.B., Ch.B., Venereal Diseases Medical Officer, Salford.

Such Branches as have not yet offered their views on the matters relating to venereal disease referred to them by the Council of the Society, may be assisted to arrive at a conclusion by a study of the views set forth in this paper, which was read at a meeting of the North-Western Branch on February 8, 1929.

THERE are three aspects of this subject which we have been invited by the Society to consider*; and it seems to me that, as an essential preliminary, we must try to gauge, as accurately as may be, how big this problem of venereal disease really is. It is only after we have brought that into focus that we are able to consider if the present measures are sufficient to deal with the weight of venereal infection in the community, and whether or not they require to be reinforced in one or other or all three of the directions suggested.

While accurate figures are not available, there are certain data—certain experiments, investigations, and experiences—which enable us to make an estimate as to the morbidity due to syphilis. We know the relative incidence of gonorrhœa to syphilis from experience in the clinics, and so by a consideration of the two we are able to arrive at an estimate which shall not err upon the side of exaggeration.

The estimate I make as to the amount of syphilis in the community is based upon:—

(1) Syphilis surveys of the living.
(2) Pathological investigations on the dead.
(3) Analysis of the mortality tables provided annually by the Registrar-General.
(4) Experience and observation in three venereal disease treatment centres during the past ten years.

Syphilis surveys show a positive rate varying from 14 to 25 per cent., and it is found that the number of positives varies directly with the experience and competence of the serological laboratory. Where the Kahn test is used in preference to the Wassermann this is even more marked. Furthermore, when the laboratory is supplemented by clinical observation and provocative measures, a still higher proportion of positives is obtained.

Pathological investigations on the dead, by modern histological methods, show syphilis to be present in nearly 40 per cent. of cases where it was unsuspected.

Sir William Osler showed by his analysis of the Registrar-General's returns, that syphilis kills in England and Wales more than 60,000 people every twelve months. "We can move," he says, "syphilis from the tenth place in the Registrar-General's report, to where it belongs—*at the top, an easy first among the infections*. Some years ago I came across Bunyan's phrase—'The Captain of the men of Death.' In his day it may have been true of consumption; it is so no longer; the headship in temperate climates belongs undoubtedly to syphilis."

Personal observation and experience is in every way corroborative.

Upon the information available then, we are forced to conclude that the number of syphilitics in England and Wales cannot be less than 2 million—or 5 per cent. of the total population.

You may remember that the estimate arrived at by the Royal Commission in 1916 was that at least 10 per cent. of the whole population in the larger cities was affected with syphilis, and that the percentage affected with gonorrhœa was greatly in excess of that proportion.

From our experience in the clinics, we know that gonorrhœa is at least twice as common as syphilis, which means 4 million people suffering from that disease.

I estimate the total venereal population, therefore, to be in the region of 6 million, or about 14 per cent. of the community. It is perhaps not usual to think of venereal disease in such figures, but what I wish to emphasize is that the estimate I have made is a *conservative* one.

It has been asked: "Where is all this syphilis you talk about? I never see any of it." And I reply: "All this syphilis is under your very eyes. You *do* see it; but the trouble is that you do not *recognize* it." The chancres and the gross cutaneous signs are probably seldom missed, but they constitute the minority of syphilitics. The hidden majority suffer from *endosyphilis*—syphilis without definite pathognomonic signs. It is incorrect to speak of *latent* syphilis. Syphilis is never latent. It is either present or absent. When present it is invariably *active*—working havoc in some organ or tissue.

The person with syphilitic pancreatitis is labelled "diabetes" and is treated with insulin, or rather the *symptom* of glycosuria is treated. The crisis of tabes is "indigestion" or "gastric ulcer." Lightning pains are often "rheumatism" or "myalgia." Enlarged prostate and urinary-difficulty cases are, many of them, but vesical crises of tabes. Remember that the tabetic may have neither lost his knee-jerks nor be the possessor of Argyll-Robertson pupils or Rhombergism. In other words, he may not yet have "locomotor ataxia." The syphilitic heart lesions are not limited to the aorta and coronary arteries. Myocarditis is commonly syphilitic. Where there is a valvular lesion associated with myocarditis, the probability is that the condition is not rheumatic but syphilitic. Pulmonary syphilis is by no means the rarity it was thought to be. Seek and ye shall find lung syphilis. The treponema pallidum is the "hidden hand" in modern pathology, and it has an important etiological bearing upon cancer and consumption. The bulk of the syphilitic population are not the possessors of chancres and cutaneous syphilides.

The public health problem is how to deal with nearly 6 million venereally infected persons in most of whom the disease is undiagnosed and untreated. To solve that problem the venereal diseases scheme of the Ministry of Health was brought into being. It has been in existence for a decade—sufficiently long for a decision to be reached as to how efficiently it is doing its work.

The annual number of fresh infections with syphilis and gonorrhœa must be somewhere in the vicinity of 200,000. Now, all the treatment centres in England and Wales deal with only 50,000 new cases in a year. Even if all these were fresh infections—which they are *not*—there would be a deficiency of 150,000 who must be either receiving treatment from practitioners, from quacks, or be having no treatment whatever. In this respect then, the scheme falls short, that it is only able to "rope in" less than a quarter of the annual fresh infections. The total number of all cases attending the centres in any year is certainly much less than 250,000, which leaves a residue of over 5 million unaccounted for. The venereal disease scheme is thus not nearly fully fulfilling its function.

Of the patients who do go to the clinics, 30 per cent. cease treatment before they are well. In other words, some 15,000 persons are liberating themselves from the clinics every year and are distributing syphilis and gonorrhœa among healthy and innocent members of the community. In my own clinic over 40 per cent. of infectious defaulters—male and female—are married. I do not suppose that any of them have taken a vow of celibacy; and so the pernicious effect of their default scarcely needs elaborating.

Prevention.

Let us consider the first question—that of prevention. No doubt, continence before marriage and faithfulness after, would prevent much venereal disease. We all recognise the value of a high moral standard. But even if from this hour onward the human race were to become perfectly moral, it would be generations before syphilis and gonorrhœa would disappear; and during that time, countless innocent people—marital partners and children—would be infected from those now suffering from these diseases. It is clear then, that even with the immediate advent of a moral millennium, there would still be necessary *sanitary* measures of prevention and treatment. In other words, we must accept the fact that extra-marital sexual intercourse will be a human characteristic for a few years yet. We must face the fact as sanitarians.

The prevention of congenital venereal disease lies along the lines of curing every infected person and of refusing to sanction marriage except upon a clear bill of health.

The question which first concerns us is the advisability of teaching people self-disinfection and the provision of the materials necessary for carrying that out. I gave evidence upon this matter some years ago before Lord Trevethin's

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* CONTROL OF VENEREAL DISEASES.—Resolution of Council, January 18th, 1929:—

(*a*) "That the views of the Branches be invited upon the subjects discussed at the meeting of the Society held on November 16th, 1928, and reported in the issue of PUBLIC HEALTH, dated January, 1929, pp. 104-115.

(*b*) "That the Branches be invited to consider the following questions:—

(i) Does the Branch approve a proposal to amend the present Act so as to permit the sale of materials for disinfection, together with the necessary instructions?

(ii) Does the Branch approve the principle of compulsory treatment?

(iii) Does the Branch approve the suggestion that the parents of congenitally affected children should be brought within some measures of treatment?"

Committee of Inquiry. My opinion is even stronger to-day than it was then. I *know* that if self-disinfection is carried out within twenty-four hours of intercourse the vast majority of infections will be prevented. If it is carried out immediately after the risk is run, then no infection will occur. In this I am referring to the male sex only. The security is even better now than it was at the time of the Trevethin Inquiry. At that time there arose the important point that, while a man by self-disinfection might easily protect himself from gonorrhœa or genital infection with syphilis, self-disinfection would not guard him against extra-genital inoculation with syphilis—say, on the mouth. The advent of Stovarsol has closed this gap in the defences. This preparation is given orally and is a prophylactic against syphilis, genital or otherwise.

I proved, when dealing with over 20,000 troops in the City of Baku in the Caucasus in 1918-19, that self-disinfection can protect, and that men are only too keen to take advantage of it. To my mind the position is perfectly simple. As sanitarians we are not concerned with the morality aspect, but with the prevention of disease. We may be dealing with the immoral man, but we must, in the interests of the community, protect him *and* the community from the purely accidental and fortuitous effects of this immorality.

The argument that self-disinfection, on account of the protection it confers, would result in an increase of promiscuity, does not work out in practice.

The fact is that proper preventive measures impress upon men in a practical way—in a better way than any other—how very gravely we regard venereal disease since we take such pains to protect our people from it. In a great many cases it actually has a deterrent effect. That prophylaxis is an incentive to promiscuity is an argument both unsound and irrelevant. Its logical conclusion is that since morality is desirable, the continued existence of venereal disease, and its infliction upon each transgressor, is equally desirable. It would mean that all sanitary measures, including treatment, against syphilis and gonorrhœa are attacks upon the ramparts of morality. In other words, it forces morality to cower trembling behind its gallant defenders—the gonococcus and the treponema pallidum.

It is important to realize in respect to this matter that only a small proportion of the total number of extra-marital connections that take place, result in venereal infection. The guilty escape more often than not. I have been accused of seeking to "make fornication safe for democracy," and I am afraid I must plead guilty, not that I have any desire to increase the amount of promiscuity, but only the sincere wish to protect democracy from a *comparatively* rare, and an *absolutely* accidental, consequence of it.

Syphilis and gonorrhœa are not punishments for sin. They take toll of the just and the unjust—and chiefly the former. Diphtheria may be just as much of a venereally acquired disease as syphilis.

The point at issue is the prevention of disease, and if syphilis and gonorrhœa were entirely stamped out, the moral problem would still remain. The man who indulges in promiscuous intercourse may be called all sorts of things, but the practical public health point is that if he acquires a venereal disease he constitutes a danger to the community till he is cured.

For 2,000 years our clerical brethren have been trying to prevent him indulging. They have preached to him; they have instructed him in what he ought and ought not to do; they have claimed to provide the means by which he may be prevented from sinning. We desire similar liberty. We certainly have the means of preventing him becoming diseased. We ask to be allowed to instruct him in the salvation of his body and to provide the necessary means for so doing.

In a civil community compulsory prophylaxis is not practicable. We can only state what the methods are, and provide the facilities for carrying them out. Intelligent people will adopt them. Those who do will be protected; a proportion of those who do not, will become diseased.

My first submission then is that the answer of the Branch to this question should be in the affirmative.

Compulsory Treatment.

Then we come to the question of compulsory treatment. This involves two factors:—

(1) The defaulters from the clinic.
(2) Non-clinic defaulters, and those who have not yet submitted to any treatment.

The clinic-defaulter is the person who has forced this matter to a head. There are 15,000 such defaulters in England and Wales every twelve months. In the absence of such "follow up" methods as there are, the number would be vastly greater. From those

15,000 persons there must arise at least 7,000 fresh infections a year. The cumulative effect of the defaulter in a few years must largely be responsible for the total 200,000 batch of annual venereal recruits. Something must be done to check this.

Why does a patient default? Because he has set up his own standard of cure. He is a fool, and usually a knave as well. He imagines that when the gross signs of disease have disappeared he is cured. He resumes his normal life, and inevitably infects others. He cannot be persuaded; he is like a homicidal lunatic—he must be compelled.

The principles of compulsory treatment are these:—

(1) That a person suffering from syphilis or gonorrhœa must place himself under treatment either by a private practitioner or at a clinic, and that he must continue with the treatment until pronounced cured or non-infectious by some competent person.
(2) That when a person is discovered to be suffering from syphilis or gonorrhœa, the medical attendant must explain to him the nature of the disease and his obligations as regards treatment.
(3) That the medical officer of health, having grounds for believing that a person is suffering from syphilis or gonorrhœa, shall have the power to require that person to submit to examination by a medical practitioner at no cost to the patient, and if found to be so suffering, to undergo treatment.
(4) That the parents or guardians of children suffering from venereal diseases shall bring such children for the necessary treatment.
(5) That the parents of such children, and the other members of the family, shall submit to examination, and if found to be infected, undergo treatment.

These are the main principles and they are surrounded in the Edinburgh and Glasgow Bills with certain obvious safeguards in the public interests.

I do not propose to advance the arguments in favour of compulsion before a meeting such as this, but rather to deal with those which have been advanced against the principle.

The first argument is that the present scheme is a voluntary one; that it is doing a great deal of good, and that if compulsion is adopted the effect will be to drive patients away from the clinics and practitioners into the hands of quacks.

Health measures can only be of two kinds—voluntary and compulsory. A voluntary scheme is adopted when the makers of it hope and believe that affected persons will take so full an advantage of it that there will be no need for compulsory measures. So it was with the venereal disease scheme.

My first point is that the venereal population of six millions has not taken advantage of the scheme; and, furthermore, of the small proportion of infected persons—50,000 a year—who do avail themselves of it, 15,000 discard it before they are well. Its voluntary character has prevented it being efficient, and it is only doing good so far as the wise are concerned—50,000 in number—and the unwise amount to 5,950,000.

The argument that compulsion will drive even the wise 50,000 away is fallacious, for the simple reason that compulsion will not apply to them—or only to the 15,000 of them that default. The remainder will go on as they are doing now; they will be quite unaffected by compulsion. Similar arguments are brought forward whenever it is proposed to change a clinic from being hospital and part-time in character into one which is *ad hoc* and full-time. In every case the objections have been proved wrong. The *ad hoc* clinic invariably attracts more patients; they attend better, and the efficiency is higher than in the other type of clinic.

It is absurd to say that compulsion will drive venereal disease underground. That is where it is *now*; and since it cannot be *persuaded* to the surface, it must be *dragged* there.

The next argument brought against the principle is that we have no right to interfere with the liberty of the subject and to compel him to submit to a line of treatment which is fraught with danger.

Liberty of the subject consists of the freedom to do what is right and what does not interfere with the well-being of the community. Freedom for the individual to do what he likes is anarchy; and, if it is detrimental to the health of the community, is suicidal insanity. At present, the venereally infected person is given complete freedom to convey the disease to others—that is inevitable in the absence of treatment. Such a position is sheer sanitary anarchy.

With respect to the danger of treatment, that is merely a bogey-man. In the last decade, during which I must have seen thousands of patients and given hundreds of thousands of injections, I have seen neither a fatality nor an alarming accident. You have far more accients, fatal or otherwise, in one day in the streets of this city than you have Salvarsan accidents in the whole country in several years.

Accidents are invariably, both in streets and clinics, due to carelessness or incompetence. There is no reason whatever why, with care and competence, any fatality should occur during the modern treatment of syphilis.

An argument has been used that compulsion would hit hard at the poor and leave the wealthy free. This is not so. It is by no means the poor who attend the clinics. Many clinic patients drive up for their treatment in much more expensive cars than those owned by the staff, and, in any case, it is sought to extend compulsion beyond the clinic so that the private practitioner who has a defaulting patient shall be required to report him to the medical officer of health. It is clear that compulsory treatment must apply to *all* patients, and not only to those attending the clinics.

Again, there has been much opposition from various women's organisations who dread a return to the Contagious Diseases Act. There is no proposal to take any such step. The Contagious Diseases Act was not a public health measure and had nothing whatever to do with treatment. It was merely a futile and clumsy attempt on the part of the military authorities to protect the troops. It was directed against the prostitute. Compulsory treatment is not *directed against* anybody; it is a measure designed to *help* the infected and protect the healthy.

The dread of false accusations is largely a nightmare. There are adequate safeguards. In my clinic, an inquiry is always made as to the source of infection, and an effort made to get the infecting party to come for examination. There is seldom any difficulty in this, and I have never met a case where a false accusation has been made.

To my mind the general position is perfectly clear. The present measures have proved inadequate; compulsory treatment is practicable, is urgent, and will prevent much financial waste. It is the *only* way in which, within a reasonable time, the morbidity and mortality from venereal disease can be arrested. The opposition to it is based upon two misunderstandings—the amount of venereal disease existing, and what compulsion really implies.

In my view, therefore, an affirmative answer must also be given to this question.

Treatment of Parents of Congenitally Infected Children.

The question as to the parents of congenitally infected children, is really answered in my remarks upon the second question. Unless it can be done under the Children Act, we have no means of bringing children under treatment against the will of parents or guardians. That is certainly bad enough, but unless the parents themselves can be brought under treatment, they will still continue to bring forth congenitally diseased progeny. Surely in this twentieth century there should be put into our hands the power of giving these children—born and unborn—"a square deal." The child has a right to be born healthy, and it cannot have that right while its potential parents are diseased. I can see no other way than by treating them.

To conclude: this is a purely sanitary and public health question. It must be shorn of all trimmings and tackled as a practical problem along practical, common-sense, proved public health lines. It is a simple problem and the solution is simple, although it is more fashionable to pretend to think otherwise. There is no more urgent problem facing the nation. Given the machinery, there is none which will more quickly show good results. You will find a great deal of opposition comes from within the medical profession, chiefly from those whose experience of venereal diseases is limited and who have not the public health outlook—which is the only one that counts in this instance. You will hear from certain quarters—aye, even from some sections of the medical press and from the Ministry of Health itself—that the principle of compulsory treatment is in advance of public opinion. Health reforms always are. It is our function to lead the public to the Temple of Hygeia; not to be driven by them. Depend upon it, when the minds of our people are awakened to the facts of the case, they will *demand* to be protected from this venereal canker which is gnawing at the vitals of the nation.

We shall hear the words "Protection" and "Safeguarding" many times in the next few weeks on all political platforms. I wonder how many candidates will be asked about the protection and safeguarding of the community from venereal disease? How many will be interested?

The answers to the questions set the Branches by the Council of the Society will eventually compel the legislature to give heed to the matter. I am confident that the answers made by public health officers will be as unanimous as those which would be made with reference to vaccination.

Public Health Administration in Jersey.

By P. JANVRIN MARETT, Lt.-Col. (ret.) R.A.M.C., Medical Officer of Health and Bacteriologist, States of Jersey.

The title of this article might very well have been "Health without Health Acts." Regarding matters from a somewhat different angle from that of colleagues on the adjacent island, what Dr. Marett has to say of his work in Jersey will be read with real interest and pleasure.

IN the matter of public health administration, the main difference between the States of Jersey and neighbouring England is that, being without a Public Health Act, we try to carry out the work on educational as against legislative lines.

Health without Health Acts.

We have sanitary regulations, which make no reference to the medical officer of health, and which are extremely broad. As an instance, as regards sanitary accommodation for houses, all that is required is "suitable" accommodation—much discussion occurs over this word "suitable"; many owners consider that it refers to their pockets.

In order to get any work carried out, one has to explain, and when the reasons for getting improvements effected are understood, then and only then is an advance made.

In a small place, one's efforts are broadcast, and when an individual has learned and has willingly carried out structural improvements, his neighbours discuss it and come forward voluntarily to ask for assistance.

With no laws, dwellings are of any description, and on any kind of site. It was found that when an owner put out tenders for any work, *e.g.*, for the building of a house, estimates varied enormously. Naturally the owner would choose the lowest estimate, and the final results were usually unsatisfactory; owners were dissatisfied, and so were builders; with the result that the building and plumbing associations approached the sanitary committee for guidance. Since, in the request, it was specially stated that bye-laws were not wanted, the outcome was a booklet entitled "Recommendations, etc." These recommendations are acted on, to the mutual satisfaction of owners, builders and health officials. In this way we have been able to improve matters in the sanitation of houses.

Disease Prevention.

Turning to the prevention of infectious diseases, in 1922, when the present system commenced, the annual incidence of diphtheria was over 200 cases. In this year a laboratory was started. On the occurrence of a case of diphtheria, all contacts were swabbed; it was thought that this was only a method for giving rise to further cases, and naturally there was trouble. However, explanations illustrating the analogy between the seeds of diphtheria and the seeds of potatoes and the resultant crops of each soon made the procedure intelligible. The occurrence of a healthy carrier of virulent diphtheria and her removal to the isolation hospital, with her consent, gave rise to serious trouble. The constable of the parish where the case occurred made a complaint to the sanitary committee, which met, and the medical officer of health had to explain his actions.

Since those days in 1922 the picture has changed. Last year the number of cases of diphtheria totalled seven, with no deaths; but what is as pleasing is that in these days, when one has swabbed all known contacts, frequently individuals come forward to be swabbed who otherwise would have been missed.

Under the circumstances, one can put forward the claim that the public health department is composed of—(1) officials, (2) the medical practitioners, and last, but not least, (3) the public.

One curious fact must be mentioned, and that is that preventive methods are only considered necessary when a disease has occurred. As we have no smallpox, vaccination does not exist, and attempts at its legal introduction have failed.

In 1922 and 1923 a health week was staged. The chief exhibits were on the milk supply and on preventive measures against tuberculosis. The programme was referred to from pulpits, and a certain amount of advertising was done. In the first year the net result was 15 visitors. In the following year the same programme was asked for; the number only rose to 50. It was considered time to change one's methods.

The work done by voluntary associations is taken full advantage of, and infant welfare

and district nursing are forging ahead. These two associations have given an appreciable fillip to public health work, the question of expending money is appreciated, and it is gradually being understood that preventing sickness is a means of saving not only money, but lives and pain.

The Part of the Medical Practitioner.

The association of the public in health matters has been discussed above. We can now turn to the assistance given by the medical profession. According to the sanitary regulations, notifications of infectious diseases have to be made out in duplicate, one to be sent to the States Offices, to the senior official, the greffier, the other to the constable of the parish in which the case has occurred. No mention is made of any notification being sent to the medical officer of health; to overcome this, practically all doctors have willingly undertaken to notify this official either by telephone or, more usually, by calling at the laboratory. There is a fee for every double notification, and this implies that the medical attendant is a part-time paid medical officer of health. The usual infectious diseases are notifiable; others are notifiable providing specimens are brought for examination. Acute lobar pneumonia may be mentioned in this connection; a specimen of sputum is asked for, as it has been found that this clinical condition is produced by totally different types of organism. Summer pneumonia is usually due to monilia, whilst the winter type is usually due to pneumococci. The time is foreshadowed when one can ask the State to pay additional notification fees in cases where not only is a disease diagnosed clinically, but a complete case-history is given —such, it is thought, would be invaluable in working at the group of diseases which at present go under the term cancer.

Laboratory Provisions.

It is considered that no public health service can exist without a laboratory; this institution is run under three headings:—

1. Public health proper, which includes examination of water, milk and foodstuffs. No charge is made; all samples are brought in by the sanitary inspectors.

2. Examinations of specimens for diagnostic purposes. These include any bacteriological examination and many chemical. A charge is made, but doctors are not responsible for payments; those patients who are unable to pay, do not pay.

Under this heading vaccines are included, and as at present there is some reference to puerperal sepsis, it may be of interest briefly to state the routine carried out here.

(*a*) No specimen is of use unless it is taken through a speculum, and after the cervix has been cleansed, the swab is applied to the discharge issuing from the *os*.

(*b*) Under these conditions an autogenous vaccine is guaranteed to be available within 24 hours of the receipt of the specimen. The causal organism has so far always been a hæmolytic streptococcus. The number of cases dealt with has been 15-20, with one death.

The methods for combating tuberculosis differ considerably from those in England, owing to the lack of funds. The work here is based on the differential bacteriological examination of sputum.

In previously published papers it has been reported that of clinical tuberculous lungs, 66 per cent. are monilia infections. Once a differential diagnosis is made, then differential treatment with vaccines is offered free of charge. The treatment is carried out by the patients' medical attendants; the number of cases so treated has more than doubled annually since 1926.

Coincident with this treatment the tuberculosis death-rate has fallen from 1·52 per 1,000 in 1921-1922 to ·94 per 1,000 in 1928.

3. Research work. Chiefly on monilia infections in relation to human beings and to domestic animals.

In conclusion, the public health service in Jersey is taken to consist of the entire population. The officials, consisting of a medical officer of health and two sanitary inspectors, carry out the work, which is brought to them by the medical practitioners. Briefly, the work is carried on by education in contradistinction to legislation. Naturally such a system does not appeal to all, more especially to some of the older generation. However, about 90 per cent. of the medical practitioners are assisting in the work, and one would fail in one's duty in not publicly appreciating the work done by one's professional brothers.

ST. MARYLEBONE BOROUGH COUNCIL, with the approval of the Ministry of Health, have, as from April 1st, 1929, increased the salary of Dr. Charles Porter, Medical Officer of Health, from £1,600 to £1,700, and thereafter by annual increments of £50 to a maximum of £2,000.

The Society.

Reports, Proceedings and Announcements.

NOTICES.

The next meeting of the *Council* is postponed until Friday, May 31st.

The *Annual Provincial Meeting* of the Society will be held at the Sudbury Park Hotel, near Chepstow, on Saturday, June 29th. It is hoped that many members of the Society, with their ladies, will combine attendance at this meeting with a motoring week-end in the beautiful Wye Valley. Lord Treowen has invited the President and members to visit Llanover Park on the afternoon of June 29th. The full programme will be circulated with the June issue of "Public Health" when members will be asked to give early notice of their intention to attend the meeting.

A meeting of the *School Medical Group* will be held at the house of the Society at 3 p.m., on Saturday, May 4th, when Dr. T. W. Hill, Assistant Medical Officer of Health for Willesden will read a paper on "Personal Experiences in the School Medical Service."

The *Maternity and Child Welfare Group* will meet at the house of the Society on Friday, May 24th, at 8 p.m., when Dame Louise McIlroy will deliver her presidential address.

The next meeting of the *Dental Officers' Group* will be held at the house of the Society on Friday, May 31st, at 8 p.m., when Mr. Evelyn Sprawson will show some slides and exhibits from the London Hospital Dental School.

Candidates nominated for the next election to the Society are Dr. Elsie Catlow, 1, St. Mary Street, Nelson, Lancashire; Dr. George Chesney, 37, Grover Lane, Clayton Bridge, Manchester; Dr. B. R. Nisbet, Health Department, Market Place, Dewsbury; Dr. Archibald Ogg, Ashlor Mount, Bramcote, Nuneaton; and Mr. Bernard Cook, L.D.S., 10, Linden Grove, Woodsmoor, Stockport.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on Friday, April 19th, 1929. Dr. J. Howard-Jones (President) was in the chair, and there were present Drs. Barlow, Porter, Snell, G. F. Buchan, Milligan, Picken, Paterson, Eustace Hill, Tapper, Gibbons Ward, Jolly, E. Ward, Puddicombe, Stirk, Chalmers, J. Buchan, Fenton, Wood, Veitch Clark, Brackenbury, Stella Churchill and Wilshaw, Professors Kenwood and Kerr, Lt.-Cols. F. E. Fremantle, M.P., and G. S. Parkinson.

The minutes of the last meeting having been approved and signed, apologies for absence were received from Professor A. Bostock Hill, and Drs. F. C. Linton, E. G. Annis, R. A. Lyster and G. H. Pearce.

Rural Water Supplies.—A letter was read from the Ministry of Health enclosing a report by the Advisory Committee on Water on Rural Water Supplies, and stating that the Minister would be glad to receive any comment or observation which the Society might wish to make on the Report. It was agreed to refer the report for the consideration of the Branches.

Superannuation.—A letter was read from the Ministry of Health acknowledging the representations forwarded by the Society in connection with the Report of the Departmental Committee on the Superannuation of Local Government Employees. The letter stated that the Minister would give careful consideration to the representations but that he would be unable to receive a deputation on the subject at the present time.

Security of Tenure.—Representations were received from the Southern Branch, and members of the Society, in reference to the recent judgment in *Brown* v. *Dagenham U.D.* It was noted that the Executive Secretary had already been in correspondence with the B.M.A. and other bodies on this matter, and that the Minister of Health had recently stated that the position quoted by the judgment would receive early consideration. The Council agreed that the matter should be reported for further consideration after the General Election.

Interchange of Health Officers.—The Ministry of Health invited the Society to nominate a medical officer of health as participant in a course in rural hygiene to be held by the Health Section of the League of Nations in Denmark and Holland from June 4th—July 9th next. It was agreed that in view of the shortness of the notice, the chairman of the Interchange Committee (Dr. R. A. Lyster) with the Executive Secretary should be authorised to forward to the Ministry the names of one or more medical officers of health who would appreciate this opportunity.

B.M.A. Elections.—The Council agreed to recommend for the support of Public Health Service Members of the British Medical Association the following candidates: *For Council*: Dr. G. F. Buchan, Dr. E. H. Snell. *For Representative Body*: Dr. T. W. Naylor Barlow, Dr. R. Veitch Clark, Dr. T. Eustace Hill, Dr. R. H. H. Jolly, Professor H. Kerr, Dr. G. H. Pearce, Dr. Ernest Ward, Dr. R. H. Wilshaw. Of the above names, given in alphabetical order, the four receiving most votes will be elected as Representatives, and the remaining four as Deputy-Representatives.

Procedure of Council.—Arising out of a proposal by Dr. Snell that the Council should revert to its former practice of establishing Standing Committees for the consideration of matters referred, it was agreed: "That a Special Committee be appointed to consider, and report on, any steps that should be taken to facilitate the business of the Council." The Committee was then elected as follows: The officers of the Society, Drs. Picken, Stella Churchill, J. Buchan, Veitch Clark, Fenton and Professor H. Kerr. The Committee were asked to report not later than the September meeting of Council, in order that recommendations may be considered before the opening of the new Session.

General Practitioners and Preventive Medicine.—Consideration was given to the following representations from the Southern Branch:

(a) That the present system of medical training and education in this country is not such as is likely ever to produce in the average medical practitioner any real knowledge of, or liking for, or interest in preventive medicine. This lack of adequate instruction, moreover, is likely seriously to prejudice the supply of recruits for the health services of the country.

(b) That in view of the generally accepted opinion that preventive medicine can attain reasonable effectiveness only when the *whole medical profession* is trained in it, and takes an active part in its practice, and in view also of the fact that the interest of the *public* in preventive medicine has enormously increased recently, and is still increasing, it is desirable that efforts should be made forthwith by the Society in order to secure:—

(i) The establishment in all medical schools of a thorough and comprehensive course in State and Preventive Medicine as part of the ordinary medical curriculum and, associated with this course as its centre, the comprehensive infiltration of the whole of the medical curriculum with the preventive idea.

(ii) The requirement by the G.M.C. of proof of adequate instruction in preventive medicine before any candidate can proceed to any qualifying examination for a degree or diploma in medicine, and the requirement also by the G.M.C. of a special and adequate examination in this subject as part of all such qualifying examinations.

After general approval of the representations had been expressed, Dr. Brackenbury suggested that the drafting should be revised as follows:—

(a) That the present system of medical education in this country does not sufficiently emphasise and encourage interest and training in regard to the preventive aspects of medicine and the work of the Public Health Service.

(b) That in view of the generally accepted opinion that preventive medicine can obtain reasonable effectiveness only when the *whole medical profession* is trained to regard it, and takes a certain part in its practice . . . . . (continued as in Southern Branch resolution (b) above).

(i) The teaching in all Medical Schools of the principles of State Medicine and the preventive aspects of medicine generally, as part of the ordinary curriculum.

(ii) The requirement by the General Medical Council of proof of adequate instruction in the preventive aspects of medicine before any candidate can proceed to any qualifying examination, and of examination with regard thereto in any such qualifying examination.

It was agreed that the Southern Branch representations, and Dr. Brackenbury's suggested revision should be on the agenda for discussion at the next meeting of Council.

Non-County Group.—The Council approved the proposal of this Group to change its name to "County District Group," in accordance with the terminology of the Local Government Act, 1929. A representation of the Group in regard to security of tenure was noted as supporting the policy of the Society, as recorded in Proceedings of Council. (PUBLIC HEALTH, January, 1929, p. 137.)

Postponement of Council Meeting.—In view of clash of dates with the Public Health Committee of the British Medical Association, it was agreed to postpone the next meeting of Council until Friday, May 31st, 1929.

Annual Provincial Meeting.—On the proposal of the President it was agreed that the Annual Provincial Meeting of the Society be held at the Sudbury Park Hotel, near Chepstow, on Saturday, June 29th. Members from a distance could arrive at the hotel on the evening of June 28th and Lord Treowen has invited the party to visit Llanover Park on the afternoon of June 29th. During the week-end members would motor through the Wye Valley. It was agreed to issue the full programme of the meeting with the June issue of PUBLIC HEALTH.

M. and C.W. Services.—The Council gave further consideration to the Memorandum on Co-ordination of Maternity and Child Welfare Work with the Hospital Services, submitted by the M. and C.W. Group. Professor Kenwood, Dr. Eustace Hill and others expressed their appreciation of the service rendered by the Group in preparing the report which should prove a valuable source of information to all concerned. It was decided that a copy of the Report should be forwarded to the British Medical Association, inviting their observations and suggestions.

The Council then adjourned.

ORDINARY MEETING.

An Ordinary Meeting was held at the house of the Society on Friday, April 19th, 1929. The President (Dr. J. Howard-Jones) was in the chair, and there was a large attendance of members and visitors.

The Minutes of the last meeting having been approved and signed, the following candidates were elected to the Society:—

***As Fellows*:—**

Blackwood, Margaret Watson, M.B., Ch.B. Glas., D.P.H.; Cotter, Nora, M.B., Ch.B., B.A.O., N.U.I.; Dear, James Duncan, M.B., Ch.B. Ed., D.P.H.; Esslemont, Mary, M.A., B.Sc., M.B., Ch.B. Aberd., D.P.H.; Feldman, Vivian David, M.D., B.S. Lond., D.P.H.; Fitzpatrick, Patrick Finbar, M.B., B.Ch., N.U.I., D.P.H.; Gardner, William Ross, D.S.O., M.B., Ch.B. Ed.; Jones, John Henry, M.R.C.S., L.R.C.P., D.P.H.; Muir, Jessie Seath, M.B., Ch.B. Glas.; Patton, Grahame, L.R.C.P.I. & L.M., L.R.C.S.I. & L.M. Belf., D.P.H.; Ross, Campbell, Surg.-Cdr., R.N., M.D. Glas., D.P.H.,; Simpson, George Wright, M.A., M.D.; B.Sc. Ed., D.P.H.; Smithies, Beatrice May, M.R.C.S., L.R.C.P.; Walker, Phyllis Mary, M.B., B.S. Durh., L.R.C.S., L.R.C.P. Ed., L.R.F.P.S. Glas.; Wattie, Nora I., M.B., Ch.B., Aberd., D.P.H.; Wilson, John Greenwood, M.D. Lond., M.R.C.P., D.P.H.; Wright, Helena, M.B., B.S. Lond., M.R.C.S., L.R.C.P.

***As Associates*:—**

Dixon, James Atkinson, M.R.C.V.S.; Jones, William Henry, M.A., L.D.S., R.C.S. Eng.; McCleery, Edward Forde, M.R.C.V.S., D.V.S.M.

A number of nominations were received for the next election.

Dr. F. T. H. Wood, President of the North-Western Branch, asked the acceptance of the Society of a framed and inscribed portrait of the late Dr. James Wheatley. He said that his Branch was anxious to honour in this way a beloved colleague whose untimely death while occupying the chief position in the Society's bestowal was mourned by the whole Public Health Service. Dr. Howard-Jones in accepting the gift on behalf of the Society said that James Wheatley was well worthy to be included in the long line of past-presidents who were commemorated for their services to the Society.

There followed a discussion on Birth Control opened by Dr. Griffith Jones, D.D., Dr. C. Killick Millard and Dr. Stella Churchill. Other speakers included Dr. Helena Wright and Mrs. Hodson (The Eugenics Society). A report of the discussion will appear in an early issue of "Public Health."

THE METROPOLITAN BRANCH.

President: Dr. J. B. Howell, M.O.H., Hammersmith.
Hon. Secretary: Dr. James Fenton, M.O.H., Kensington.

A meeting of the Council of this Branch was held at the house of the Society on February 25th, 1929, when fourteen members were present. Dr. G. Quin Lennane, Vice-President, occupied the chair.

Arising out of the minutes, the Hon. Secretary reported the receipt of a letter from Dr. Cameron regarding the action of the Branch Council in communicating with the Metropolitan Asylums Board concerning a matter in the administration of an institution under the charge of a member of the Branch. The Hon. Secretary read his reply to Dr. Cameron, and also a letter, dated February 20th, from the Clerk to the Board. General approval was expressed with the action taken by the Hon. Secretary, and he was requested to communicate further with Dr. Cameron in order to assure that member of the Branch that the action of the Branch Council was merely an official procedure in regard to a matter upon which it was hoped to secure some improvement from the point of view of medical officers of health.

Consideration was given to the three papers by Dr. A. K. Chalmers, Dr. Robert A. Lyster and Dr. William Robertson, dealing with "The Notification and Control of

Venereal Diseases," reported in the January issue of PUBLIC HEALTH, and to the enquiry of the Council of the Society upon the following points:—

(*a*) The sale of materials for disinfection, together with the necessary instructions.
(*b*) The principle of compulsory treatment.
(*c*) The bringing of parents of congenitally affected children within some measure of treatment.

It was moved, seconded and agreed that the Council of the Society be informed that the Branch Council do not approve of the sale of materials for disinfection or of the principle of compulsory treatment, and, further, that the Branch Council would be glad to have information as to the exact meaning of point (*c*).

The Branch Council expressed satisfaction at the terms of a reply received from the Metropolitan Grocers', Provision Dealers' and Oilmen's Association, regarding the disposal of surrendered unsound tinned food.

Consideration was given to a letter from Mrs. K. Day, addressed to the metropolitan borough medical officers of health, regarding the question of co-operation between the borough councils and employers of labour in connection with welfare work in factories, offices, etc. Dr. Porter stated that in an address which he had recently given to welfare workers he had urged that they should avail themselves of the assistance which the local public health departments could give them in their work. He suggested that Mrs. Day should be informed of the facilities available for health propaganda work in the various metropolitan boroughs, and that the members of the Branch Council would be glad to co-operate with welfare workers by arranging lectures and by providing literature for distribution to employees. The Branch Council concurred in this suggestion.

A meeting of the Branch Council was held at the house of the Society on March 22nd, 1929, the President occupying the chair. Twelve members of the Council were present.

Mrs. Keppel Barrett gave an address upon the work of the Royal Medical Benevolent Fund Guild, in which she made reference to the desire of the Guild to get into touch with the wives of prominent medical men in the metropolis with a view to securing the services of these ladies in the advancement of the work of the Guild. The co-operation of the members of the Branch Council was requested in securing the introduction of Mrs. Keppel Barrett to ladies who are likely to take an interest in this charitable work.

The Branch Council gave further consideration to the reference from the Council of the Society regarding the proposal that the parents of children suffering from congenital venereal disease should be brought within some measures of compulsory treatment, and it was decided to refer this question to a sub-committee for consideration and report. The President, Lt.-Col. Parkinson, Dr. Joe, Dr. Radford and the Hon. Secretary were appointed to serve upon the sub-committee.

The Hon. Secretary gave an outline of the proceedings of a conference between officers of the Ministry of Health, Dr. Brincker (London County Council) and certain metropolitan borough medical officers of health, in regard to smallpox, at which the view was expressed that the means to be adopted in the control of smallpox contacts were adequately described in the circular relating to smallpox, issued by the Ministry in 1922. It was also stated that Sir George Newman had agreed to consider the necessity of re-issuing the circular of 1922.

The attention of the Branch Council was drawn to certain arrangements suggested by Dr. Maitland Radford for the supervision of smallpox contacts, with a view to securing a greater measure of uniformity of action in this matter. It was agreed that these suggested arrangements should be set out upon the agenda for the next meeting of the Council.

A further meeting of the Council was held at the house of the Society on April 12th, 1929. The President occupied the chair, and fourteen other members of the Council were present.

Consideration was given to the arrangements suggested by Dr. Maitland Radford for the control of smallpox contacts and, after making certain amendments thereto, it was resolved that they should be circulated to the metropolitan borough medical officers of health. The amended arrangements are as follow:—

(1) *Contacts able to be seen at home.*

To be visited by the sanitary inspector when information is first received.

To be visited by the sanitary inspector every three days until ten days after the date of the first exposure, and thereafter to be visited by the sanitary inspector daily.

To be visited by the sanitary inspector daily until eighteen days after the date of the last exposure.

To be visited by the medical officer of health on the nineteenth day after the date of the last exposure before taking off list.

(2) *Contacts working in the Borough, resident elsewhere.*

If he does not already know, the employer to be informed of the position and, if necessary, advised that the contact need not be "stood off."

The sanitary inspector to visit the firm every three days until the tenth day after the date of the first exposure and to see contact.

The sanitary inspector to visit the firm daily until eighteen days after the date of the last exposure and to see contact.

The medical officer of health to visit the firm on the nineteenth day after the date of the last exposure before taking the employee or employees off list. Face, hands and feet examination suggested.

The medical officer of health of the borough in which the contact resides to be informed when the contact is taken off list.

(3) *Contact resident in Borough, working elsewhere.*

The sanitary inspector to call to explain the position and confirm the address.

After receiving the assurance of the medical officer of health of the borough in which the contact is employed that arrangement (2) is being carried out, visits to be paid by the sanitary inspector only on Sundays and when information is received that the contact is absent from work.

The medical officer of health of the borough in which the contact is employed to be informed when the contact is taken off list.

Dr. Joe submitted the report of the sub-committee appointed to consider the reference from the Council of the Society regarding the proposal that the parents of children suffering from congenital venereal disease should be brought within some measure of compulsory treatment, and stated that the sub-committee had arrived at the following conclusions:—

(a) That there should be notification of the parents of congenitally affected children, and that the parent or parents found to be suffering from venereal disease should be brought within some measure of compulsory treatment.

(b) That it is to be regretted that more careful consideration was not given to the earlier part of the terms of reference from the parent Society.

In reply to an enquiry, Dr. Joe stated that the sub-committee had taken into consideration (*a*) the question of the length of time during which affected parents should be subjected to treatment, and (*b*) the difference of opinion which exists as to stage of treatment when a person could be certified as cured. The sub-committee were of the opinion that the period of compulsory treatment should be six months, for, whilst agreeing that this period is insufficient to effect cure, it would render a person non-infective.

It was moved that the recommendations of the sub-committee be not accepted, and this proposal was carried.

The meeting of the Branch which followed the above meeting of the Branch Council was devoted to the reading of a paper by Dr. T. Moran, of the Low Temperature Station for Research in Biochemistry and Biophysics, Cambridge, upon the problem of refrigeration in relation to meat. Two representatives of the British Association of Refrigeration and various members of the Branch took part in the discussion which followed Dr. Moran's paper.

A vote of thanks to Dr. Moran was unanimously accorded by the Branch.

THE YORKSHIRE BRANCH.

President: Dr. Cyril Banks, M.O.H., Nottingham.
Hon. Secretary: Dr. G. H. Pearce, M.O.H., Batley.

A meeting of this Branch was held at the Education Offices, Calverley Street, Leeds, on March 22nd, 1929, the President occupying the chair. Eighteen members were present. Apologies for absence were received from Drs. Buck, Channon, Daley, Dunne, Kaye, Linton, McNaught, Moore and Thornley.

It was unanimously resolved that Dr. J. J. Buchan, Medical Officer of Health, Bradford, be nominated by the Branch for the Presidency of the Society for the session 1929-30, and the Hon. Secretary was instructed to notify the Executive Secretary and the other Branches accordingly. Since the establishment of the Society in 1856 only one President has been provided by the Yorkshire Branch—the late Dr. J. Spottiswoode Cameron. Whilst the Branch is of opinion that from the personal and academic standpoints Dr. Buchan's nomination is worthy of support, the suggestion that the time has now arrived for this Branch to provide a second President is not deemed unreasonable.

A lengthy discussion arose on the request from the Council of the Society that questions respecting venereal diseases should be answered. After hearing letters received by the Hon. Secretary from Drs. S. Fox Linton and W. Allen Daley, it was proposed by Dr. W. Bertram-Hill, seconded by Dr. E. K. MacDonald, and agreed that the Branch does not support question (i), and it was proposed by Dr. J. Mair, seconded by Dr. J. J. Jervis, and unanimously agreed that the Branch feels it useless to express an opinion upon questions (ii) and (iii) until such time as compulsory notification has been fully considered.

Further consideration was given to certain

proposed alterations in the Branch Byelaws, adjourned from the January and February meetings. On the proposition of Dr. J. Mair, seconded by Dr. R. Weaver, it was agreed unanimously that the Byelaws as now amended be approved and confirmed.

It was decided that the next meeting be held at York.

THE WEST OF ENGLAND BRANCH.

President: Dr. J. F. Blackett, M.O.H., Bath.
Hon. Secretary: Dr. P. H. Stirk, M.O.H., Exeter.

A meeting of this Branch was held at Yeovil, on March 22nd, 1929.

The members met at Messrs. Aplin & Barrett's Food Factory, both departments of which—the cheese and cream (St. Ivel) and the export food—were visited in turn. Under the guidance of Mr. Aplin a most interesting and thorough tour of inspection was made, and this was much appreciated by the party.

Afterwards the members went on to the Public Health Department at Kingston, where the business meeting was held. The President occupied the chair, and was supported by Drs. E. Ward, H. R. Parry, C. W. Gee, J. H. Acheson, and Mr. F. O'Brien. Apologies for absence were received from Dr. J. Middleton-Martin and Dr. W. Horton-Date.

The Acting Secretary read a reply from the Executive Secretary regarding the explanation asked for as to the exact meaning of question (2) on venereal diseases. In his letter, Mr. Elliston stated that until he had received answers from all the Branches, he did not consider that he would be able to give the further information which the Branch desired. In this connection, however, he forwarded a copy of the proposed Venereal Diseases (Children) Act, which he hoped the Branch might care to consider at their next meeting. It was proposed that this should be circulated to the members, with a view to its being discussed when the Branch next met.

Dr. C. W. Gee, Medical Officer of Health, Yeovil, read a paper on "The Regulations dealing with the Exportation of Prepared Food Products to the United States of America, Canada, and Australia," in which he was able to show clearly the difficulties existing in the way of certification for export, more particularly as applying to Canada.

At the conclusion of the meeting, votes of thanks were passed to Messrs. Aplin & Barrett for their kindness in allowing the members of the Branch to inspect their factory, and to Dr. Gee for kindly providing tea and for the arrangements he had made in connection with the meeting.

THE HOME COUNTIES BRANCH.

President: Dr. F. T. C. Linton, M.O.H., Tunbridge Wells.
Hon. Secretary: Dr. W. A. Muir, M.O.H., Gillingham.

The seventh meeting of the 1928-1929 session of this Branch was held at the house of the Society on April 5th, 1929.

The President and seventeen other members were present. Apologies for absence were submitted from Drs. Buchan, Holden and Patterson.

A letter was read from the Yorkshire Branch asking for support in their nomination of Dr. J. J. Buchan for the Presidency of the Society during the session 1929-1930. It was resolved to postpone consideration of the matter until the next meeting.

Dr. W. P. Hamond (V.D. Officer, Croydon), introduced a discussion on the venereal disease problems referred by the Council of the Society. He was unwilling to be dogmatic in the difficult questions raised, but was generally against compulsory treatment and in favour of making clinics as attractive as possible. He also doubted whether much would be gained by making the sale of packets permissible, as they would probably be used for treatment instead of prevention; would be carelessly employed, and might produce a false feeling of security. He considered conditions in the Services were not comparable with those in civilian life, and suggested, in place of packets, prophylactic treatment at clinics. Mr. Nicol also spoke against the use of packets and compulsory treatment.

Dr. Holroyde strongly suggested the amendment of the present Act so as to permit the sale of materials for disinfection, after which the need of compulsory treatment would hardly arise. Drs. Milligan and Tapper were in favour of present methods, whilst Drs. Williams and Belam expressed the opinion that the sale of packets should be made legal. After further discussion Dr. Hamond replied to some points raised. Voting was then taken on the following questions:—

1. Does the Branch approve a proposal to amend the present Act so as to permit the sale of materials for disinfection, together with the necessary instructions?
2. Does the Branch approve the principle of compulsory treatment?
3. Does the Branch approve the suggestion that the parents of congenitally affected children should be brought within some measures of treatment?

The first was approved by a majority; the second and third were not approved, but it was unanimously agreed that local authorities should provide all facilities for voluntary treatment for parents of congenitally affected children.

THE NORTHERN BRANCH.

President: Dr. J. Bannerman, M.O.H., Weardale R.D.
Hon. Secretary: Prof. Harold Kerr, O.B.E., M.O.H., Newcastle-upon-Tyne.

A meeting of this branch was held in the Medical Institute, 7, Windsor Terrace, Newcastle-upon-Tyne, on April 5th, 1929, the President occupying the chair. Twenty-four members were present. Apologies for absence were received from Drs. P. A. Dormer, Isabel Lane, J. O. Murray and Mary Raw.

The Chairman referred in sympathetic terms to the death of Dr. James Arnott, Medical Officer of Health, Brampton R.D., which occurred on March 7th, 1929. It was moved that a letter of condolence be sent to his family. The motion was passed in silence, the members standing.

A letter was received from the Yorkshire Branch asking the Northern Branch to support the nomination of Dr. J. J. Buchan, Medical Officer of Health, Bradford, as President of the Society for the session 1929-30, and it was resolved that such support be given.

Dr. T. Eustace Hill said that there was a strong feeling among the members of the Council of the Society that Dr. Harold Kerr should be nominated for the Presidency of the Society for the following year. He said that Dr. Kerr was recognised as a most valuable member of the Society, and it gave him great pleasure in moving that Dr. Kerr be nominated for the Presidency for the year 1930-1931. The motion was carried unanimously.

Dr. Kerr, in thanking the members, said that before anything was done he would require time to consider carefully if it would be possible for him to accept nomination for this most honourable and responsible office.

A letter from the Southern Branch conveying resolutions passed on the subject of venereal disease, was received.

Dr. Thomas Peirson, Assistant Medical Officer of Health and Tuberculosis Officer, Gateshead, was elected a member of the Branch.

The meeting was informed that Dr. Andrew Smith, Medical Officer of Health, Ryton-on-Tyne, had invited the members to lunch as his guests, in the event of the summer meeting being held at Ryton-on-Tyne. It was agreed to hold the summer meeting at Ryton, and Dr. Smith, who was present, was thanked by the President for his hospitable offer. The date of the meeting was left in the hands of the President and the Hon. Secretary.

The Council of the Society having asked the Branch to consider the following questions relating to venereal disease:—

1. Does the Branch approve a proposal to amend the present Act so as to permit the sale of materials for disinfection, together with the necessary instructions?
2. Does the Branch approve the principle of compulsory treatment?
3. Does the Branch approve the suggestion that the parents of congenitally affected children should be brought within some measures of treatment?

Dr. C. Franks, Deputy Medical Officer of Health, Durham County Council; Dr. S. Thompson, Assistant Medical Officer, Venereal Disease Clinic, Newcastle-upon-Tyne; and Dr. N. F. Rowstron, Medical Officer, Venereal Disease Clinic, Sunderland, opened the discussion.

After other members had taken part in the discussion, the questions from the Council of the Society were voted upon with the following results:—Nos. 1 and 2 were negatived, and No. 3 was agreed to.

The President, in thanking the openers of the discussion, said that the speakers had been most interesting and instructive. Dr. Kerr seconded the vote of thanks, which was carried by acclamation.

THE SOUTHERN BRANCH.

President: Dr. Percy Moxey, Chief Clinical T.O., Southampton.
Hon. Secretary: Dr. H. D. Kelf, Assist. M.O.H., Hants. County Council.

A meeting of this Branch was held at Southampton on April 5th, 1929, the President occupying the chair. Twelve members were present.

Consideration of a letter from the Yorkshire Branch, seeking support for the nomination of Dr. J. J. Buchan, as President of the Society for the session 1929-30, was deferred until the next meeting.

Clinical Cases.—Dr. Livingston showed a

case of a man aged 80, with ulceration of lobule of right ear—a condition which had lasted nine months. It was agreed that it was a case of rodent ulcer, and Dr. Livingston stated he was treating it with radium. Dr. Dunscombe submitted two girls—one aged 9, with dextrocardia; the other aged 7, with congenital heart disease, and a loud systolic murmur heard over the whole chest. A vote of thanks was accorded to both members for bringing the cases forward.

"Some Notes on School Medical Inspection" formed the title of an iteresting paper read by Dr. Dunscombe, who outlined the importance of the work, and its relation to the public health service.

An interesting discussion followed, and at the conclusion a hearty vote of thanks was accorded to Dr. Dunscombe with the suggestion that the paper should be sent to the Editor of PUBLIC HEALTH for publication.

THE NORTH-WESTERN BRANCH.

President: Dr. F. T. H. Wood, O.B.E., M.O.H., Bootle.
Hon. Secretary: Dr. G. W. N. Joseph, M.O.H., Warrington.

A meeting of this Branch was held in Manchester on April 12th, 1929, the President occupying the chair. Sixteen members were present.

A letter was read conveying the news that Dr. Winifred Wigglesworth, a member of the Branch, had died on January 23rd, 1929, and the Hon. Secretary reported that he had written to her relatives conveying the sympathy of members with them in their bereavement.

Nominations for the Presidency of the Society for the session 1929-30 were considered, and it was resolved that support be given to the candidature of Dr. J. J. Buchan, nominated by the Yorkshire Branch.

It was resolved that the Hon. Secretary be instructed to write to Dr. J. J. Ferguson, conveying the best wishes of the Branch and congratulating him on his appointment as Medical Officer of Health for the County of Surrey.

An excellent paper on "Cancer—A Review of Recent Progress" was read by Dr. C. O. Stallybrass, a summary of which appears in the editorial columns of this number.

Professor Maitland, in proposing a vote of thanks to Dr. Stallybrass, said how grateful he felt for the wide view of the subject presented, and asked whether there was any factor causing the increased rate of mortality other than improved diagnosis. He pointed out the essential foreign nature of the cancer cell, and stated that, working with rats in the laboratory, it had been shown that if a tumour were injected with formalin, the tumour cells broke down, liberating an antigen against malignant cells. In the living body, however, the antibodies could not act owing to some protective agency surrounding the cancer cells. Whatever it was that caused the cancer cell to become different, they could not be sure that it was a virus.

Dr. Barlow seconded and said how indebted the Branch had been on numerous occasions to Dr. Stallybrass for laying before members the results of his prolific reading and statistical work.

Dr. Wood, in putting the vote of thanks, mentioned that he was not satisfied that there was no evidence to support the suggestion that there was a relation between cancer and overnutrition of the cell, for Danish statistics showed that during the War there was a decrease in cancer mortality in that country. It must be remembered that the neutral countries suffered more than this country did through privation of diet. He felt that in two directions their duty as public health officials was clear. First, it must be pointed out that the results of early treatment were good. There was the difficulty as to suitable audiences, but for some time now he had supplied leaflets to the relatives of every case in the area dying from cancer. Secondly, there should be a routine post-natal examination of all women, by which means early cancer of the cervix might be discovered.

The portrait of the late Dr. James Wheatley, which had been subscribed for by members of the Branch for presentation to the Society, was on view during the meeting.

"HOSTELS in London for Professional and Working Women and Girls" is the title of an extremely useful publication, now in its third edition, issued by the Central Council for the Social Welfare of Girls and Women in London. The object of the handbook is to assist girls and women to obtain suitable hostel accommodation in the metropolis, and the list, with a few exceptions, is restricted to those hostels which charge two guineas a week or less. The price of the book is 1s. 1d. post free, and copies may be obtained on application to the Central Council at 117, Piccadilly, London, W.1.

The Literature of Preventive Medicine.

ANTE-NATAL CARE. By W. F. T. HAULTAIN, O.B.E., M.C., B.A., M.B. (Camb.), F.R.C.S.E., Senior Assistant Obstetric Physician, Edinburgh Royal Maternity and Simpson Memorial Hospital, etc., and E. CHALMERS FAHMY, M.B. (Edin.), F.R.C.S.E., Assistant Obstetric Physician and Special Assistant to Ante-Natal Department, Edinburgh Royal Maternity and Simpson Memorial Hospital, etc. Edinburgh: E. and S. Livingstone, 1929. pp. 113. Price 5s. net.

This small handbook for students and practitioners covers the essentials in the care of the pregnant woman, and should prove an excellent guide for those about to undertake the charge of ante-natal clinics, as it includes instructions for organising such a clinic, as well as a detailed description of the necessary methods of examination in the treatment of common symptoms and of contracted pelvis. The volume, diminutive as it is, is a worthy representation of the teaching of the late Dr. Ballantyne of the Edinburgh school.

HYGIENE AND PUBLIC HEALTH (PARKES AND KENWOOD). Eighth Edition, revised by HENRY R. KENWOOD, C.M.G., M.B., F.R.S., D.P.H., and HAROLD KERR, O.B.E., M.A., M.D., D.P.H. London: H. K. Lewis & Co., Ltd., 1929. pp. 823, illustrated. Price 21s. net.

It was fairly generally known before the appearance of this, the eighth edition of "Parkes and Kenwood," that, though his name was still to be retained in the title, Dr. Louis Parkes had taken no part in its preparation, having retired in favour of Dr. Harold Kerr, Professor of Hygiene and Public Health in the University of Durham. That the choice of a collaborator for Professor Kenwood, to take the place of Dr. Parkes, was a wise one is shown by the fact that the book has not suffered at all; is, indeed—and there is nothing derogatory of Dr. Parkes in this—in many respects better. It is certainly bigger, and gives the impression of carrying the seal of authority almost more definitely than even former editions. To an extent the increase in size is due to the inclusion of information with regard to recent work, but it is very obvious that most careful revision has been carried out and that no pains have been spared to ensure the inclusion of all that is of importance in regard to the subjects dealt with. In general the arrangement of the book has not been changed, so that those who have been accustomed to use it for reference or other purposes will still be able to find their way about in it with ease. To those who choose it as their guide to the mysteries of hygiene and preventive medicine—and they could not choose better— there may be the feeling that they are introduced rather abruptly, and that they would have preferred something in the nature of an introduction to the subject in rather general and descriptive terms. This feeling will soon pass, however, with the interest the reading of the various sections provides, and they in their turn will become as faithful believers in "Parkes and Kenwood" as are all the myriads who have studied it and will continue to study it whether they are engaged in the health service or not, and no matter if their work should be in these islands or in some far-off corner of the earth.

MANSON'S TROPICAL DISEASES. A Manual of the Diseases of Warm Climates. Edited by PHILIP H. MANSON-BAHR, D.S.O., M.A., M.D., D.T.M. and H. Cantab., F.R.C.P. Lond., Physician to the Hospital for Tropical Diseases, London; Lecturer at the London School of Hygiene and Tropical Medicine, etc. London: Cassell & Co., Ltd., 1929. pp. 921, illustrated. Price 31s. 6d. net.

The years since 1898, when Manson's Tropical Diseases first appeared, have seen not only remarkable developments in this department of medicine, but a tremendous increase in the demand for information upon the subject. The need for recording the advances and for meeting this demand has always been met by those responsible for the book, and almost yearly new editions and reprintings have been issued, until this year the ninth of the series appears. Needless to say, under the able editorship of Dr. Manson-Bahr the preparation has been carried out with the utmost care. Complete revision has been made, the newest and most accurate information on all subjects incorporated, and, as for example in the case of yellow fever, previously conceived ideas re-examined and remodelled

in the light of recent investigations. Brought absolutely up-to-date, with fuller attention directed to the subject of treatment and additional plates and illustrations introduced, the book has not been materially increased in size, an obvious advantage in the case of a publication that may have to form part of a kit that must at all costs be kept of reasonable size and weight. As in previous editions, protozoological and laboratory methods—also revised—are given in the appendix. The book is so well-known and so deservedly established that it is unnecessary, if not even impertinent, to say words of recommendation in regard to it.

In the Annual Reports.

Venereal Diseases: Failure to Continue Treatment.—The Act provides that if a patient has discontinued treatment, his name and address must be forwarded by his medical attendant to the Commissioner in order that steps may be taken to secure the resumption of treatment. During 1927 the names and addresses of 1,210 defaulting patients (males 971, females 239) were forwarded to the Commissioner. These defaulters were communicated with by letter, but owing to wrong information having been supplied to the medical attendants in the first instance, no less than 482 of these letters were returned undelivered by the postal authorities. Of the remaining 728 defaulters, 304 resumed treatment, and as regards the balance (424 cases) follow-up proceedings were still being carried on, but were not finalised by the end of the year. It will thus be seen that 21 per cent. of the 5,674 patients notified discontinued attendance before completing the treatment. Of the total (1,210) defaulters 25 per cent. resumed treatment, and the remaining 35 per cent. had not been finally dealt with by the end of the year. The question of patients failing to continue under treatment until cured or free from infection is one of the most unsatisfactory features in connection with the problem of the control of venereal disease. There are many and various causes which result in the failure of patients to continue with their treatment. Amongst these may be mentioned the patient's inability to understand, or refusal to believe, that even though all outward signs of his infection have disappeared as a result of treatment, he must still continue treatment if a permanent cure is to be effected. There are some patients who are casual employees, and who are forced at times to go into the country in search of employment in localities where there are no facilities available for treatment. During my visit to Great Britain in 1927, I was invited to attend a meeting of one of the Committees of the British Social Hygiene Council at its headquarters in London, for the purpose of discussing with the members the results of the operation of the Venereal Diseases Act in New South Wales. There is no law in force in Great Britain dealing with compulsory notification of venereal disease apart from local and circumscribed powers in this connection acquired by the city of Bradford. In view of the fact that a substantial percentage of the patients who attend the clinics in Great Britain discontinue their attendance at the clinics before having completed their courses of treatment, various local authorities have been considering the question of acquiring legal powers to enable them to compel defaulters to continue with their treatment. In order to aid in this question it is considered that some form of compulsory notification would serve a useful purpose. It was stated that the authorities of two large cities were seeking to promote Parliamentary Bills which would provide for compulsory notification. I explained to the members of the British Social Hygiene Council the difficulties connected with the administration of the Venereal Diseases Act in this State, and pointed out that even with compulsory notification it had been found impossible so far to ensure that patients could be kept under treatment.—*Dr. Robert Dick, New South Wales.*

Venereal Diseases: Effect of Compulsory Notification.—There have been large numbers and more frequent and regular attendances since the passing in 1925 of the local powers of compulsory notification. The existence of these powers has had a wholesome effect in causing cases to continue until recovered under treatment either at the municipal centre or by private practitioners. There is no reason to believe that these powers have had any effect in deterring persons from seeking treatment; they have operated rather in securing better treatment. From the records of 1927 it would appear that there has been a decrease in the amount of syphilis, but an increase in the amount of gonorrhœa in the city, but it is impossible to state with any accuracy that this change has taken place.—*Dr. John J. Buchan, Bradford.*

Milk Kitchens and Baby Clinics.—At the beginning of the year (1926) there were only two Milk Kitchens and Baby Clinics, *viz.*, one in Chetla in Dist. IV, and the other in Garden Reach. One more kitchen was opened in Dist. I in June, 1926. In these kitchens, babies of poor people are given milk free at the rate of ¼ seer. per head in the morning as well as in the evening, and are periodically bathed in the kitchens, by the nurses in charge, till they are three years old. In addition to this, the mothers are often instructed in laws of hygiene in respect of their wards. There were altogether 250 babies on the Milk Kitchen registers.—*Dr. T. N. Majumdar, Calcutta.*

Dr. George F. Buchan, Medical Officer of Health, Willesden, is to broadcast from the London studio a series of morning talks on infant welfare, commencing on Thursday, May 2nd, at 10.45, with a talk on "The Young Baby." Further talks at the same hour will be given on "Common Colds and Infections of Childhood" (May 9th); "The Importance of Proper Bone Development in Young Children" (June 13th); and "The Care of the Teeth" (June 20th).

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Editorial.

The Central Council for Health Education.

During the quite short time it has been in existence, the Central Council for Health Education set up by the Society has issued a number of publications and, in the years that are to come, it is certain they will be called upon to issue many more. Of those that have appeared and of those that there may be yet to come, it is doubtful if any will be more apropos or more useful than that relating to Health Exhibits which has just appeared. It is so good, indeed, that special reference must be made to it and special praise rendered to the Council on account of it. In it this body is definitely fulfilling its main function, which is to "advise and assist local health and education authorities, insurance committees, and other organisations, and to secure for this purpose the help of bodies engaged in research in preventive medicine, and in the diffusion of knowledge on health matters." In producing it the Council is declaring its belief in the value of exhibitions in relation to health teaching—a belief that is shared by most medical officers of health and others concerned in and with the education of the people, but who, desirous of adopting the method, are at times put to it to know how best to proceed. In this publication they will find the guide they have long sought and with it, as the Council believe, they will be saved time, trouble and expense. It is an extraordinarily interesting booklet if for no other reason than that it shows what a wonderful amount of work has been and is being done in this country in relation to propaganda. Always, most in

the Service have been inclined to believe that in this matter the health organisation has been very backward; would have been inclined to agree that, compared with others—the Americans particularly—there was next to nothing done here in the way of poster production and propaganda, for example. The Central Council's guide reveals how wrong is such a view: shows, too, a wonderful store of teaching material in the form of exhibits in the hands of a multitude of bodies concerned to help in education of the people wherever and whenever an opening appears. How readily available it is for the use of those engaged in teaching the guide also reveals. Every medical officer of health should have it by him. It will surely help him. It will help others too—education committees, and insurance committees, for instance—to know what there is, what is being done, and what can be done. The Council itself the publication will help, and the Society that founded the Council, by revealing the anxiety and the desire of all associated with it, and who form the Society, to shoulder responsibilities and to aid in providing education that is at the base of health, as it is the basis of so much else in the realm of social progress.

* * * * *

London's New Training Centre for the Diploma in Public Health.

THE foundation stone of the London School of Hygiene and Tropical Medicine was laid by the Minister of Health in July, 1926, and it is expected that the building will be opened by H.R.H. the Prince of Wales in July of this year. The first course of study for the Diploma in Public Health will commence in October, and information is now available regarding the instruction to be provided by the various divisions of the School.

Everyone knows that, in accordance with the Regulations of the General Medical Council, a course of study for the Diploma in Public Health must extend over a period of twelve calendar months. This does not mean, however, that a student must necessarily devote the whole of his time to the work, although such a practice is obviously desirable. The School Council have recognised the difficulty some students may experience in giving whole-time attendance and have arranged the course in such a way that those prepared to attend five afternoons a week will meet all the requirements of the General Medical Council and will, in addition, get full benefit from the interesting scheme of instruction devised. The course has been planned in such a way as to co-ordinate the teaching of the various divisions. No longer will bacteriology, chemistry and medical zoology be regarded as special subjects to be studied merely for examination purposes; laboratory work will be taught rather as a means of assisting in the solution of the larger problems of public health. It would appear, in fact, that the course has been outlined in the first instance by persons possessing a knowledge of public health administrative requirements, and that those responsible for teaching the laboratory side of the work have made a real endeavour to fit their teaching into the general scheme. This represents a great advance on anything previously attempted in this country, and indicates that the aim of the School Council is to give their students as sound and as practical a general training as possible without stressing one aspect of public health at the expense of another. In addition to the teaching given by the general school staff, a large number of visits to places of special public health interest will be arranged and some forty or more lectures will be delivered on selected subjects by recognised experts. Most of these lectures will be given at 5 o'clock in the afternoon and any member of the public health service who cares to attend will be made welcome.

A uniform date of entry is essential in a course of this nature; hence all students will be expected to enter the School at the beginning of the autumn term. The School Council will be prepared to consider applications for admission from students who can attend only three afternoons a week. In their case, however, the course of study will have to extend over two years and much of the efforts of the staff to co-ordinate the teaching will be lost. The composition fee, which has been fixed at fifty guineas, will include payments in respect of work in public health departments and of instruction in infectious disease and hospital management.

It will be news to many that London University has decided to institute its own Diploma in Public Health. The course given at the London School of Hygiene and Tropical Medicine will qualify students for admission to this examination.

Finally, the School Council hope that the provision of set courses of instruction will constitute only a part, albeit a most important part, of the School's activities. The aim of those most eager for the welfare of the School is to make the building a real centre of all public health interests. Members of the health services will be welcomed at all times. A common room will be provided for them where they can meet one another and come in contact with members of the School staff. There they will learn what lectures are being given and will be encouraged to attend. The Library and the Museum will be at their disposal. The staff will always be glad to give what help they can to any medical officer seeking their assistance. The ultimate success of the School will depend largely on the use made of it and the co-operation afforded it by the health workers of the country.

* * * * *

Mental Deficiency.

THE long delay in the presentation of the report of the Mental Deficiency Committee of the Board of Education,* which was appointed in June, 1924, and the air of mystery which preceded its even now incomplete publication, has raised the expectation of the public. The time was ripe for a reconsideration of the whole problem in the light of recent knowledge, and early in its existence the committee found itself under the necessity of extending its consideration of the mentally deficient child so as to include within its purview the mentally deficient adult, and to add to its number representatives of the Board of Control. This fact has added very materially to the interest of the report, which may, in fact, be considered as an addendum to the report of the Royal Commission on the Care and Control of the Feeble-minded, which was published in 1908.

The subject has so many facets and can be viewed from so many angles that wide divergences of views are possible, and it is all the more gratifying that the report is a unanimous one. This unanimity gives added weight to the conclusions of the committee. After a preliminary chapter on the nature of the problem at issue, the report proceeds to a review of the legislation with regard to the mentally defective, and is at great pains to discover what have been the meaning and intention of the legislators by whose wisdom these various legal enactments were framed. It may be admitted at once that these estimable people had no clear cut ideas as to the true nature of the problem with which they were called upon to deal, with the result that the legislation has been confused and even contradictory. In England the approach to the subject has been primarily from the educational point of view, but with the growth of our knowledge of the psychological factors involved in education, this viewpoint has been found to be unsound in that it stresses too much the defects in educational capacity, rather than those of adaptation to the social environment. The confusion between the educational and the social points of view has been the main difficulty in the past and if the Committee had performed no other function than to draw attention to the power of social adaptability as the true criterion, it would have earned our gratitude. "We have taken the view that, whatever may be the correct legal interpretation of these definitions, the real criterion of mental deficiency is a social one, and that a mentally defective individual, whether child or adult, is one who by reason of incomplete mental development is incapable of independent social adapation." It has been this confusion that has been the root cause, above all others, of the opposition of parents to the education of their children at special schools under the Elementary Education (Defective and Epileptic Children) Acts, for these Acts have compelled children, who exhibit various defects in the specific educational capacities, to be earmarked and compulsorily associated with children who, by reason of mental defect, are manifestly incapable of complete social adjustment. It must be remembered that much of the rough work of the world, upon which the complex structure of our civilisation depends, must of necessity be performed by those whose educational capacities are not of a high order, and that the "hewers of wood and drawers of water," if they have the capacity of conforming to the dictates and inhibitions of the society of which they are members, have their own share in the rights and duties of citizenship. The Elementary Education (Defective and Epileptic Children) Act, 1899, formed a valuable scaffold for the subsequent structure built on the foundation of the Report of the Royal Commission—the Mental Deficency Acts. There is, however, no need to retain that scaffold any longer, and the recommendation of the committee that certification should be abolished, is a most

* REPORT OF THE MENTAL DEFICIENCY COMMITTEE, being a Joint Committee of the Board of Education and Board of Control. Parts I, II and IV. H.M. Stationery Office, 1929. pp. 239. Price 5s. 0d. net.

their modification is by way of a better understanding of the aims of the producers, and of the production of evidence of recognition on their part of the health bearing of the works in which they are engaged. So far as this is concerned, the visit to the Laboratories and Training Centre of the Gas, Light and Coke Company proved to be of the nature of a revelation. Every part of the vast amount of investigating and testing so actively proceeding, to the health observer inevitably appeared to be directed to the health side. The precautions taken to ensure safety in relation to distribution and consumption were infinitely impressive. No less impressive, however, was the evidence that it was not merely the interests of the health and safety of the individual consumer that was the aim; but the rendering of all assistance possible to ensure a cleaner and a purer atmosphere for the mass of the people. In the minds of everybody, Sir David Milne-Watson and Mr. Goodenough and those under them of the Company on the one hand, and Dr. Howell, the President, and the members of the Metropolitan Branch who accompanied him on the other, there was definite belief that there was advantage to be gained in health directions from co-operation. That co-operation could be readily and simply ensured, this occasion, memorable because of the warmth of the welcome extended by the Company, very definitely showed. The Metropolitan, like other Branches, is more and more completely realising that the way to secure acceptance of any particular views that the health organisation may have is by inducing a desire for alliance rather than by stimulating a spirit of defiance on the part of trade and other organisations. It is a league spirit that is required, and the best method of ensuring this is by making contact with each and all of the organisations, commercial or whatever they may be, that may have influence in the field of health. It is to be hoped that realisation of this may become increasingly apparent, and that advances similar to that made to this most powerful member of the gas industry, that promises results so happy, may be made in other directions.

* * * * *

The Meningococcus.

IN the fifth of the Special Report Series issued by the Medical Research Council on the subject of the Meningococcus,* Dr. Murray has collected from the literature, and from his own observations, a mass of information about the microbe not easily accessible in any other form. The previous reports in the series dealing, as they did, with epidemic cerebro-spinal fever in war-time, had naturally a strictly utilitarian object in view. "The present report," to quote from the preface, "gives the results of a close, sustained and critical scrutiny of the general biology of the meningococcus, and of its reactions to its environment. The observations extend over a wide field, and include almost all the known attributes and activities of the micro-organism." During the war years, when cerebro-spinal fever was epidemic, the strains of meningococcus fell into definite serological groups which simplified the identification of carriers, and made it possible to produce monovalent sera of good value for therapeutic purposes. The strains which occur now in sporadic cases fall, as a rule, into none of these groups, and the only sera available are polyvalent. The production of therapeutic sera is a highly empirical affair, and there is no really satisfactory means of testing in the laboratory the value of the serum. Dr. Murray thinks that most of the work done in the past has been inspired only by the needs of diagnosis and the wish to cure, and very little of it by pure scientific curiosity, and feels that this attitude has hampered progress even of a purely utilitarian kind. Certainly the impression obtained on reading this review is that the gaps in our knowledge of the microbe and its relation to the disease are very extensive, and if Dr. Murray has not done much to fill up these gaps, he has at least indicated lines on which further research may lead to useful results.

* THE MENINGOCOCCUS. By E. G. D. MURRAY, Lecturer in Pathology in the University of Cambridge. Medical Research Council Special Report Series, No. 124. H.M. Stationery Office, 1929. pp. 142. Price 3s. 6d. net.

MR. NICHOLAS D. DUNSCOMBE, M.A., M.B., B.Chir., D.P.H.Cantab., L.M.S.S.A. London, Barrister-at-Law, Assistant Medical Officer of Health and Senior School Medical Officer, County Borough of Southampton, has been appointed Medical Officer of Health and School Medical Officer for the Borough of Bexhill-on-Sea, Sussex.

The Control of Smallpox.

By GEORGE F. BUCHAN, M.D., M.R.C.P., D.P.H., Medical Officer of Health, Willesden; Member of the Departmental Committee on Vaccination; and A. F. CAMERON, M.A., M.D., D.P.H., Medical Superintendent, River Hospital Service, Metropolitan Asylums Board.

The discussion that followed the reading of the opening papers of Dr. Buchan and Dr. Cameron at the meeting of the Society in London on February 15th, 1929, centred round the administrative difficulties associated with the occurrence of cases of the milder form of the disease. Many of the suggestions offered were not new, but some are worthy of study and merit serious consideration.

DR. G. F. BUCHAN.

IT is not quite clear when smallpox first showed itself in England. Copeman thinks that there is reason to believe that it first arrived in the year 1241-42, while Creighton thinks that there is no reliable evidence of the presence of smallpox in England earlier than the sixteenth century. From that time onward the number of deaths recorded on account of smallpox has varied considerably, the highest figures being 2,982 deaths in London alone in 1681, and 3,138 deaths in London alone in 1710.

Fluctuations in the numbers of deaths from smallpox occurred throughout the eighteenth century, and during the nineteenth century smallpox gradually decreased in England and Wales.

As a result of the Franco-Prussian war of 1870, there was a considerable outburst of smallpox in England and Wales, and during the 3 years 1870-72, 44,840 deaths from smallpox occurred. This outbreak of smallpox appears to have begun in the belligerent nations, extending ultimately over the whole of northern and western Europe, being imported into England from France in October, 1870. It gradually died down, and in 1890 only 16 deaths from smallpox are recorded.

The next epidemic of any considerable size was the epidemic of 1901-1903, during which period 3,582 deaths from smallpox were registered in England and Wales.

From that time the prevalence of smallpox in England gradually diminished until 1919. In this year an outbreak of smallpox occurred in Norfolk and Suffolk. The outbreak originated with the skipper of a steam trawler which had come from Alexandria via Malta and Gibraltar. Thirty-one cases occurred in this outbreak with only one death, the death occurring in an ill-nourished infant of 11 months. Copeman publishes an excellent account of this outbreak, and shows that the intensity of the disease after the first few days, at any rate, was considerably less than is usually met with even in a comparatively mild outbreak of smallpox.

Since that date it appears that mild smallpox has taken root in England, as the following table shows:—

Year.	Smallpox deaths. (Registrar-General.)		Cases. (Ministry of Health.)	Fatality Rate. (Per cent.)	
1919 ...	28		311	9·00	
1920 ...	30		280	10·71	
1921 ...	5		336	1·48	
1922 ...	27		973	2·27	
1923 ...	7		2,504	0·27	
		Ministry of Health gives:—			Ministry of Health gives:—
1924 ...	13	8	3,797	0·34	0·21
1925 ...	9	6	5,354	0·16	0·11
1926 ...	18	11	10,141	0·17	0·11
1927 ...	47	36	14,787	0·32	0·24

Associated with the prevalence of mild smallpox since the year 1919, there have been from time to time smaller outbreaks of the classical variety of smallpox. In 1921, when there were 336 cases and 5 deaths, it has to be observed that these include a small epidemic in the New Forest rural district, where 9 persons contracted the disease, one of which was of the hæmorrhagic type and fatal, while two others had smallpox of the confluent variety. In 1923 again there were 2,504 cases of smallpox, of which only 7 were fatal, but 2 of the fatal cases occurred in London, where there was an outbreak of the severe type of 18 cases, the original infection having been imported from Spain. In 1926 again there were 10,141 cases of smallpox with, according to the Registrar-General, only 18 deaths (Ministry of Health gives 11 deaths). Two of these deaths

valuable one, when taken with the other recommendations concerning the children who show mental incapacity of some kind or another. "All those children hitherto known as educable mentally defective children and all those known as dull or backward children should be regarded as a single educational and administrative unit, and should be given a similar type of education adapted to their degree of retardation. They should be retained within the public elementary school system, and local education authorities should modify the organisation of the schools in their areas so as to provide suitable education for the whole group."

In order to arrive at some accurate knowledge of the total number of defectives in the country, Dr. E. O. Lewis, Medical Inspector under the Board of Control, undertook a detailed survey of representative urban and rural areas. Dr. Lewis has abundant qualifications for such a survey and his results may therefore be taken as reliable. It is estimated that, excluding 35,000 children who are educationally rather than socially defective, there are at least 300,000 persons who are mental defectives, *i.e.*, 8 per thousand of the total population. Of these, 70,000 children are defective within the meaning of the Mental Deficiency Acts, excluding 30,000 idiots and imbeciles. These figures are considerably higher than the number of defectives who have been brought to the notice of the local mental deficiency authorities, and the committee urges that greater endeavours should be made towards complete ascertainment in all areas. This is all the more important in view of the large differences of relative incidence in urban and rural areas, shown by Dr. Lewis's investigations.

In regard to children or young persons brought before a court of justice the committee draws attention to the need of a close co-operation between the court and the local education authority and to the importance of a special psychological examination of every child liable to be sent to an industrial school or reformatory. The presentation of the medical schedule of the child is not enough, for this will very rarely give any assistance to the justices. In the majority of these cases there is clear evidence of a home or school maladjustment or a mental conflict with which the anti-social actions may be correlated, and the elucidation of these must be the first step towards rehabilitation. The estimation of the educational capacity is of secondary importance except in so far as it may give guidance towards an educational curriculum suited to the capacity of the individual delinquent. Experience has shown that mental deficiency in itself plays a very small direct part in the causation of child or juvenile delinquency, but it should be noted that the earmarking of a child as feeble-minded may easily fan into activity an inferiority-complex already engendered by the child's own knowledge of its retardation and inefficiency, and may thus be the exciting cause of the misdemeanours and social maladjustment by which the complex is manifested. The committee has wisely avoided all mention of the eugenist panacea for mental deficiency, *i.e.*, sterilisation, and has contented itself with the statement that " many of the problems require much further research before any final conclusions can be reached, and we recommend that special investigation and research be made, particularly in regard to the causation and prevention of mental defect; further elucidation of the difference of incidence of defect in urban and rural areas; and the relationship between mental defect and other social problems."

The investigation and the report as a whole show the magnitude of the problem, and public opinion has been aroused. It must, however, also be instructed. The report should, therefore, be widely read and studied. Medical officers of health and school medical officers, and all those who are brought into personal contact with the mentally deficient, can do signal service in this connection by the organisation of lectures and discussions of the report.

The re-organisation of elementary education in accordance with the recommendations of the Hadow Report, and the transference of the duties hitherto carried out by the boards of guardians make the present time unusually favourable for the administrative changes advocated by the committee. It is to be hoped that the pressure of other business will not be used as an excuse for inactivity whether of Parliament or the local authorities concerned.

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Women Health Workers and the Minister of Health.

SOME time ago the Women Sanitary Inspectors' and Health Visitors' Association called a conference of representatives of local authorities and others to discuss the conditions of service, salaries, etc., of women workers in the health service. This, to some extent, perhaps, because it was held in London, was well attended. One of the decisions arrived at was to request the Minister of Health to receive a deputation on the various matters, and this he agreed to do on May 8th.

The deputation was introduced by Colonel Fremantle, M.P., and included representatives of local authorities, organisations representative of local government officers and health visitors, and women's organisations. A number of speeches were made in support of the case of women health workers, Dr. Maitland Radford, who represented the Society, giving support from the side of the medical officer of health. Stress was laid on the increasing importance of the service rendered to the community by health visitors and other women public health officers, and it was urged that the time had arrived at which the salaries and conditions of service of these officers should be improved and standardised.

The Minister said in reply that the request made by the deputation had his entire sympathy, and he would give them all the help he could to persuade local authorities to offer such salaries and conditions as would attract the right type of woman to the service. Indeed, it was clear that the first step was to persuade local authorities and their representative associations of the need for improvement. He was, however, glad to know that conditions were already to some extent becoming better, and he drew attention to the provisions of the Local Government Act, which require persons appointed as health visitors to be qualified in accordance with the Ministry's regulations. Finally he suggested that it might be useful if a survey were made of the actual conditions of service in all parts of the country, and the deputation unanimously endorsed this proposal.

The Women Sanitary Inspectors' and Health Visitors' Association is an extremely active and enthusiastic organisation. The determination to get something done in the interests of its members is real and marked, and, judging from action already taken, it appears unlikely that, if the persuasive powers of the Minister with the local authorities fail, as is not improbable, to produce the full effect, the women will be prepared to confess themselves beaten. Having gone so far with the matter the Society cannot hesitate to go all the way. That they have behind them the real sympathy of every member and the sincerest of good wishes for their success, the Women Sanitary Inspectors' and Health Visitors' Association may rest assured.

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The Co-operation of Health and Industrial Organisations.

THE recent visit paid by the Metropolitan Branch of the Society to the Laboratories and Training Centre of the Gas, Light and Coke Company may be regarded as a further step taken in the direction of producing a closer union and a more complete co-operation of branches of industry whose operations have a bearing upon the public health with those whose concern is the protection and maintenance of that health. Of the value of such co-operation for the benefit of the people there can be no question, and of the propriety of the Society and its Branches taking every step possible with a view to alteration of the old attitude in which mutual distrust and a practical enmity between the parties was the chief feature, equally there can be no question. Already in industries concerned with food, milk particularly, the advantages of the making of contact between the producers and distributors and health officials, which has been proceeding steadily for a number of years, are apparent in the great improvements in the methods adopted by those engaged in the industry and in the important article they dispense. That co-operative results can be obtained in any industry which produces or supplies commodities essential for life or for health, by the taking of steps likely to lead to the sweeping away of misunderstandings and to a better understanding, there is no doubt. The Metropolitan Branch deserves commendation for recognising the need for the making of advances in the direction of the Gas Company, whose activities are more and more prominently showing a real health aspect, and the Company are to be congratulated on the readiness with which they received these advances and upon the success of the meeting at which co-operation was initiated. The Governor of the Company, Sir David Milne-Watson, stated no more than the truth when he declared that there had been a time when there was an inclination on the part of those engaged in the gas industry to regard health officers as enemies, and on that of these latter to look upon gas as a menace to health and incapable of being anything else. Such views undoubtedly have been held and are, indeed, to some extent even now held. The way to

occurred in London in an outbreak of the severe type comprising 5 cases, the disease again having been imported from abroad.

From the foregoing information it is evident that the prevailing type of smallpox is by no means so virulent as that which was prevalent in England from the importation of the disease up to the year 1919.

The question naturally arises as to whether or not the prevailing type of smallpox is a new disease or merely a modification of classical smallpox to which the present disease may return from time to time. A variation in the type of smallpox is not new. Mild outbreaks of smallpox have been observed from very early time. Sydenham states that "smallpox has its peculiar kinds, which take one form during one series of years, and another during another." Jenner himself records an outbreak in which the virulence was exceedingly low—"it was of so mild a nature that a fatal instance was hardly ever heard of, and consequently so little dreaded by the lower orders that they scrupled not to hold the same intercourse with each other as if no infectious disease had been present among them." Van Swieten in 1759 describes an outbreak which was "so mild that secondary fever is not manifested and consequently is wanting, convalescence coming on the eighth day of the eruption." In 1896 a mild type of smallpox began to prevail in the South of the United States, gradually extending over the whole country into Canada. In 1902 it invaded Trinidad, where 5,154 cases were reported with 28 deaths. In 1911, Chapin records that 3,294 cases occurred in North Carolina without a single death.

In England and Wales the variation in the severity of smallpox epidemics has been considerable. In the outbreak of 1870-72 (3 years) 44,840 persons died of smallpox; in the outbreak of 1901-3 (3 years) 3,582 persons died, while in 1926, when there were 10,141 cases of the disease, only 18 persons died.

This variation of virulence appears to be a constant feature of most epidemic diseases, and is well known to all epidemiologists. If we consider influenza we find that in 1889 there were only 55 deaths from influenza, but in 1890 the number of deaths was 4,523, and in 1891 it was 16,686. Since that year the number of deaths from this disease has varied between 3,752 in 1896 (the lowest number) to 112,329 in 1918 (the highest number). Again in 1870 there were no less than 32,543 deaths recorded from scarlet fever. This number has steadily fallen, with a few fluctuations, to 579—the number recorded in 1927. Arguing by analogy with other known epidemic diseases, it must not be assumed then that a change of virulence means a separate entity.

On the other hand, experimental work on animals by Gordon and Blaxall appears to prove the identity of the virus of mild smallpox occurring in the provinces in 1922 with that of the severe disease which appeared in London in the same year. Sobernheim of Berne has made a similar observation independently. Ledingham has also described a number of experiments in this and other countries which appear to establish the identity of "alastrim" and variola so far as this is possible in default of the full and more precise immunological data that only an artificial culture will provide.

So far then as animal experiment can determine the issue, it appears to be the case that the viruses of mild smallpox and classical smallpox are identical.

Chapin states that while the atypical form of smallpox was spreading in America from 1896 onwards, the classical and more severe form appeared from time to time in various places. Both forms always appeared to breed true but Chapin adds that he considers the two types identical, the reasons given being the same period of incubation, the characteristic though mild prodromal symptoms, the development of the eruption at the normal time, the distribution of the eruption and its perfectly characteristic appearance in most cases.

I am afraid that all of these reasons for considering the diseases identical from the clinical aspect do not hold the field so far as England is concerned. The incubation periods remain the same, but in some instances the prodromal symptoms in mild smallpox are so remarkably mild as to be overlooked by contacts under surveillance. Nor is the development of the eruption in accordance with the classic description of the development of the eruption of smallpox. It takes some few days to develop and sometimes even comes out in successive crops. The distribution of the eruption, however, is the same as for classical smallpox.

The question as to whether or not the mild type of smallpox can become the severe is not settled, although it is worthy of note that several towns in the United States, such as Detroit, Minneapolis and Los Angeles, have experienced smallpox outbreaks of the virulent type after years of prevalence of the mild type. In Detroit, for example, there were only 17 deaths in 4,361 cases reported between 1915-23, giving a case mortality rate of 3·7 per 1,000. In 1924 there were 163 deaths among 1,610 cases, 124 of these cases being of the hæmorrhagic type, all but one of which were fatal.

The Willesden outbreak of 1924 has been claimed by some to show that the mild variety merges into, or can give rise to, cases of classical smallpox. In this outbreak there were in all 10 cases. The first case was an unvaccinated child of 3 years who had a very mild attack of smallpox. The character of the illness in this case was indistinguishable from the prevailing mild type, although there was no mild type of smallpox in or near Willesden at the time. Of the 10 cases, 6 had very mild attacks, three of them occurring in unvaccinated children. Of the remaining four, 3 had hæmorrhagic smallpox and died, and the fourth recovered after a moderately severe confluent attack.

A sequence of this kind, where the first case is mild and the later cases severe, is common enough in connection with infectious diseases. It is not uncommon to find in a household invaded by scarlet fever that the first case is merely a case of sore throat without any or with very little rash, the second case is a mild case of sore throat with a definite rash while the third case presents all the characteristics of a typical attack of scarlet fever. In these circumstances I cannot support the view that this particular outbreak in Willesden lends colour to the hypothesis that the mild form of smallpox may become the severe.

A study then of the epidemiological, experimental and clinical evidence lends no firm support to the view that the mild type of smallpox and the severe or classical type are separate entities. The most important evidence that we have as to demarcation between mild smallpox and severe smallpox is that of Garrow, who states that an attack of mild smallpox does not confer immunity against vaccinia beyond a period of some 8-12 months, whereas it is known that an attack of classical smallpox creates a much longer period of immunity against vaccinia. Garrow does not state that mild smallpox gives no immunity against vaccinia, but merely that the immunity soon passes off. This fact is not a sufficient reason to presume that mild and classical smallpox are separate diseases. It appears to me rather to lend support to the view that the one is merely a variation of the other.

Administrative Measures.

In the light of our present knowledge of the prevailing type of smallpox in England it behoves us to consider our administrative procedure. The present administrative measures include:—

(1) *Early Diagnosis.*—The "missed" case is admittedly the chief factor in the spread of smallpox. It is, therefore, important that the education of the practitioner should be such that he is at least able to recognise when to suspect smallpox. On the other hand, every medical officer of health should either himself be competent to diagnose cases of smallpox or have available the services of an expert for this purpose.

(2) *Removal to Hospital.*—When classical smallpox was prevalent it was difficult to make arrangements for the removal to hospital of every case of smallpox as the outbreak was usually sharp and sudden. It is probably still more difficult to make provision for every case of mild smallpox that occurs, having regard to the number of such cases. Nevertheless, a sufficient amount of hospital accommodation should be available especially for the isolation of the first case and the early cases with a view to checking the spread of the epidemic in its beginnings. When the disease has got a hold, however, not unnaturally it may be asked if removal to hospital is worth while, having regard to the mild nature of present-day smallpox and since death occurs only exceptionally as an issue.

(3) *Disinfection of Premises.*—I do not think that any reliance can be put upon this measure, and it might very well be abolished in all cases of infectious illness.

(4) *Enquiries as to Source of Infection.*—This is probably one of the most important methods of checking the spread of the disease, but it does not follow that enquiries will always elicit the source of infection.

In the case of the outbreak of severe smallpox in Willesden in 1924, which I have cited, I was quite unable to get any clue whatsoever as to the source of infection of the first case.

(5) *Prompt Search for and Surveillance of Contacts.*—All contacts with the infected person should be registered, and it is necessary that they should be visited daily for a period of sixteen days after exposure, to ascertain if

they are in any way ill or likely to be developing smallpox. Smallpox is not infectious until the eruption appears, and the prodromal symptoms, which occur at least two days before the eruption begins to come out, may be considered as danger signals, and a contact so suffering should be removed to hospital as a case of smallpox for observation until the appearance of the rash clinches the diagnosis. Unfortunately, this measure is not always possible in connection with mild smallpox, as frequently even when the cases are under surveillance the prodromal symptoms are so mild as to be disregarded altogether.

(6) *Vaccination*.—Hitherto this has been the only reliable means of protecting against the spread of smallpox. It is certainly protective against the disease if undertaken sufficiently recently before exposure, while it will prevent or modify an attack of smallpox if undertaken within three days of exposure to infection. The importance, therefore, of searching immediately for contacts and securing their vaccination cannot be overstated from the point of view of the control of the spread of smallpox.

The Vaccination Committee reported:—"We are confident that vaccination and re-vaccination, systematically and efficiently carried out, would eradicate smallpox and would render negligible the risk of the disease gaining any footing in the future. We know of no action other than this which would secure for the individual and for society effective protection against smallpox."

With that view I am in cordial agreement, but the question naturally arises, in view of the prevalence of the mild type of smallpox, as to the nature and extent of the risk in respect of which we would safeguard the population, and whether or not the remedy or the disease is the less desirable. Hitherto, vaccination has been exploited as the lesser of the two evils—vaccination or smallpox—but certain new facts have come to light which in this connection are well worth considering.

The prevailing type of smallpox is mild in character. The total number of deaths from smallpox as compared with the total number of deaths from vaccinia is given in the following table constructed from the Registrar-General's returns.

From this table it may even be assumed that had vaccination been carried out on a scale absolutely to prevent smallpox, many more vaccinations would have been done and the resulting numbers of deaths from vaccinia would have increased.

Year.	Total number of deaths from Smallpox.	Total number of deaths from Vaccinia.
1927	47	1
1926	18	1
1925	9	3
1924	13	1
1923	7	8
1922	27	4
1921	5	3
1920	30	9
1919	28	1
1918	2	3
1917	3	6
	189	40

Cases of mild smallpox at the present time suffer very little constitutional disturbance and commonly continue at work. On the other hand, in the case of manual workers suspension from work is commonly necessary after vaccination. The patients themselves, therefore, seem to be agreed that the disabilities which attend on vaccination are greater than those of an attack of benign smallpox.

Some observations made by the Vaccination Committee on the primary vaccination of young adults show that headache is common about the 7th-8th day, together with pain in the left side of the abdomen and the axilla and neck on the vaccinated side and occasionally also in the groin. The abdominal pain seemed to be associated with enlargement of the spleen, and was accepted as evidence of the generalisation of the virus of vaccinia.

Association of Encephalitis with Vaccination.

In this country and abroad, more particularly in Holland, a form of encephalitis has occasionally followed vaccination. This matter was investigated by the Vaccination Committee, who came to the conclusion that, while the vaccinia virus was not the sole cause of this complication, it nevertheless played some part in its causation, due probably to the interaction of the virus of vaccinia with the virus of poliomyelitis or of encephalitis lethargica or some unknown neurothropic virus harboured by the vaccinated person. This condition occurred in Holland in 124 cases, and in England in 93 cases, the ratio of cases to vaccinations being approximately 1 to 4,028 in Holland and 1 to 48,823 in this country. Although, therefore, it will be observed that the condition occurs but rarely it must be regarded as serious, as at least 50 per cent. of post-vaccinal encephalitis cases are fatal.

In these circumstances it appears to me that the question of urging vaccination is one for very earnest discussion. Nowadays smallpox is responsible for fewer deaths than either chicken pox or mumps as the following table constructed from the Registrar-General's returns will show:—

Year.	Deaths from Smallpox.	Deaths from Chicken Pox.	Deaths from Mumps.
1917 ...	3	69	38
1918 ...	2	54	41
1919 ...	28	55	36
1920 ...	30	71	27
1921 ...	5	57	30
1922 ...	27	40	14
1923 ...	7	52	19
1924 ...	13	59	14
1925 ...	9	83	28
1926 ...	18	56	40
10 years.	142	596	287

I am, of course, aware that in the present stage of our knowledge we cannot guarantee that the type of smallpox now prevailing will continue or will not change into or alternate with the more severe type of the disease as appears to have occurred at Detroit, but even in that eventuality we still retain vaccination as a preventive measure.

Having regard to all these circumstances I am of opinion that the recommendations of the Vaccination Committee as to vaccination are the only sound recommendations that can be brought forward in the present state of knowledge. They recommend that three vaccinations should take place, the first in infancy between the ages of 2 and 6 months, the second when the child enters school between 5 and 7 years, and the third on leaving school between 14 and 16 years. This really means three insertions spread over a number of years instead of the officially advocated four insertions at one operation in infancy. From the information before the Committee it appeared to be the case that the smallest risk of post-vaccinal encephalitis was under one year of age, and that the risk of post-vaccinal encephalitis in respect of re-vaccinations was negligible.

Dr. A. F. Cameron.

The interpretation of the word "control," as applied to infectious disease, is difficult. For one who, like myself, is employed in the restricted sphere of a segregation and isolation hospital, it is obvious that control of infection and prevention of infection are equivalent terms. If secondary cases occur amongst my patients or staff or outside the hospital, traceable to the carriage of infection from the hospital, my control has failed. But for the medical officer of health in his wider sphere outside the hospital—what do we understand by "control"? He cannot be expected to acquire a complete and immediate control over a focus of infection in the way in which control is demanded from the medical officer in the hospital immediately his patient arrives; that is to say, he cannot be expected to avoid secondary cases. He sends his patient to hospital and thus acquires a partial control. Then, by pursuing the infection from point to point, he hopes to improve his control. But what degree of control does he expect to reach? What will satisfy him? Is smallpox under control in London, for example, at the present time? In fact, "control" is not a desirable word for the public health service to use in reference to preventable disease. It is indefinite in its meaning. It carries a suggestion of acquiescence in the presence of smallpox, for example, in the country which is not found in the word "prevention." It has no ideal before it, whereas prevention has a definite meaning and presents a very definite ideal. The object of every medical officer in the public health service, when he has to deal with a focus of infection, is to prevent the spread of infection from that focus. He may succeed or he may fail, but his object and aim is prevention. If he succeeds completely and immediately, that is to say, if he prevents the occurrence of secondary cases, he has accomplished all that prevention can mean in practice. In short, "prevention" is our word, and "control" is perhaps better left to the journalist. In deference to our title I shall use the word but only in the sense of the prevention of the spread of infection from a focus.

Why is this Society discussing the control of smallpox? The discussion cannot be intended for the purpose of considering different methods of bringing smallpox under control, or for the purpose of comparing experiences and borrowing improvements from each other in order to apply them to our own methods of dealing with an outbreak when next our opportunity occurs. The task of controlling smallpox is a matter of every-day routine for the Fellows of this Society. They know how to control smallpox, and hours of discussion cannot improve their knowledge. Our discussion is not directed to that end, but

has been raised, shall we say, for the purpose of indicating that this Society has an uncomfortable feeling that our efforts to control smallpox cannot be relied upon to attain the end to which they are directed, and that the reason for this state of affairs is not to be found on the executive side of the public health service but in the system of control laid down in our public health legislation under which the service works.

A discussion on a matter of every-day routine in a Society which so fully represents the executive side of our public health affairs can only be described as futile unless it is followed by suggestions for the improvement of our system of control, embodied in a resolution approved by the Society and brought to the notice of the legislature.

Under our system of control of infectious disease, the public health authority has power (1) to acquire information; (2) to segregate the infectious patient, and (3) to disinfect. There is also a schedule of infectious diseases to which these powers are applied. There is departmental power to add to this schedule, but I am not certain that there is power to remove a disease from it. In any case, I am not aware that a disease has ever been removed from it, and the schedule is a quite suitable illustration of the lack of elasticity in our preventive legislation and is one cause of our trouble with the existing type of smallpox. Segregation and disinfection are the two measures on which our legal control of infectious disease depends. In examining our preventive measures, as they are laid down in law, we must view them in the light of the knowledge of infection and of the behaviour of infection which existed at the time when these preventive measures were brought into force, let us say approximately about the period 1889-92. So far as knowledge went at that time, the belief was that the destruction of the *materies morbi* of infection was necessary if the spread of infection was to be prevented. The specific organism, known or presumptive, was the enemy which had to be pursued and killed if the spread of infection was to be stopped. The method by which an infective process was naturally brought to an end was not understood. It was believed that the *materies morbi* of a dangerous infection retained its power of attack independent of the conditions in which it existed, unless and until it was destroyed by heat or suitable chemical agent. Disinfection, *i.e.*, destruction of the *materies morbi* or the organism of disease, is the fundamental principle on which our preventive law is based. Everything which has been in contact with the patient must be thoroughly disinfected. The patient himself was not exempt and in treatment the greatest attention was paid to the locale of the particular disease from which the patient suffered, in order to kill the organisms which grew and multiplied there. If the poison could not be got at for the purpose of destruction because it was carried in the living individual, the individual was segregated in hospital until the disease came to an end, when the patient for some reason or other lost his power of infecting other people. It is a somewhat crude description of the belief which lies at the foundation of our preventive measures as laid down by law. Knowledge has progressed but the law remains. Segregation, that is to say, the removal from the community and the incarceration of the infectious patient as a measure of control of infectious disease, is of very ancient origin. The obvious local preventive action which followed the removal of the patient no doubt led to the general use of segregation and to the inclusion of the measure, backed by compulsory power, in our preventive legislation. But the local preventive action which follows the removal is at best only a delay in the spread of infection and, if there is no secondary case, the fortunate result is to be ascribed to a pre-existing immunity among those who came into contact with the focus of infection at the time of its occurrence (or it may be to an excessive haste on the part of the medical officer of health in reinforcing the immunity in the zone surrounding his focus of infection). The removal of the patient to hospital stays the infective power of the patient because of the conditions prevailing in the hospital. These conditions, the conditions under which segregation becomes an effective measure for the prevention of the spread of infection, are brought about by the establishment of a zone of control round the central area of infection. In this zone the immunized workers, *i.e.*, the hospital staff, carry out the necessary disinfection. In short, effective segregation in hospital is a combination of the action of disinfection with the action of immunity. It matters not what disease of bacterial origin we are dealing with so far as segregation is concerned. The two factors in effective segregation are disinfection and immunity. Disinfection may be regarded as a factor of fixed and equal value in the segregation of all the infectious diseases. The variable factor is immunity, and the efficiency of segregation as a measure of prevention of spread varies in accordance with the degree of immunity present in our zone of control. This immunity may be a natural immunity or a naturally acquired immunity or an artificially produced immunity. If we can use, or have the power to employ, an artificially produced immunity, we can guarantee a perfect immunity in our zone of control. For that reason the segregation of smallpox must always be more efficient than the segregation of scarlet fever, for example, because in the latter we must as yet depend on a natural or a naturally acquired immunity in establishing our zone of control. The true position of segregation as a measure for the prevention of spread of infectious disease may be expressed in this paradoxical way. Segregation is certainly effective as a preventive of spread in those diseases only against which we can guarantee immunity, or segregation is certainly effective only in those diseases in which the spread can be prevented without segregation. Segregation occupies the position of first importance as a measure of prevention in our law. It is regarded as of sufficient importance to have compulsory power attached to it, but it is not in itself an effective means of control and becomes effective only when it is based on immunity. It is to be noted that the minimum degree of immunity required for the prevention of the spread of infection is, as we see from observation of hospital practice, the immunity of contacts. Nothing less will suffice, and this degree of immunity, *i.e.*, the immunisation of contacts, can be *guaranteed* to prevent the spread of infection only if it has been secured before the advent of infection.

Returning to the local preventive effect of the removal of the patient to hospital, it is obvious that the removal is not in itself a measure which will prevent the spread of infection but is a measure by which we secure a temporary respite from spread, a respite which is of little practical value unless it is used without delay for the purpose of increasing the degree of immunity in the surroundings of our focus of infection. The real practical value of removal is that it enables us to build up a zone of control round our focus of infection during a period of delay in the spread of the disease.

It is not, I believe, using too strong an expression to say that our legal preventive measures are fundamentally defective and out of date. If segregation holds the position in our law which it does hold, and which naturally belongs to the measure which is regarded as the one of highest importance in the prevention of infection, and if immunisation, which is the real measure of prevention and the effective factor in segregation, is outside the law, can the people of this country be blamed if they act in accordance with the implication of the law and regard immunisation as at the best an undesirable alternative to segregation? There is, I fear, very little hope of improvement in the results of efforts to control infectious disease in general, and smallpox in particular, in this country until the law definitely recognises that the immunity of those who are in contact with a focus of infection is the prime factor on which prevention of the spread of infection from that focus depends.

At the time (1889-91) when it was considered necessary to strengthen our preventive powers over the spread of infection, smallpox was recognised to be a disease so highly dangerous as to be worthy of the first place in the schedule. At that time—I mean at the date of the Infectious Disease Notification and Prevention Acts—smallpox was the only disease against which we could guarantee immunity. But although this was, so to speak, common knowledge, there is no suggestion of it in the legislation of 1889-90-91. Immunisation against smallpox remained as it was before the passing of these amending Acts, and was embodied in a separate series of Acts as if it were a matter quite apart from our health legislation. One may surmise that the possibility of immunising against an infectious disease was regarded more in the nature of a curious freak on the part of smallpox than as a principle of general application for the control of infection. Again, one may say that the people are not to blame for their attitude towards immunisation. The list of diseases against which we possess immunising power, on which smallpox was the only entry in the period 1889-1891, has grown during recent years and the anachronism of a law which ignores this power, although it is the vital factor in human control over infection, becomes, one may say, almost daily more evident.

Immunisation against smallpox is carried out by the inoculation of a specific living infection, by vaccination. That is an undoubted disadvantage from which the advocates of immunisation against smallpox suffer, and it is a disadvantage from which we expect our

colleagues in the laboratory to free us within a reasonable time. Immunisation against smallpox is, therefore, not comparable with the methods of immunisation against others of our common infections. From its nature it has a pathology which has been made very prominent—unduly prominent, if one may judge by percentages, during recent years. It has to be kept in mind that the inoculation of vaccinia is our only method of immunising against smallpox, and for the present the people of this country have to decide whether they prefer to continue to use vaccination or to have smallpox as one of our most common diseases.

The practical application of vaccination is more a question of detail than of the general prinicple involved in a discussion on the control of smallpox, but there are two matters to which I would refer. The Committee on Vaccination has recommended the use of a single insertion instead of multiple insertions. The recommendation does not, so far as I can judge, refer to vaccination in the presence of smallpox where vaccination is being employed as a measure of control in an outbreak of the disease. Obviously, under these conditions, by using one insertion instead of two or more we are reducing our chances of take by at least 50 per cent. The same criticism under these conditions is applicable to an unreserved condemnation of multiple scarification and cross-hatching. No one would suggest that it is necessary to make a diamond pattern on the patient's arm but, on the other hand, there are few vaccinators in the presence of smallpox who have a touch sufficiently light and artistic to enable them completely to avoid multiple scarification. I see no reason to condemn cross-hatching altogether. There is moderation in all things, and what is required is a successful inoculation and the avoidance of the necessity of a second operation. The offer of a single insertion in the prophylactic vaccination of infants may have the advantage of a greater chance of acceptance on the part of the parent. But I doubt this conclusion as a correct reading of the practical difficulties of carrying out infantile vaccination. The one insertion in prophylactic vaccination has certainly no other advantage. We have no knowledge of the duration of its protection, and the suggestion that we may gain knowledge by watching the effect of one insertion vaccination on immunity from smallpox in future is not very hopeful. It certainly would require observation during a long period of years and with a greater smallpox prevalence than we have had during the last three or four decades.

The mild disease of which the country has been accumulating experience since 1919 is indistinguishable from the more severe type of variola either clinically or experimentally. If that is so, of what importance is the name by which we call it; whether we call it mild smallpox or para-smallpox or alastrim or amaas or variola minor. If a disease is indistinguishable by any clinical or experimental test from our scheduled disease, it must be dealt with administratively as smallpox. How can any administrative difference be made between cases of the same disease, simply because in one series of cases there are fatalities to the extent of 16 per cent. and in another series of cases there are fatalities only to the extent of, say, ·016 per cent? The difficulty in which the country is involved by this mild smallpox is not the fault of those who say that the disease cannot be distinguished from smallpox, or dispute the utility of letting down a new name on a disease which cannot be distinguished from many of the cases of smallpox which we saw prior to 1919. It is the fault of our law, of our compulsory segregation and of our stereotyped schedule. If the law were altered; if the real measure of control were recognised and compulsory power were removed from segregation, which is ineffective as a measure of control, and applied to the immunisation of contacts, the vicious circle into which our antiquated law and this mild disease have led us would be broken.

There is another aspect of this disease to which I would refer before concluding. This mild type apparently breeds true. At least it has continued with very much the same degree of virulence or non-virulence for not less than ten years in this country. As a disease it is of very little importance to the patient except in rare instances. It is of equally small importance to the public health. It is a disease which has been converted into a dangerous infectious disease, as I have suggested, by our defective law. Even so it has only one important feature. It may be, and probably has been, detrimental to our trade and commerce. But that is not our concern as executive members of the public health service. It is the concern of the business interests of the country, and it is for these interests to deal with it. We can show them how to stop the disease if they think it worth while to have it stopped. Otherwise, it is of no more importance to the public health service than chicken-pox or rubella. It is a suitable

subject for discussion in the conference between the federation of employers and the trade unions.

DISCUSSION.

Dr. A. E. Brindley (Medical Officer of Health, Derby), after referring to the fact that there had been 2,080 cases of smallpox in Derby during the period April, 1924, to mid-February, 1929, without a single death and with facial disfigurement almost entirely absent, quoted a number of instances in support of his contention that the principal factor in the spread of the disease had been lack of knowledge of close contacts. The amount of prevarication met with in that connection was remarkable, and the number of secondary cases which resulted largely from failure to obtain complete information as to contacts had necessitated considerable expenditure of public money. In regard to the desirability of medical men being able to recognise cases when they encountered them, he considered that the situation could be made easier for practitioners if it were possible to forewarn them of contacts. The question of the need for powers to obtain such information was not a new one. At a conference of delegates from the London County Council, Corporation of the City of London, and the Metropolitan Boroughs, held on February 7th, 1902, the following resolution, among others, was passed:—

"That in the opinion of the conference it should be declared an offence, under the Public Health (London) Act, 1891, to refuse or withhold information, or give false information, with respect to persons living in a house in which smallpox has broken out, with regard to (a) their names, (b) employment or occupation, (c) schools attended by their children, or (d) as to any person not living in such house but employed therein."

Again, in November, 1904, another conference, convened by the London County Council mainly at the request of the Corporation of Newcastle-upon-Tyne, met to consider the question of spread of smallpox by vagrants, and on that occasion the resolutions passed included the following:—

"That it should be an offence to withhold information and to make false statements to the sanitary authority in carrying out its powers with respect to the disease."

Those resolutions had apparently produced no practical results in the shape of special legislation, but it would be found that the need of accurate information regarding contacts of infectious cases had been felt by certain authorities. Rotherham, for example, had a local Act, passed in 1924, which required that the occupier of any building used for human habitation should furnish the medical officer of health with such information within his knowledge as the medical officer might reasonably require. A penalty not exceeding forty shillings could be imposed in cases of refusal to provide the information. Similar powers were contained in the Sheffield Corporation Act of 1928 (Section 177), and such powers were also being sought in the Derby Corporation Bill of 1929. The Public Health Act, 1875 (Section 129) provided for a penalty not exceeding twenty pounds, or imprisonment with or without hard labour for a period not exceeding one month, on any person letting houses making false statements as to infectious diseases. If that section were brought up to date in accordance with modern ideas, by the substitution of infected persons for infected houses, it would be of far greater value than the existing powers. Attention might also be drawn to the Port Sanitary Authorities Infectious Disease Regulations, 1920, in which it was required that every person on board a ship should comply with all directions, requirements or conditions given him or imposed by the sanitary authority or the medical officer of health in pursuance of those regulations, and should furnish all such information as might be reasonably required, including information as to his name, destination and address, etc. It would be agreed that the port sanitary authorities were exceedingly efficient in enforcing those regulations, and the results had been entirely satisfactory. In inland towns, however, there were no similar powers of obtaining information, and the control of disease suffered accordingly. Dr. Brindley suggested that such powers were desirable, and that in applying them a printed schedule, requiring information as to visits made or received and the location of all contacts, might be used. If the schedule could be left at the house so as to give the responsible person time to think, he ventured to say that far more complete information would be obtained in that way than by verbal interrogation as at present. Under existing conditions the medical officer of health frequently failed to hear of a case until the eruption was in its third day, and when all the mischief had been done, whereas with full and early information of contacts, the medical officer of health would have the reins in his own hands. With regard to Dr. Buchan's reference to the observation of contacts for sixteen days, it had been found necessary in Derby to keep them under observation for twenty-one days. On the question of hospital treatment, Dr. Brindley said that to some extent in Derby the people appeared to prefer to run the risk of infection, with a stay in hospital, rather than accept vaccination with the dangers and discomforts believed to be associated with the procedure. He considered that the present mild type of smallpox could be taken in ordinary infectious hospitals without danger to other patients, provided proper management were exercised. The authorities in the small rural areas, where a penny rate might produce no more than from £14 to £25, were quite unable to deal with the problem of smallpox, owing to lack of staff, and the work should, if possible, be undertaken by the county councils, more especially as the rural districts were often the reservoirs which imported disease into the larger areas. An interesting point in connection with vaccination was that though Derby was an anti-vaccination centre it was still possible to secure vaccination of 90 per cent. of known contacts. In conclusion, Dr. Brindley quoted Dr. Rajchman, Medical Director of the League of Nations Health Section, as saying at Cardiff that the British Isles were the storm spots of smallpox.

Dr. R. P. Garrow (Medical Officer of Health, Hornsey) held that the really important matter in the control of smallpox was the fact that, under the name "smallpox," there were two diseases which required distinct treatment from the point of view of control, and he considered that in cases of mild smallpox, segregation in hospital should be given up

altogether. He advocated the use of " alastrim " as the official name of the mild form of the disease, and suggested that the condition should be treated as quite different from smallpox.

Dr. R. W. Jameson (late Acting Medical Officer of Health, Chesterfield) deprecated non-epidemic vaccination in what he preferred to term variola minor, and held that the only persons in need of vaccination were contacts and possible contacts.

Dr. E. H. T. Nash (Medical Officer of Health, Heston and Isleworth) said that it was necessary to consider seriously whether or not it was right to insist on vaccination when it had to be admitted that a large number of vaccinations were infinitely worse than the condition for which vaccination was carried out. The prevalent mild type of smallpox which matured much more rapidly than the older type, was not a disease that could be regarded as a serious menace to the health of the individual. He agreed with Dr. Brindley on the need for concentrating on contacts.

Dr. R. M. F. Picken (Medical Officer of Health, Cardiff) considered that it would be a mistake to describe the two forms of smallpox by two different names, because, in his opinion, it would be scientifically unsound. He knew of no two diseases in which it was possible to provide artificial immunity by the same procedure, and the fact had to be faced that this mild smallpox and classical smallpox were, from their point of view as scientific men, the same disease. As administrators, however, two different problems were presented. In regard to classical smallpox, he considered that universal vaccination must be advocated. On the other hand, the procedure might be modified for the present mild type of smallpox, and the community were quite capable of understanding the position. The suggestion for abolishing isolation was a courageous one, and there was a good deal to be said for it, but the outbreaks of mild smallpox had given local authorities an opportunity of putting their isolation accommodation in order, and when classical smallpox appeared again they would be more ready to cope with it.

The President (Dr. J. Howard-Jones) disagreed with the idea that the present form of smallpox was quite a mild disease. It gave rise to a great deal of discomfort, particularly in the case of elderly people and children. On the question of hospital accommodation, he considered it far safer to isolate a first case, and to deal with contacts in the ordinary way. In his district very little difficulty had been experienced in securing the vaccination of contacts. Though he thought that the discomforts of vaccination had been magnified, consideration might well be given to improved methods of vaccination, particularly as regards the number of insertions. When dealing with epidemics it was much easier to persuade people to have one or two insertions than the customary four.

Dr. G. F. Buchan, replying to a number of points raised, said that apart from the theoretical discussion as to whether or not separate entities were being dealt with, there had emerged several practical suggestions as a result of the meeting. Dr. Brindley had said that local authorities ought to be in a position to enforce the giving of information as to contacts. Though very desirable, he failed to see exactly how such enforcement was to be accomplished. Dr. Brindley had also contended that hospitalisation should not be encouraged because people preferred it to vaccination. It was necessary, however, to bear in mind that outbreaks within recent years had stirred up local authorities to put their house in order as regards hospital accommodation. Dr. Buchan considered that the suggestion that vaccination might be carried out with one mark instead of three or four would alleviate the position in the present state of knowledge. It would encourage people to be vaccinated and would, at any rate, ensure temporary immunity in the face of an epidemic.

Dr. Cameron, who also replied, laid emphasis on the fact that his first argument was really directed to this point: that clinically the two diseases, so-called, could not be differentiated, and that in dealing with a disease which was scheduled as a dangerous infectious disease he failed to see how it was possible, administratively, to separate the two entities. The other argument that he tried to follow was that the only way in which smallpox could be prevented from spreading was by vaccination. That, he repeated, was the only method available. Segregation had long been a compulsory measure, and it was time that some change were made in order to bring immunity within the law.

THE East Riding county council have increased the salary of Dr. R. L. Thornley, C.M.O., from £1,000 to £1,100, with a further increment of £100 to follow.

DR. ARTHUR R. WELLINGTON, director of medical and sanitary services, has been appointed an official member of the Legislative Council of the Colony of Hong Kong.

NATIONAL Baby Week will be celebrated this year from July 1st to 7th, and health officers and others desiring full information with regard to the 1929 Campaign are invited to communicate with the National Baby Week Council at 117, Piccadilly, London, W.1. The Council, while regarding all aspects of the maternity and child welfare problem as important subjects for propaganda, urges that special attention should be given to the following three problems:—(*a*) Practical measures which can be taken to combat maternal mortality, morbidity and disability, with special reference to ante-natal and post-natal clinics, convalescent homes, holidays for mothers, and home helps; (*b*) what local authorities and parents can do to lessen the incidence and dangers of infectious diseases amongst young children; and (*c*) the importance of the teaching of parentcraft and hygiene to school children.

The Notification of Infectious Diseases, with Special Reference to Small-Pox.

By A. E. BRINDLEY, M.D., B.Sc., D.P.H., Medical Officer of Health, Derby.

It is not before time that notification as applied to cases of infectious disease is submitted to examination and criticism, and with the views taken and the opinions expressed by Dr. Brindley in this paper, read before the North-Western Branch on November 8th, 1928, there will be many who will agree.

IN a General Memorandum on the proceedings which are advisable in places attacked or threatened by Epidemic Disease, issued by the Local Government Board in 1905, paragraph 2 reads as follows:—

> In order that effectual measures of prevention against epidemics may be taken, the first and most essential requisite is to obtain immediate information of the first cases of the disease. It rarely happens that a serious outbreak of infectious disease results from a case which is promptly recognised and dealt with; usually such an outbreak has its origin in a case which has passed unrecognised, sometimes through wilful concealment, but more often through want of familiarity with the disease, or through the case being of a mild or non-typical character. When an epidemic threatens therefore, careful watch should be kept for these mild and unrecognised cases; thus when small-pox threatens, every vesicular or pustular rash should be looked on as suspicious; when scarlet fever or diphtheria is in question every sore throat should be similarly regarded.

The various measures suggested in that memorandum have been in operation since that time, entailing a good deal of trouble and expense, yet I question whether we are quite satisfied that the results achieved are commensurate with the expenditure of effort and money. Sir George Newman states: " Scientific measures of disease prevention continually call for critical re-examination as to their truth and necessity, and for vigilant reconsideration from the point of view of the legitimacy and expediency of the expenditure incurred."[1]

Criticism has been directed from time to time to some of our methods, such as to the value of hospital isolation in scarlet fever and diphtheria, and the value or otherwise of terminal disinfection. To-day I wish to direct attention more to the question of notification to see if we could not expedite matters, and so lead to more efficient control of our more common infectious diseases. Perhaps the most fruitful field for the future lies in immunisation, yet we should be sanguine indeed if we expected that immunisation against scarlet fever, diphtheria, etc., would lead to the abolition of the need of notification and isolation of these diseases. We should rather look to the combination of all these methods for success.

The persons upon whom responsibility is placed for notifying a case of infectious disease are (1) every medical practitioner attending the patient, and (2) the head of the family, or, in default, the nearest relative, or anyone in charge or in attendance on the patient, or the occupier of the building in which the patient is living.

As a matter of practice the duty of notification devolves almost entirely upon the medical attendant, as it is not reasonable to expect that the other persons mentioned should be capable of recognising the particular infectious disease, except perhaps on the occurrence of secondary cases in a household. None the less the initiative has to come from those people who have to decide whether they shall call in a medical attendant, and therein lies, in my opinion, the inherent weakness of our machinery for dealing with infectious diseases, as persons untrained in medical knowledge cannot always be expected to recognise the danger signals and call in medical advice as early as desirable. A natural dislike of calling in a medical attendant unnecessarily, and the risk of running up a doctor's bill, may sometimes account for this delay. As a result of this, many cases are not notified until a considerable extension of the infection has taken place, as in cases of measles, small-pox, scarlet fever, etc., or the case has become too advanced, *e.g.*, in the case of diphtheria, for a remedy such as antitoxin to be given early enough to save the patient's life.

The difficulties have been accentuated in recent years, owing to the general tendency of certain of our infectious diseases, such as small-pox and scarlet fever, to assume a mild character, with the result that notification is often delayed until mischief is done, and many cases are entirely overlooked. As Sir George Newman states: " Owing to the mildness of the present type of the disease (scarlet fever), many cases are not diagnosed sufficiently early to make their notification, and subsequent isolation, of much value from a public health point of view."[2]

With regard to small-pox, our experience in

Derby, which during the past four-and-a-half years amounts to 2,025 cases, shows that we rarely get a case of the mild type of small-pox notified until the eruption has been out three days or even longer. That is to say, after the premonitory symptoms, which may be mild or severe, the patient becomes suddenly well, his appetite returns, he feels so much better that he either resumes work or visits the labour exchange, or (if a child) returns to school, and in the interval visits relatives or friends and places of amusement, especially picture houses and dance halls. If, however, we are dealing with a known contact of the disease there is quite a different story. The relatives are forewarned as to the earliest signs of illness, the patient is kept under supervision, and on the earliest appearance of eruption is removed to the small-pox hospital. Some time ago I sent into our small-pox hospital a boy who had only one spot on him, and that was situated in the right popliteal space, a site that is usually considered to be free from the eruption. He was sent into the small-pox hospital to mingle with other patients, who had hundreds of spots on them, without any anxiety that this boy might contract the disease from them. This was only possible because he was a known contact, and had been under observation throughout the whole period of incubation and invasion until the spot appeared. If that boy had not been a known contact he, doubtless, would have returned to school, spreading the infection in school and in other ways.

We have had cases with two spots, three spots, and almost every conceivable number of spots up to one hundred. Over this latter number we do not count. Then there are undoubted cases of variola *sine eruptione*. One instance of this is referred to in my annual report for Bury, for 1905, and we have had cases during our recent epidemic in Derby. The boundary line between a case of small-pox with one or two spots and some of those with no spots at all is, after all, a slight one. In this connection I might record some results of vaccination of exposed persons in the homes of small-pox cases. These vaccinations were carried out at the suggestion of Professor Topley, whose work on herd immunity is well known. The numbers are small but instructive as far as they go. Thirty-eight persons in small-pox-infected households who had never been previously vaccinated were inoculated with the government lymph, and of these a successful result was obtained in only fifteen cases, or only 39·5 per cent., the remainder being immune to vaccinia. We compare this with 300 primary vaccinations in school children during this period, who were not direct contacts, and we find that in these cases the vaccinations were all successful, that is in 100 per cent. None of the persons unsuccessfully vaccinated showed the stigmata of small-pox, nor could we elicit any evidence of ill-health. None the less, it is quite possible that some of them were cases of small-pox without eruption, and, if so, were undoubtedly infectious.

Another explanation is, of course, that they become "salted," so to speak, by being in contact with small-pox, or the people might have been immunised by sub-mininial doses of the virus, a process which Friedmann in *The Lancet* of this year terms "latent epidemisation."[3]

Whatever the explanation, there is no doubt that cases do occur without eruption and that they are infectious, and we have no possible means of dealing with them unless they are known contacts of the disease.

It seems to me that the crux of the whole matter in our small-pox control is *complete knowledge of the intimate contacts of the patient in the early infectious stage before notification.*

I think most of us will agree that personal contact is the chief factor in the spread of this, and our more common infectious diseases, and our experience is that it is the known contacts in the home, in the school, in the office or workshop who really matter. We have had some spread undoubtedly through the cinemas and dance halls, but generally speaking, we have found that with this type of small-pox, at any rate, fairly intimate contact in a close atmosphere is almost essential for spread to take place, although there is great variation in the infectivity of the disease on the one hand, and in the susceptibility of even unvaccinated contacts on the other. Unfortunately, we have found great difficulty in obtaining complete knowledge of these contacts, and persons have often deliberately withheld important information. A woman came to the health office one day, showing an eruption of small-pox three or four days old. Her home was about a mile away from the health office, and she stated that she had walked straight from home and had not made any calls or come into close contact with anyone on the way from her home. Three weeks later her two nieces were found in school, in two different classes, with the eruption out upon them, and then, too late, it was elicited that their aunt had called at their home before she came to the health office, and had been in intimate contact with both nieces. These two children gave rise to some eighteen other cases in the school, and cost us some £150 for hospital treatment alone, although the ultimate cost can hardly be estimated. So much for the price of a lie; had we been told the truth the two children would not have been in school and infected their school-mates.

During the influenza epidemic in the spring of 1927, difficulties arose in the differentiation of influenza cases from cases suffering from the early stages of small-pox. A young woman was treated by her doctor for influenza. A few days later she presented herself at his surgery, which was crowded, and asked for a certificate to return to work. This was made out, and handed to her. As a kind of afterthought she asked the doctor what he thought of certain "pimples" on her forehead and wrists. The doctor looked at her, asked for the certificate back, and tore it up. In an hour-and-a-half the patient was in our small-pox hospital. Now, this patient knew that she had been in contact with a case of small-pox, and the persons with whom she had been in contact also knew, yet information was withheld from the doctor and from us; it was hardly reasonable to expect a busy practitioner to look upon every case of influenza as a potential small-pox patient; if he did, I am afraid he would lose some of his patients.

We have had many disappointments in our practice in dealing with small-pox. When we have thought the disease was over it has re-appeared in a most irritating manner in some other part of the town, the infection usually being traceable to some concealed contact. The original case may have been overlooked, or may not have been known to the health department.

Similarly, when we have been free for a short time from the disease it has been re-introduced and spread through failure to notify us of contacts. We were free from the disease last year for a period of three months, when it was re-introduced through a platelayer on the London and North-Eastern Railway, who had been working in a district some twenty miles away from Derby, where small-pox was prevalent. He became ill on the Tuesday, felt rather better on the Thursday evening, and went to draw his wages. On Saturday, he was still better, went to see his fiancée and other friends. On the Sunday, he made and received visits at his home; on Monday, he consulted a doctor calling in to see him, and was found to be suffering from small-pox with a rash three days old. I wrote to the medical officer of the district in which he had been working, and his reply was characteristic: "that he had failed to elicit the fact that this man was a contact." The responsiblity did not rest with the medical officer of health, but with the man himself, who knew perfectly well that he had been in contact with small-pox cases.

Another ease where small-pox was again re-introduced into Derby was in a patient who was admitted from an outside district to the Derby infirmary, and who was suffering apparently from some acute abdominal disease. He was operated on and his appendix removed. Two days later he came out with a profuse rash of small-pox, and was removed to the small-pox hospital. On questioning the man in the small-pox hospital it was made quite obvious that there had been small-pox in his home, and that he had more than a suspicion of the nature of the illness.

I could give you many instances such as the foregoing, but I will content myself by relating another experience which is instructive in several ways. At the end of May, last year, two men were discovered in our largest common lodging-house in Derby (140 beds) suffering from small-pox, with the eruption three or four days old. They were removed to hospital, and the other inmates who were then present in the lodging-house were sounded as to their willingness for vaccination or re-vaccination. Most of those present consented, one or two were indifferent, but there was no active opposition. But as the majority of the other inmates were out at work (or looking for it) or otherwise occupied, it was decided to postpone the operation of vaccination until evening, when we should be able to assemble all the inmates. On calling at night, however, we were met with blank refusal to be vaccinated from everyone of the inmates, the apparent reason for this being that one of their number had been vaccinated in a northern city and had come into the lodging-house about a week before this. This man had been on tramp, and his arm was certainly not in a nice state. The people decided that it was better to run the risk of getting small-pox than to run the risk of having such an arm as the one that was before them. Our procedure following this refusal was to depute a sanitary inspector to visit the lodging-house every night with instructions to see every

inmate, and at the end of twelve days he had to report any man who showed signs of illness, however slight. Five of the other inmates were discovered to have slight rises of temperature varying from 99·2° to 102·2°. Each of these men was removed into quarantine under Section 61 of the Public Health Acts Amendment Act, 1927. Each of them protested that there was nothing the matter with him; none the less, each developed small-pox during the next few days, and was removed to the small-pox hospital. No other case arose.

Several lessons can be learned from this, such as (1) that four great marks on an arm may cause mischief in inducing others to refuse vaccination, especially in the class of persons who are unable to observe ordinary cleanliness and care; (2) that it is not safe to rely upon the patient's account regarding premonitory illness; (3) that we are not entirely powerless if vaccination is refused, provided there is accommodation for quarantine; (4) the value of isolation in the pre-eruptive stage of the disease.

Vaccination.—On the general question of vaccination, nothing brings vaccination into such discredit as the occurrence of small-pox in a contact who has been successfully vaccinated. Such a person naturally does not appreciate the fact that he has had to suffer the discomforts of both vaccinia and variola, and it is useless to explain to him that vaccination may have saved him from a more severe attack if the original case in an unvaccinated subject has itself been very mild.

We had an unfortunate experience of this in a household in which a case of small-pox had occurred. Seven of the eight other inmates of the house accepted vaccination, one refusing. Six of the seven who were successfully vaccinated developed small-pox; one escaped as well as the one who refused vaccination.

This state of things is quite different in the development of the disease in a known contact. If the patient is removed at the first sign of the eruption the vaccination can be offered to the contacts with far greater certainty that it will prevent development of small-pox in those contacts. We have many instances of such cases of the only person or persons who have refused vaccination being the only ones to have succumbed to the disease. In one instance an old lady of ninety-three was the only contact in the household who refused vaccination. She was the only contact to develop small-pox.

On the general question of the spread of infection, I might refer to the recent work of Dr. Gill on the "Genesis of Epidemics," in which he advances the "quantum" theory regarding the latter.[4] This postulates that the essential factor in the causation of epidemics is the loss of equilibrium between the dose of toxin and the degree of resistance, that is, between infection and immunity, and he explains all epidemical phenomena in terms of change between the infecting quantum and the immunity quantum, whereby either a sudden increase of infection that occurs when immunity is absolutely and relatively low or a sudden decline of immunity is associated with the relatively constant degree of infection. He points out that a sudden depression of communal immunity is less likely to occur than a sudden increase in the amount of infection.

In dealing with small-pox infection in a town like Derby, the immunity quantum has remained pretty constant in recent years, the number of infants vaccinated falling between 8 and 12 per cent. The number of cases of small-pox has varied very considerably from none to fifty-seven in one week. The importance of controlling the infecting agent is of the highest importance, and the need of complete knowledge as to the probable cases is a prime factor. At the beginning of this century we had fairly extensive outbreaks of small-pox of the major type in different parts of the country, and at the time we suffered also from lack of adequate knowledge of the existence of contacts and from refusal of information, or the making of false statements with reference to contacts.

A conference of delegates from the London County Council, Corporation of the City of London, and the metropolitan boroughs, held on February 7th, 1902, passed the following resolution, *inter alia*:—

> That in the opinion of the conference it should be declared an offence, under the Public Health (London) Act, 1891, to refuse or withhold information, or give false information, with respect to persons living in a house in which small-pox has broken out, with regard to (*a*) their names; (*b*) employment or occupation; (*c*) schools attended by their children, or (*d*) as to any persons not living in such house but employed therein.

Again in November, 1904, another conference was held, convened by the London County Council, mainly at the request of the Corporation of Newcastle-upon-Tyne, to consider the question of the spread of small-pox by vagrants. Among the resolutions passed was the following:

> That it should be an offence to withhold information and to make false statements to the sanitary authority in carrying out its powers with respect to the disease.

The above resolutions have produced apparently no practical results in the shape of special

legislation, but it will be found that the need of accurate information regarding contacts, etc., of infectious cases has been felt by certain authorities. Rotherham has a local Act, passed in 1924, which requires that the occupier of any building used for human habitation shall furnish the medical officer of health with such information within his knowledge as the medical officer may reasonably require. The penalty for refusing to furnish information is not exceeding forty shillings. Similar powers are contained in the Sheffield Corporation Act of 1928, Section 177, and we, in Derby, are applying for similar powers in the Derby Corporation Bill of 1929. I understand that the authorities of a northern city are also applying for powers on these lines.

It is possible, then, that we may see the same development of legislation as occurred in the Notification Acts:— (1) a local Act; (2) a permissive Act, and (3) a compulsory Act applicable to the whole of England and Wales.

This same process of evolution also chacterised the introduction of the Notification of Births.

The Public Health Act of 1875, Section 129, imposes a penalty not exceeding twenty pounds or imprisonment with or without hard labour for a period not exceeding one month on any person letting houses making false statements as to infectious diseases. If this section were brought up to date in accordance with modern ideas, substituting infected persons for infected houses, it would be of far greater value than the existing powers.

Attention might also be drawn to the Port Sanitary Authorities Infectious Disease Regulations, 1920,[5] in which every person on board a ship shall comply with all directions, requirements or conditions given him or imposed by the sanitary authority or the medical officer of health in pursuance of these regulations, and shall furnish all such information as may be reasonably required of him, including information as to his name, destination and address, etc.

I think we all agree that our port sanitary authorities are exceedingly efficient in enforcing these regulations and the results have been entirely satisfactory. We, however, in inland towns have no such powers of obtaining information and we suffer accordingly. I would suggest that such powers are desirable, and that in applying them we should have a printed schedule requiring information as to visits made or received and the location of all contacts. These could be left at the house so as to give the responsible person time to think, and I venture to say we should get far more complete information than by verbal interrogation, as at present.

The notification of contacts has been recognised by education authorities, and the public schools, many secondary schools, and private schools require a written statement by the parent or guardian after each vacation that the pupil has not been in contact with a case of infectious disease during the holidays, and I am of opinion that such a requirement should be a compulsory one, not only in connection with schools, but in connection with all attempts to control our infectious diseases. Examination of contacts is a recognised procedure in dealing with tuberculosis, as well as other infectious diseases, but information as to contacts is still only a permissive requirement. As previously stated, many mild cases would be overlooked unless they were known contacts. Perhaps the most difficult cases to recognise are some of the milder cases of infective diseases affecting the central nervous system. We had in Derby in 1919 an outbreak of encephalitis lethargica in a girls' home. Twelve cases were discovered and five proved fatal. One or two of the cases were exceedingly mild, and in the Report on Encephalitis Lethargica, published by the Ministry of Health, in 1922, it is stated: "The study of the report of the outbreak at Derby, for example, will show that had some of the less striking cases occurred independently and not as component factors of this little epidemic, they would probably not have been reported at all as cases of encephalitis."[6] Generally speaking, it may be stated that most of the spread of infection in all our infectious cases is by means of these mild atypical forms of the various diseases, which are not recognised and sometimes not recognisable unless they happen to be known contacts.

Very striking progress has been made in recent years in the application of immunising methods to certain of our infectious diseases, such as the Schick test and immunisation for diphtheria, the Dick immunisation for scarlet fever, the use of convalescent serum for cases of measles, and possibly in the near future we may utilise Professor Calmette's B.C.G. serum for the prevention of tuberculosis. It is hardly reasonable, however, to expect a parent to submit a child to all these processes as a routine measure. This would mean that the child would be vaccinated against small-pox, immunised against diphtheria, scarlet fever, measles, and

tuberculosis ; possibly in the future, methods of immunisation against other infections, *e.g.*, whooping cough, may be discovered. If we take the Schick test for example, I have had several discussions and correspondence with the medical officer of a public school in Derbyshire. He writes : " At present I fear the application of the Schick Test is quite impracticable here owing to parental objections. If an outbreak of diphtheria occurred I daresay something might be done." Here you have the parents, who are people in good positions, who are unwilling to take advantage of Schick immunisation except in a case of a threatened epidemic.

With regard to vaccination against small-pox, in Derby we find that infantile vaccination is neglected ; only 8 per cent. of our babies were vaccinated last year, but on the other hand we rarely fail to obtain vaccination of 80 per cent. or more of the known contacts of small-pox cases.

Professor Calmette commenced his preventive vaccination against tuberculosis in vaccinating a child six days old, whose tuberculous mother had just died, and who had to be brought up by a grandmother suffering with pulmonary tuberculosis. The child still lives in perfect health, although he has been continously for over two years in tuberculously infected surroundings.[7]

With reference to measles, we have the records of Dr. Sutherland of the Monsall Fever Hospital[8] showing the value of convalescent serum by which he protected 100 per cent. of exposed children against measles. Some of these were suffering from diphtheria, and we know that diphtheria and measles form a very evil combination.

A knowledge of contacts, then, is of the highest importance in initiating any steps of immunisation, causing the latter to be most effective by dealing with potential cases rather than by wholesale attempts at the protection of people who may never be exposed to infection.

As I have mentioned above, the infectious diseases which we attempt to control entail a very large amount of expenditure of energy, effort and money. In Derby, for instance, according to the estimate of an expert actuary in London, our isolation hospitals cost a rate of 6·58d. in the pound, and, of course, the cost of hospital treatment is not the whole cost of dealing with infectious diseases. Our maternity and child welfare branch costs only 0·57d. in the pound, so that relatively the cost of infectious diseases hospitals is very high indeed, and from financial considerations as well as from considerations of humanity any steps to prevent the spread of infectious diseases would be welcome.

In conclusion, I am of opinion that complete knowledge as to contacts would lead to earlier and better diagnosis of diseases, more effective control, and would have valuable educational influence on the medical practitioner and the public, as many of the latter still adhere to old-fashioned ideas, such as the supposed influence of environmental factors, which have in reality no relationship to the diseases with which we have to deal.

REFERENCES.

[1] Ministry of Health Reports on Public Health and Medical Subjects, No. 35, p. x.
[2] *Ibid*, b. viii.
[3] *Lancet*, August 4th, 1928.
[4] " The Genesis of Epidemics," by Lt.-Col. C. A. Gill. London : Baillière, Tindall & Cox.
[5] Statutory Rules and Orders, 1920, No. 1294.
[6] Ministry of Health Reports on Public Health and Medical Subjects, No. 11, p. 49.
[7] *The British Journal of Tuberculosis*, October, 1928.
[8] *The Medical Officer*, October 27th, 1928.

IN Circular 989 the Minister of Health notifies the coming into operation, on June 1st, 1929, of the Artificial Cream Act, 1929. This Act, it is explained, was found to be necessary since the machinery of the Food and Drugs (Adulteration) Act, 1928, has generally been considered to be inadequate to prevent the sale of artificial cream as cream, since if due precautions are taken in blending the ingredients of artificial cream an analyst cannot distinguish it from cream. The Act seeks to meet the situation by forbidding the sale of any substance purporting to be cream or artificial cream which is, in fact, artificial cream, under a description or designation including the word " cream," unless that word is immediately preceded by the word " artificial." Premises where artificial cream is manufactured or sold must be registered with the local authority; receptacles for conveying artificial cream when it is exposed for sale must be labelled; and when an article having the composition of cream or artificial cream is sold on registered premises it shall be presumed to be artificial cream unless the contrary is proved. Circular 989, dated May 24th, 1929, is obtainable from H.M. Stationery Office or through any bookseller, price one penny.

Modern Methods in the Diagnosis, Immunisation and Treatment of Infectious Diseases.

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In this paper, read before the Welsh Branch of the Society on March 9th, 1928, Dr. McGarrity considers in detail and most interestingly, the more modern methods adopted in relation to the diagnosis, immunisation and treatment of infectious diseases.

THE SCHICK TEST.

THIS test was introduced by Schick in Vienna in 1908, in which year he wrote a paper on the subject. Schick's first problem was : Did the human skin react to cutaneous injection of diphtheria toxin ? Von Pirquet, whom Schick had been assisting in his work on tuberculin, had injected diphtheria toxin with no result, and Schick decided that it was too dilute. He therefore concentrated it ten times and obtained a positive result. The reaction resembled a tuberculin reaction. Schick noticed that it failed to appear if the toxin was neutralised *in vitro* by antitoxin and also if the patient was immunised beforehand with 1,500 to 3,000 units of antitoxin. He considered that simultaneous injection of antitoxin destroyed the reaction, and that antitoxin given one to four hours after the test was performed weakened the reaction. He thought that undoubtedly a positive reaction was due to the absence of antitoxin in the blood and that the test would be a means of measuring susceptibility to diphtheria. He did not think the test of much value in diagnosis but considered it likely to be helpful in discovering a suitable dosage of antitoxin. In 1913 Schick published another paper in which he stated that he thought that the test would be of great value in institutions in which diphtheria might break out, as susceptible contacts could be detected and immunised.

The object of the Schick test, therefore, as already indicated, is to discover the susceptibility or immunity of the individual tested. We know that this can be done experimentally by estimating the amount of antitoxin in every cubic centimetre of blood, but Schick's method is a much simpler one depending, as it does, on the irritant action of diphtheria toxin when injected into the skin. Many people have a natural immunity to diphtheria, their blood apparently containing enough antitoxin to neutralise the minute dose of toxin used in the test, and so in such persons there is no reaction visible. Such persons are called negative reactors. When, on the other hand, there is either too little or no antitoxin in the blood, a local reaction manifests itself at the site of injection in 24-48 hours in the majority of cases. This means, according to Schick, that there is less than 1/30th of a unit of antitoxin in every cubic centimetre of blood and that individuals who give such a reaction are susceptible to diphtheria ; such persons are called positive reactors. Von Behring has estimated that even 1/100th of a unit of antitoxin in every cubic centimetre of blood is sufficient to protect against diphtheria, so a negative reaction, indicating the presence of at least 1/30th, shews that the particular individual is definitely immune to the disease.

A great deal of work has been done in America in connection with the Schick test, especially by Park and Zingher in New York. In this country O'Brien has done most to stimulate interest in the reaction and in immunisation.

The toxin and dosage of toxin used in the Schick test.

Naturally, a reliable toxin must be used and one which gives consistent results. The outfits issued are suitable either for a few tests or for a larger number. The one contains a freshly diluted toxin which has to be used within three weeks as it deteriorates on keeping in dilution ; the other outfit, suitable for doing large numbers of tests, consists of a small amount of undiluted toxin in a capillary tube ready for dilution with sterile normal saline. This pure undiluted toxin will keep for months in a cool place or ice chest. In doing the test ·2 of a cubic centimetre of diluted toxin is injected, representing 1/50th of a minimal lethal dose for a guinea-pig.

The technique necessary in carrying out the test.

A 1 cc. all-glass syringe is required, graduated to tenths of a cc. The Alga tuberculin syringe with a blue piston is better than the shorter syringe usually supplied for doing the test. The needle must be short and sharp ; a 214 rustless steel needle as supplied by Burroughs

Wellcome & Co. is best: the syringes can be obtained from the same firm. When the injection is being performed, ·2 of a cc. of the diluted toxin is injected into and not under the skin, and a raised white wheal will be noticed, which soon disappears. The test is usually made into the skin of the left forearm just below the bend of the elbow. A control test may be done on the right forearm.

The reactions observed are as follows :

1. A simple negative reaction.
2. A simple positive reaction.
3. A pseudo or false reaction only—negative.
4. A pseudo and positive reaction combined —positive.

1. *A simple negative reaction* means that nothing appears at all at any time after the injection, and denotes immunity.

2. *A simple positive reaction* shews itself in susceptible persons in 24-48 hours as a circumscribed area of redness about a half to one inch in diameter; it tends to be at its best on the third day and, on fading, leaves a brownish pigmentation and superficial desquamation. The pigmentation is best seen at the end of a week or ten days after the test is made; after this it gradually fades, but may shew in some cases for weeks and months. The reaction may be delayed till the fifth day in badly nourished babies.

3. *A pseudo or false reaction only—Negative.* Difficulty may be caused by the occurrence of false reactions in persons who are susceptible to foreign protein—due to some of this protein in the testing fluid. To get over this difficulty a control test is made on the right arm (in adults, *i.e.*, in persons over ten years of age). A similar amount of diluted toxin, as is used in the test, is injected, but this toxin has previously been heated to destroy the toxin, leaving only protein behind, which cannot be destroyed by heat. Any reaction appearing on the right arm may be regarded as due to protein only and is, therefore, a pseudo reaction. An equal reaction on both arms, which fades quickly and simultaneously, leaving no pigmentation or desquamation behind, or practically none, means that the individual is only susceptible to protein and is a negative reactor to the Schick test.

4. *A Pseudo and Positive Reaction Combined —Positive.*

Certain individuals are susceptible both to protein and to diphtheria and so give a false and a true reaction on the left arm, but it will be noted that the pseudo reaction tends to be at its best at approximately 48 hours after injection, fading rapidly and leaving at the most only very slight pigmentation and very slight, if any, desquamation, whereas the real reaction is usually not at its best till the third day, and leaves, as a rule, a very definite pigmentation and desquamation behind. Children under ten years of age only give pseudo reactions very occasionally. In a series of 3,000 tests which I personally observed from day to day for several days, only 3 per cent. shewed pseudo reactions between five and ten years of age, so we can dispense with a control test on the right arm in children of this age group, thus effecting a great saving of time.

Reading the Reactions.

This is easy in children, but more difficult in adults because of the pseudo reaction. To make accurate readings it is wise at first to do them daily at 24, 48, and 72 hours after injection, making a final reading at ten days. The extent and intensity of the reaction is noted, especially if a control test is performed. To save time, after some experience of the test has been gained, less frequent readings may be

Name.	Age.	Prev. Diph.	Control.—Right Arm.					Test.—Left Arm.					Final Result.
			24 hours	48 hours	72 hours	10 days.		24 hours	48 hours	72 hours	10 days.		
						Pigm.	Desq.				Pigm.	Desq.	
A	5	No.	0	0	0	0	0	0	0	0	0	0	
B	6	No.	0	0	0	0	0	⊕	⊕	+	+	+	Negative
C	18	Yes	⊕	+	±	0	0	⊕	+	±	0	0	Positive
D	20	No	⊕	+	±	±	0	⊕	+	+	+	+	Pseudo and Negative Pseudo and Positive

Note.—+ means a very good positive reaction either pseudo or real as the case may be.
⊕ means a fairly good positive reaction either pseudo or real as the case may be.
± means doubtful reaction either pseudo or real as the case may be.

made. In children of five to ten years of age—the group usually tested in schools—and where the control test is dispensed with, one reading, made a week after the injection, will be sufficient. It should, however, be made in good daylight, and not in a room badly lit. If a control test is made on the right arm, and time does not allow for readings at 24, 48, 72 hours and at ten days, one reading at 48 hours and another at a week afterwards should be made.

The above table shews imaginary readings and suggests how accurate results can best be obtained.

Interpretation of the Results of the Schick Test.

It has been found that susceptibility varies according to the class of the community under observation, and also according to the age of the individuals. The percentage of positive reactions diminishes as age increases, immunity apparently being acquired with increasing age. Newly-born children may inherit a temporary immunity from their mothers, but they lose this in a few months' time. The greatest susceptibility is during the first five years of life, the peak being the second—third year, when as many as 84 per cent. may be positive. Susceptibility is still great, though less so, between five and ten years of age, about 60 per cent. of children of this age in a group drawn from all classes of the community being positive reactors. These figures are from a group of over 3,000 tests which I carried out in the wards of the Edinburgh City Hospital. Similar percentages have been shewn among children in Cardiff.

Children in the slums are more immune to diphtheria—according to the Schick test—than children in suburban districts; for instance, only 30 per cent. of the children between the ages of five and ten in a school in a poor locality in Edinburgh whom I tested were positive and susceptible to diphtheria, whereas in another school where the children came from the suburbs and the country, over 80 per cent. were susceptible at the same age. Further, such very susceptible children are individually more susceptible and shew more intense positive reactions; they are consequently more difficult to immunise with toxin-antitoxin. On the other hand, children who are living in the midst of dirt and disease and almost daily being inoculated with small non-infective doses of the diphtheria virus, are more easily immunised as their tissues have got into the habit of producing antitoxin. Dr. Ker and I found that the students and the nurses in the City Hospital, Edinburgh, were more susceptible than the maids of the institution. While susceptibility to diphtheria decreases with age, on the other hand, it is interesting to note susceptibility to foreign protein increases; as many as 40 per cent. shewing pseudo reactions in a group of adults as against 3 per cent. in the five to ten age group of children where control tests were made and careful readings kept in a series of over 2,000 tests. This is important in connection with the subsequent immunisation with toxin-antitoxin, when it will be found that the degree of local and constitutional reaction will vary according to susceptibility of the individual to protein.

Safety of the Schick Test.

The Schick test is a very simple one to carry out. It must, naturally, be performed accurately, or not at all. The actual injection causes no discomfort, unless the needle is at fault, and, if children sometimes cry, it is usually because they are more frightened than hurt. The local reaction, which develops in those susceptible, causes no discomfort; the pseudo reaction may be a trifle uncomfortable, but there is never any upset of any kind in the shape of headache, temperature, etc., at any time after the performance of either test or control. In doing the tests it is, of course, necessary to have the syringes absolutely clean. It is not necessary to boil either the syringes or needles. All that is required is to wash them out thoroughly either with methylated spirit or absolute alcohol and then with ether, making sure that no ether remains in the syringes or needles before beginning the tests. The skin of the forearm is thoroughly cleansed with a piece of cotton wool soaked in a little methylated spirit, or, better still, ether. Between each injection, the needle should be wiped on a pledget of cotton wool, which is soaking in methylated spirit. No dressing is necessary after the injection is made. No septic arms ever occur following the injections.

Immunisation Measures.

By means of the test the susceptible can be separated from the immune in a hospital ward, children's home or school, and those likely to develop diphtheria can be immunised either passively or actively. A passive immunity may be conferred by the injection of 500 units of antitoxin which will protect the individual against diphtheria from 24 hours after its injection for three weeks as a rule.

An active immunity, which will last for years, if not for life, can be conferred by the injection of toxin-antitoxin mixtures (or toxoid-antitoxin mixtures). This method was first used by Von Behring, in 1912. It consists in injecting 1 c.c. of the mixture, called diphtheria prophylactic, subcutaneously or intramuscularly, into the region of the deltoid insertion of the left arm, repeating the injections into alternate arms till at least 3 c.c.s in all have been injected. A 5 c.c. record syringe is best for making these injections. The needle should be sharp, and about an inch or so long. It should be stout but of moderate bore. The syringe and needle are sterilised as in doing the Schick test, care being taken not to forget to thoroughly wipe the needle between each injection on cotton wool soaking in methylated spirit. No dressing is necessary after giving the injections, but a tiny patch of collodion and cotton wool may be used to seal the needle opening in the skin, if there is any risk of losing any of the mixture by oozing, or if slight bleeding occurs. The toxin-antitoxin mixture is a mixture of toxin (or toxoid) and antitoxin in which the toxin is slightly underneutralised by antitoxin; the small amount of free toxin stimulates the cells of the individual to produce antitoxin which will give the desired immunity. Immunity develops in a few weeks' time in a great many cases, but it may be some months before the majority of those inoculated will be found immune. When the Schick test is carried out in six months' time, 10 per cent. may still be positive reactors, and therefore it is advisable to give to these a further course of injections to produce more quickly the desired immunity, which in many of these would undoubtedly develop in time. It is probably worth while to do a control test on the right arm when re-Schicking is done, so as to avoid mistaking pseudo reactions for fairly marked positive Schick reactions. If this is done the arms should be examined on the second day and finally in a week's time.

Local and constitutional reactions after toxin-antitoxin injections.

From 1922 to 1924 I inoculated a series of 300 children and a group of over 100 nurses in the City Hospital, Edinburgh, and I found in the case of the children, whose ages were from one to ten, that the upset was so slight, either locally or generally, that it could be dismissed as of little moment, and so we were able to advise the public health authorities of Edinburgh that it was a perfectly safe procedure both to test and immunise school children of five to ten years of age, and further that, in doing the Schick test at this age, the control test on the right arm was unnecessary. Only occasionally was there much redness and swelling of the arm after the injections of toxin-antitoxin and seldom any constitutional upset. This was borne out later in the work among school children in Edinburgh, and more recently in Cardiff, where, using toxoid-antitoxin, reactions have hardly ever occurred. Children between one and five can be immunised without fear of any upset whatever; at this age it is unnecessary to employ the Schick test as so many are positive reactors. These children should of course be Schick tested six months after the completion of the course of three injections of prophylactic. Children over ten and adults may shew some redness and swelling of the arm and some constitutional upset after injections of toxin-antitoxin, especially adults who are sensitive to protein due often to previous injections of serum. Among adults, *e.g.*, nurses, it may be found wise to start with small doses of toxin antitoxin, say ·1 or ·2 of a cc. and then to give the full dose of 1 cc. a couple of days later. It was quite common for many of the nurses in Edinburgh, whom I inoculated, to have marked reactions both locally and constitutionally when I began this work, but, as time went on, and the nurses were tested soon after arriving in hospital, it was noticeable that those who had no pseudo reactions when Schick tested suffered little upset as a rule. In those days toxin-antitoxin was used; now in this country toxoid-antitoxin is being given, and reactions of any kind are not expected except occasionally in adults, but, even if they occur, they are not enough to cause a nurse to go off duty.

Incidence of diphtheria in fever hospitals.

Nowadays nurses seldom contract diphtheria who are immune as a result of these inoculations of diphtheria prophylactic. Previous to 1922, when I began immunising the nursing staff in the Edinburgh City Hospital, the average number of nurses who contracted diphtheria was 9·3 per cent., and this annual incidence among unprotected nurses has been reduced to 0·6 per cent. among immunised nurses in that institution. In Cardiff we always Schick test and immunise the nurses as soon as possible after they come to hospital, and no case of clinical diphtheria has occurred after immunity has developed (as evidenced by a negative Schick test) during the past three years. A few nurses have certainly developed occasionally some spotting on the tonsils, but this has always cleared up very quickly without any treatment other than a gargle.

The Schick test as an aid in diagnosis and treatment.

The Schick test is positive in 100 per cent. of cases of clinical diphtheria, and a negative reaction in a doubtful case means that the condition is not diphtheria but probably septic. Even though antitoxin is given intramuscularly simultaneously with the doing of the test, a positive Schick reaction will develop; in other words, freshly combined toxin is not detached by intramuscular injection of antitoxin given at the same time. On the other hand antitoxin given intravenously will neutralise toxin just entering into combination with the tissues, and so a negative reaction will result if the antitoxin is given by the intravenous route simultaneously with the injection of toxin into the skin in doing the Schick test. This Dr. Ker and I found in a group of considerably over a hundred clinical diphtheria cases. These observations naturally point to the fact that intravenous antitoxin is of more value than antitoxin given either intramuscularly or subcutaneously, especially in severe diphtheria cases.

The Schick test may be usefully employed in the scarlet fever and measles wards of a hospital, because a small dose of antitoxin can be given at once if there is nasal discharge, spotting on the tonsils, or croup in any convalescent patient who is Schick positive, whereas patients who are negative reactors may be left alone. Further, the removal of tonsils and adenoids may safely be undertaken among children who give a negative Schick reaction. They will, however, require 500 units of antitoxin before such an operation if the Schick test is positive, particularly if they are sent back to scarlet fever, diphtheria or measles wards after the tonsils and adenoids have been removed.

THE DICK TEST.

In January, 1924, Drs. George and Gladys Dick described in America a skin test for susceptibility to scarlet fever, on the analogy of the Schick test in the case of diphtheria. The Dicks used a soluble toxic filtrate obtained from a culture of the specific hæmolytic streptococcus isolated from the throat of a scarlet fever patient. The test is carried out exactly as in the case of the Schick test: ·2 of a cc. of a one in a thousand dilution of the toxin is injected into the skin of the left forearm, and a control test may be performed, in adults, by injecting the same amount of toxin, previously heated or boiled, into the skin of the right forearm. The toxin is more difficult to destroy by heat than the toxin of the diphtheria bacillus. The reactions which result after the injections are very similar to those occurring in the Schick test. Children are usually either simple negative or positive reactors, but adults may shew pseudo reactions and so may give some trouble before it can be decided that they are either immune or susceptible to scarlet fever. The positive reaction is very similar to that in the Schick test, but it appears earlier—at any time from six to twelve hours after injection of the toxin, and fades more quickly, usually after 24 to 48 hours. It leaves no pigmentation behind in the majority of cases; only a faint staining is seen as a rule, and this soon disappears altogether. There is never any superficial desquamation as in the Schick reaction. The Dick reaction is usually at its best about 18 hours after the performance of the test. In a series of over 400 tests done during the height of the rash in patients suffering from scarlet fever, Dr. Ker and I found that the majority of the patients gave a positive reaction; this was replaced by a negative reaction during the convalescence of the disease, the antitoxin produced during the disease being apparently specific for the toxin injected in the test. The toxin was prepared for us by Dr. McCartney from a culture of the streptococcus isolated from a scarlet fever patient's throat.

The Schulz-Charlton reaction.

The serum of a convalescent scarlet fever patient, or a good antitoxic serum, is capable of neutralising the toxin in the skin, if such serum is injected (intradermally) into the skin at the height of a good scarlet rash; blanching of the rash will appear, so giving a positive Schulz-Charlton reaction. The area of blanching of the rash varies in size from about half a crown to a crown, depending on whether ·5 of a cc. or 1 cc. of the serum is injected. A negative reaction would suggest that the rash is not due to scarlet fever but to some other cause. Outfits containing diluted serum for the performance of the Schulz-Charlton reaction, and for the Dick test are issued ready for use.

The serum of a convalescent scarlet fever patient is obtained by withdrawing blood from a vein and allowing it to clot. A good plan is to use a large syringe (30 cc.) and to put the blood in a series of centrifuge tubes. (The syringe and needle are sterilised by boiling and the tubes by hot air in the usual way.) After spinning the tubes for a few minutes the supernatant serum is pipetted off into sterile bottles and stored in an ice chest. The serum must be tested for sterility and by means of the Wasserman reaction before using it for any tests.

Results of the Dick Test.

In another series of over 400 tests we found that almost 60 per cent. of children between one and five years, and about the same number between five and ten years, were susceptible to scarlet fever. Susceptibility decreased after this as in the case of diphtheria. It was found that a negative reaction was shewn as a rule by the majority of those individuals who had previously suffered from scarlet fever, and also by those who were naturally immune. The serum of naturally immune individuals will give a positive Schulz-Charlton reaction when it is injected into a skin which shews a good rash of scarlet fever.

Immunisation measures and results.

Those individuals who are susceptible to scarlet fever as shewn by a positive Dick test may be rendered passively immune by injections of 5-10 cc. of scarlet fever antitoxin. This will only last a few weeks. An active immunity which may last for some months, and possibly for years, may be conferred by injections of increasing amounts of the toxin of the streptococcus. It is usual to begin with 250 skin test doses, and to increase the amount gradually (injections being made at intervals of a week) till a total of 20,000 to 30,000 skin test doses have been given in all. Results of immunisation so far have been disappointing in some hospitals, Benson and Simpson reporting that some of the nurses, whom they injected in the Edinburgh City Hospital and who were apparently immune, became susceptible again. Probably further and larger doses were required to render these individuals completely immune. Too large a dose to begin with may cause the development of a rash and a slight sore throat. In Cardiff, it is our custom to test and immunise those members of the staff susceptible to scarlet fever. So far no nurse who has had injections of toxin has contracted scarlet fever, neither has any one of the staff who has been found to be naturally immune, during the last two years.

Scarlet fever antitoxin.

Besides being used to produce a temporary immunity in contacts of a scarlet fever case, the anti-toxin is now being used a good deal and with good results in the treatment of scarlet fever, and in particular for severe cases. It must be injected as early as possible, and in sufficient dosage. In sharply ill patients of the toxic type, it blanches the rash, lowers the temperature, improves the general condition of the patient, and lessens the likelihood of complications. It is also supposed to lessen the subsequent desquamation. We have not so far had enough experience of antitoxin in toxic cases, but I have had good results following the injection of from 10 to 20 cc. of concentrated antitoxin and of 40 cc. of the unconcentrated serum. It has done most good in sub-toxic cases, but it has also improved the condition of septic cases, though it has not always prevented the occurrence of complications. The type of patient where the most improvement is noticed is one who is semi-delirious, with a high temperature, and a rapid pulse. In such patients I have noticed a great change for the better after even intramuscular injections of antitoxin on the third day of the disease. Such patients made a good recovery. In toxic cases, concentrated serum should be given intravenously, care being taken to warm it to blood heat.

THE Prime Minister of the Commonwealth of Australia has, through the Secretary of State for the Dominions, requested the Minister of Health to liberate Dame Janet Campbell, the Senior Medical Officer for Maternity and Child Welfare at the Ministry of Health, to proceed to Australia in order to advise the Government on the organisation and development of maternity and child welfare services for the benefit of the several States of the Commonwealth. In view of the special importance of these services in the interests of the Empire as a whole, the Minister has acceded to the request and has agreed to set Dame Janet Campbell free from her official duties in this country for a limited time. Dame Janet will probably leave England on this special mission towards the end of July.

Ut Ita Dicam.

(Being Comments, apropos and otherwise, on Sundry Matters.)

Jones of Hereford.

By most people there is at least one month in the year that is counted a good month. For reasons into which it is not necessary to enter, May I have always regarded as mine. This year the month has seen death so busy amongst my friends that I begin to doubt. Of friends who passed were Herbert Jones and Wanklyn, both men with whom I had worked more or less closely and with whom I was on terms of more or less intimacy. Herbert Jones was the friend of so many in the Society that most might claim him as friend without challenge. He was a great man in my eyes long before those eyes beheld him, since his name came before me often as one of the Secretaries of the Society. He was one of the giants of those early days, and ranged with those big ones whose names were names to conjure with. I did not come to know him personally for long after I had first seen and heard his name, and it was not long before I learned that he was a man to know, easy to know and easy to like. I came to know him and to like him in many connections because our interests and activities appeared to lie along rather similar lines. In the Society, to which he devoted so very much time and energy, like everyone else I was impressed by the sincerity of his attachment to its aims and objects. He knew its work and its working thoroughly, and his endeavour always was to see it grow stronger and more influential for the benefit of its members. For those members he laboured hard in and out of the Society. He was sometimes named, I am told, "Security Jones." Personally, I never heard him so called, but he certainly deserved the name, for amongst the many things he always seemed to be busy over was security of tenure, and that provision, in some sort, for this now exists is in large measure due to his efforts. The fact that he was a ready, attractive and convincing speaker helped tremendously in this and in the many other connections in which he worked for improvement in the health service and for proper recognition of its members. That he was equally useful with his pen as with his voice helped much here also. Personally, I am not sure that it was not as a writer he shone most. On the whole it was as a writer I knew him best, and my happiest recollections of him are of occasions when we indulged in a mild sort of journalistic adventure together. At such times he displayed much of that *camaraderie* that one reads so much of in books about journalism and the back stage of newspapers. He was always ready with wise and helpful counsel and words of encouragement, and I am glad to remember now that some of these were addressed to me. That he believed I had profited by them is one of the many kindly things he said to me, and is stored in the niche reserved for Herbert Jones in my hall of remembrance. Another is that he believed me not unworthy to serve his old medical school. Coming from one who was so keen and devoted a Middlesex man this was praise of the highest. I have written of Herbert Jones here and thus because it was of Herbert Jones the man, his kindliness, his lovableness and his genuine interest in all of us personally, and in the service collectively, that I and most of us thought when word of his passing reached us. It is Herbert Jones the man we mourn mostly, and it is because we do sincerely mourn that our sympathy goes out to the members of his family in their grief at a loss that is irreparable.

Wm. McC. Wanklyn.

Another death that saddened the month of May was that of Dr. William McConnell Wanklyn of the London County Council Health Department staff; and all the more saddening because it was an untimely and a tragic death, occurring as it did while at work in his office. Though he took no active part in the work of the Society and, indeed, for reasons he gave to me that were entirely private and personal, had resigned his membership some two or three years ago, he was widely known to medical officers of health on account of his work and writings on smallpox. His work lay exclusively in relation to this disease, and his writings upon it were almost numberless. At times he tried, I believe, to think of other things and to give attention to other aspects of health work. He tried to interest himself, for example—and me, too, incidentally—in vegetarianism but actually, I imagine, he did not get very far with it. Indeed, he had little opportunity, since he was eternally being called here and there and everywhere throughout the metropolis and the home counties, in taxicabs that he loathed, to see

cases that were or might be smallpox. Even had he desired, and I think it unlikely, to get away from smallpox I do not believe he would have been allowed to. There were too many people who relied upon him for assistance in diagnosing the condition and anxious to talk with him about it. It became, inevitably, his life and his lifework to think smallpox and work upon smallpox. It is little wonder that he detested the disease and that he was perpetually engaged in working out schemes for its destruction. Smallpox must have been more than a job; it must have been a hated personal enemy. Most medical officers of health in the metropolis had reason to be grateful to Wanklyn from time to time, but few if any knew him intimately and personally. Myself I had frequent opportunities of meeting him and of conversing with him on topics other than those relating to smallpox. He was a personality and he had ideals, not unlike those of all of us in the health service, of a happier and healthier life for the people we serve. His position was peculiar and he had peculiarities therefore; but his views on disease and disease prevention were not, in the generally accepted sense, at all peculiar. He was a sound and reliable diagnostician, and as a pleasant aid in time of trouble he will surely be missed by London medical officers, even though arrangements have been made for his place to be taken and for their needs to be met, so far as diagnosis of smallpox is concerned, by a body of referees composed of superintendents of hospitals of the Metropolitan Asylums Board.

Sir Allan Powell of the M.A.B.

This reference to the Metropolitan Asylums Board provides an opportunity to offer congratulations to Sir Allan Powell, Clerk to the Board, on his appointment by the Prime Minister as Chairman of the Food Council. Sir Allan has been on the Council since its creation and has been Vice-Chairman for some time. Knowing him, I am convinced that the Council contains no more sound and practical member, none with clearer views on and understanding of its duties and working, and none more fitted to occupy the position for which he has been selected. As in the case of other Branches probably, the members of the Metropolitan Branch do not see eye to eye on all matters, but on one thing they are agreed, and that is in believing that as an institution there is nothing to compare with the Metropolitan Asylums Board. They are agreed, too, that the high state of excellence to which it has attained is largely due to the wonderful work done by Sir Allan Powell; just as it is due to him that the co-operation between the Board and the personnel of the health service of the London boroughs is so perfect and friendly. To many the thought that troubles most in connection with the changes that occur as a result of the operation of the Local Government Act, is that Sir Allan may be lost as a colleague in the work that is done in dealing with infectious disease. That the successors of the Board will be anxious to continue to make use of his great knowledge and experience is certain. All the hopes of the health officers in this connection are that, whatever the branch of work with which he is given concern, it will not lead to a complete severance of contact between him and them. And so far as regards this appointment to the chair of the Food Council, their feeling is that no better or more appropriate choice could have been made, and their wish that he should understand that they are sincerely delighted that he should have been chosen.

The Inspector Pays a Call:

And the communication that followed thereon reads thus:—

"When the Inspector called I was engaged and asked him to wait. When I went downstairs, bristling with indignation, the Ogre sat in an armchair playing with the cat. It seemed so natural that I offered him tea, took him into the garden and showed him the flowers and the drain-pipes, the coal cellar, the gas meter and the rainwater butt. Speaking with an eminent barrister last week, he remarked that we all break the law every day of our lives. Interesting, isn't it?" P.

A SESSIONAL Meeting of the Royal Sanitary Institute will be held in the Festival Hall, North-East Coast Exhibition, Newcastle-upon-Tyne, on Friday, June 21st, when discussions will take place on the following subjects: "The Problem of Feeding the Premature Infant."; "The Need for a Maternity Service"; "The Importance of Ante-Natal Supervision"; "Eliminating the Tuberculous Cow—Administrative Results at Berwick-on-Tweed"; "Hygienic Milk Supplies"; "Clean Milk in the Northern Counties"; and "Smoke Pollution." The chair will be taken at 2.30 p.m. by Dr. Charles Porter (Member of Council), Medical Officer of Health, St. Marylebone. On Saturday, June 22nd, visits will be paid to the North-East Coast Exhibition, etc. Dr. Harold Kerr, O.B.E., Medical Officer of Health, Newcastle-upon-Tyne, is Hon. Local Secretary of the meeting.

Occupational Health Risks of Merchant Seamen.

By W. F. DEARDEN, M.R.C.S., L.R.C.P., D.P.H., Medical Officer of Health, Port of Manchester.

Well known as an authority on the subject of ships' hygiene and matters affecting the health of seamen, Dr. Dearden has provided in this paper, read at a meeting of the North-Western Branch, information certain to be interesting to readers whether or not concerned in work at a port.

AS an occupation, that of merchant seaman exhibits certain special features. In the first place, the sailor lives on his job and, though not always on duty, the very fact of not being able to leave the ship means that most of his occupational risks continue throughout the twenty-four hours of the day. It thus happens that the disabilities attaching to such factors as housing, food and water supply, sanitary accommodation, and so forth, which are not occupational for the factory worker, undoubtedly come within this category where the sailor is concerned. Weather conditions and their results are other serious factors to be considered, and they operate whether on or off duty. When a sailor signs on for a voyage he takes on all the risks to health and limb which are inextricably bound up with and cannot be dissociated from the occupation of seaman.

They are well known and recognised as occupational; also the shipowners accept responsibility, so that I now propose to shew where and why certain seagoing conditions are at fault and to make an attempt to give some reasonable indication of the direction in which remedy is to be effected.

In opening up my case I think the best course will be to review the evidence of ill-health to be obtained from such mortality and morbidity figures as are available. Occupational mortality statistics, as is well known, are published in the Registrar-General's Decennial Supplements (Part II). The tables supplied in these reports shew that the well-known death-producing diseases to which all classes are liable have individual preferences, though in varying degrees, for particular occupations; also that this selectivity can be accounted for by the existence of certain conditions attached thereto, which favour the incidence of certain diseases. For example, dusty occupations produce a high respiratory death-rate. As may easily be credited, there have been practical difficulties to face in producing a table for merchant seamen. No exceptional difficulty arises in obtaining the census of merchant seamen in this country, or in home ports, nor in obtaining particulars of the deaths taking place at home; the trouble begins when one comes to estimate the population at sea and tries to get accurate particulars of the deaths outside the country. The Board of Trade keeps a record of deaths occurring during a voyage, and estimates the population at sea, but the latter, at any rate, cannot be considered reliable. Efforts have, of course, been made to correlate the information from the two sources, but we are warned by the Register-General, in the supplement just published, that the older figures cannot be considered to be really accurate. In 1921, the census was taken at sea, the returns handed in in due course, and, as the particulars of deaths supplied by the Board of Trade had been carefully checked, the figures given for 1921-23 are considered to be reliable; unfortunately, however, they are limited to total mortality and the mortalities for respiratory tuberculosis, cancer and violence. Again, there is always the fact that many seafaring people turn over to a shore job at a comparatively early age, with the probability that their deaths are registered under the later occupation. Taking the figures that are available, and with full knowledge of some degree of inaccuracy in the earlier ones, there are certain outstanding features which clearly shew not only an excessive general mortality, but a selective excess in certain directions.

If we examine the comparative mortality figures for 1910-12 we find that death from all causes is double the figure for all occupied and retired, the phthisis figure almost double, nervous diseases figure just over double, valvular disease of the heart double, aneurism nearly four times the figure, other circulatory diseases nearly double, pneumonia just under double,

TABLE A.

COMPARATIVE MORTALITY 1910-12.

	All causes	Phthisis	Cancer	Alcoholism	Nervous System	Valvular Heart Disease	Aneurism	Other Circulatory	Pneumonia	Liver	Bright's Disease	Accident
Occupied and retired	790	141	78	7	85	42	7	77	67	16	30	47
Seamen	1485	257	110	18	175	85	26	130	126	16	69	199
Dock labourers	1127	231	98	26	89	56	12	89	140	17	36	100
Tin miners	1579	678	93	—	82	33	—	93	95	11	38	95
Publicans, &c.	1265	196	85	59	144	49	9	115	104	123	69	35
Inn and hotel servants ...	1222	309	102	37	113	62	16	111	115	37	49	31

Bright's disease over double and accidents over four times the basic figure. The limited 1921-23 figures shew the general mortality to be 76·8 per cent. in excess, respiratory tuberculosis 35·5 per cent. in excess and violence over five times the average rate.

TABLE B.

COMPARATIVE MORTALITY 1921-23.

	All causes	Respiratory Tuberculosis
Occupied and retired ...	1000	168·4
Seamen	1768	221·5
Dock labourers	1532	311·2
Tin miners	3268	1446·5
Publicans, &c.	1585	219·8
Barmen	1955	439·9

Note.—Comparative mortality figures for other risky occupations are introduced for the purpose of shewing variation in disease incidence.

Having established the existence of this selectivity among seamen, my next obligation is to account for the excessive mortalities from particular diseases. I may say at this juncture that it is not my purpose to deal with the enormous accident risk. This is a special matter, and does not affect the points I wish to bring out. In British ships we know that sailors and firemen have separate accommodation, so far as class is concerned, but the units of each section are in most vessels still herded together, for sleeping and feeding purposes, in common quarters. The extent of air space to which each individual is entitled is limited to 120 cubic feet, which compares rather badly with a usual allowance of 300 cubic feet per person under common lodging house bye-laws. This legal overcrowding distinctly encourages the spread of respiratory tuberculosis, pneumonia and infectious fevers, and is mainly responsible for their excessive prevalence among seamen. Such common experiences as damp quarters, wet bedding and damp clothing distinctly encourage rheumatic affections and the resulting heart disease; they also favour pneumonia and catarrhal troubles. Alcoholism and venereal diseases are social evils to which the sailorman has always been particularly liable, though the long spells of teetotalism at sea tend to act as somewhat of an antidote to the former. Excessive prevalence of nervous disease, liver disease and Bright's disease must be debited to these sources.

A table of morbidity, if obtainable, is always extremely helpful when gauging up occupational health risks, and as it is customary for inspectors to get particulars of all sickness occurring during the voyage I have been able to put one together to support my arguments.

TABLE C.

CASES OF SICKNESS, INJURY AND DEATH OCCURRING DURING THE YEARS 1914-15 AND 1920-27 INCLUSIVE.

		Number per 1,000
1.	Influenza and catarrh	145·51
2.	Infectious Fevers	129·64
3.	Injuries	118·62
4.	Venereal Disease	87·58
5.	Diseases of the Digestive system	85·51
6.	Respiratory Disease (other than 1, 9 and 11)	51·03
7.	Rheumatic Affections	46·20
8.	Beri-Beri	37·93
9.	Tuberculosis:	
	Pulmonary ... 26·899	
	Non-Pulmonary 7·586	34·49
10.	Abscesses, Boils and Ulcers ...	33·10
11.	Pneumonia	31·72
12.	Drowning	25·51
13.	Diseases of Heart and Circulation	24·82
14.	Septic Poisoning	22·06
15.	Laryngitis, Tonsillitis, &c. ...	17·22
16.	Diseases of the Urinary System ...	14·44
17.	Skin Diseases	11·72
18.	Diseases of the Nervous System ...	8·96
19.	Debility	7·55
20.	Diseases of the Reproductive System	6·20
21.	Eye	5·51
22.	Liver	4·82
23.	Cancer	2·06
24.	Ear	2·06
25.	Insanity	2·06
26.	Miscellaneous	43·44
	Total	999·76

Of course, I make no pretence that the rates given accurately represent the real sickness rates for all British seamen; they are probably not even so reliable as the mortality figures. In this connection I may mention that all seamen have to run the gauntlet of a medical examination before signing articles, so that sailors are not likely to go to sea if suffering from serious diseases. One cannot but notice, however, the excess of incidence under certain headings. Infectious diseases, pulmonary tuberculosis and pneumonia again shew the effect of overcrowding; influenza, catarrh, rheumatism and respiratory diseases emphasise the evil effects of damp; affections of the digestive system and beri-beri illustrate the results of badly regulated diet and water contamination; abscesses, boils and ulcers, septic poisoning and skin disease are what would be expected to evolve where reasonable cleanliness of quarters and persons is not attainable; the position of venereal disease in the list is also quite significant.

The last-mentioned is scarcely dependent on ship sanitation, but others which I have emphasised certainly are, and I now propose to say something about the nature of the unhealthy surroundings which I hold to be responsible.

When I first took up port sanitary work, ships' crews were invariably lodged in the forecastles, either on the main deck or below this, the sailors being allocated to the starboard, and the firemen to the port side. The space then allowed for each man was 72 cubic feet, with a minimum floor space of twelve square feet, but the Merchant Shipping Act of 1906 raised these requirements to 120 cubic feet, and to 15 square feet respectively for new vessels registered after December 21st, 1906. After measuring up the space available the number assigned to each forecastle is always cut upon a beam, and a charge of overcrowding can only be sustained if the number allowed under the particular qualification is found to be exceeded. Even now a pre-December, 1906 vessel is not legally overcrowded if 72 cubic feet of air space is provided for each man. This position "forrard" is extremely unsuitable for living quarters in bad weather. Owing to the deadlights having to be screwed down over the ports there is no daylight available for considerable periods at a stretch, and the going to and from duty along the main deck frequently means a thorough wetting—a disability particularly objectionable in the case of firemen coming off duty. The quarters are commonly very damp owing to condensation of moisture on any portions of the iron sides or overhead deck unprotected by wooden sheathing or cork varnish, and sometimes are very wet from leakage. Owing to a common practice of putting ventilators out of action to escape draught, these places get very stuffy from air stagnation and somewhat odourous through the tenants and their belongings. Deck-houses for crews began to make some headway prior to the war, but as their structural stability could not be always relied upon, the space beneath the poop deck has now come very much into favour. But wherever the quarters are situated it is still common practice to crowd the whole of the sailors (or firemen) together in the same enclosed space. Two berth cabins, which provide the real solution, are only just appearing in British ships. In recent years there has arisen a praiseworthy tendency to provide separate hospital accommodation, though this is not yet universal by any means; one can readily understand what influence the want of such provision has had and is still having on the spread of infection. Some owners have set a good example by providing messrooms, an improvement which makes the meals more enjoyable, lessens the time the crews would otherwise have to spend in a stuffy forecastle, and is also calculated to produce some real comfort. Wash-houses are now getting more common, and some of them are furnished with shower baths, but bathrooms are still rare. Dr. Mussen's 1926 Report of the Liverpool Port Sanitary Authority gives some valuable figures illustrating the extent to which cargo vessels are supplied with the improvements mentioned. In vessels carrying a crew of 30 or over, those built prior to 1916, with white crews only, had forecastle accommodation forward in 55·61 per cent., amidships in 2·6 per cent., aft in 20·85 per cent., and both fore and aft in 20·85 per cent.; they had cubicles in 1·07 per cent. only, messrooms in 12.83 per cent., wash-houses in 66·84 per cent., baths in 0·53 per cent., and hospitals in 24·6 per cent. Those of this class with coloured crews and mixed crews were somewhat better off through their living quarters being less frequently at the fore part, and in being provided with more wash-houses. Vessels of this class built between 1916 and 1926, with white crews, had the quarters aft in 70·62 per cent., amidships in 2·84 per cent., and fore and aft in 7·58 per cent.; cubicles were provided in

28·43 per cent., messrooms in 63·03 per cent., wash-houses in 92·4 per cent., baths in 7·58 per cent., and hospitals in 50·71 per cent. There was also corresponding improvement in the accommodation for coloured and mixed crews. There was likewise some little improvement shewn in vessels, carrying crews under 30, which were built prior to 1916, and considerable improvement shewn in the later built vessels of this class. These Liverpool figures are, of course, encouraging, but, as I shall shew later, they represent what amounts to voluntary effort only, and we know from parallel experience that this is never enough to yield the full results which the situation really requires. Overcrowding and too close association must be abolished, and hospital space provided for all ships, if phthisis, pneumonia, and infectious disease generally are to be abolished; wet, damp and cold must also be universally taken in hand by provision of drying rooms, radiators in quarters and proper sheathing of iron work; vermin must be abolished by providing suitable bunks and greater cleanliness; septic conditions should be dealt with by providing efficient means for securing general and personal cleanliness.

The initial fault lies at the door of the British system of not obtaining reasonable accommodation for crews whilst ships are being built. In the first place, the housing of seamen is still governed by the Merchant Shipping Act of 1894, except for the single item of increased space provided for by the amending Act of 1906. There is not much printer's ink wasted on ships' hygiene. The Sixth Schedule tells us that the space required by the Act must be "securely constructed, properly lighted and ventilated, properly protected from weather and sea, and as far as practicable properly shut off and protected from effluvium which may be caused by cargo or bilge water." We are also told that there shall be no deduction of tonnage on account of quarters occupied "unless there be in the ship properly constructed privies for the use of the crew, of such number and of such construction as may be approved by the surveyor of ships." When a ship is registered or re-registered it is to be inspected by a surveyor and if he be satisfied that the Act has been carried out he gives a certificate to the Collector of Customs which qualifies for the deductions to which the ship is entitled. Such is the seaman's health charter, and both the Board of Trade and port sanitary authorities have to do the best they can with it.

The defining of what is "proper" in these various directions is in the hands of the Board of Trade, which operates through its official surveyors. No regulations are issued, the standards of properness being established by a code of official instructions issued by the Board to its surveyors. It will be noted that the method of obtaining the carrying out of the instructions is one of inducement; the reward for falling into line being deductions from registered tonnage, which are a consideration when dues have to be paid. If the owners do not ask for any deduction the surveyor cannot insist on proper privy accommodation—a rather curious position in this era of up-to-date sanitation. If the few definite statutory provisions are not observed the surveyor may prosecute, even when no deductions are applied for, and the offender can be fined up to £20. But obviously there can be no penalty for not acting upon what amount to recommendations only.

In my early experience as a port medical officer these instructions left much to be desired, both in their scope and application; but progress, though very slow, has certainly been made, and if the spirit of the most recent edition (1923) were universally carried out, conditions would be much healthier for those who follow seafaring as an occupation. Unfortunately, however, what might be justly considered to be the main improvements are of the nature of recommendations, and thus have not the definiteness of the regulations made by other Governments. For example, bathrooms, washing places, outside oilskin lockers and hospital rooms are encouraged in British ships but are compulsory in Norwegian vessels of a prescribed tonnage. Again, in British ships where the number of seamen exceeds twelve, or the number of firemen exceeds 18 "it is recommended" that separate sleeping places for each "watch" be provided; the Norwegian regulations insist upon four berth cabins on steamships between 1,000 and 1,500 tons, and two berth cabins on steamships over 1,500 tons. As regards keeping the crew space clean, the instructions certainly order it to be done, but the Norwegian regulations, in addition to this ordering, place the obligation upon the crew to do the cleansing during working hours, and not only insist upon supervision by the chief officer and chief engineer, but also that the captain must satisfy himself that this supervision is exercised. With British ships it is sometimes made a condition in the Articles

that a shilling can be deducted from each seaman for every day the forecastle is allowed to go uncleansed but I do not think this clause is enforced to any extent. Denmark, Sweden and Finland appear to regulate ship sanitation on somewhat similar lines to Norway.

Under Section 110 of the Public Health Act, 1875, a ship is regarded as a house, and as such must be kept in a sanitary condition. The port sanitary authority, as the health authority concerned, is therefore under obligation to make sure that the accommodation provided is sanitary, and has most of the powers of a local authority to secure the remedy of nuisances. When the remedy necessitates a definite structural alteration it is usual to seek the co-operation of the Board of Trade, which is always willingly accorded. Of late years, however, the structural defects found have, with rare exceptions, been the result of ordinary wear and tear or accidental damage, and the usual way of dealing with these is by leaving a complaint note on the ship, and following this up with a statutory notice if necessary. It is, of course, perfectly plain that the powers of a port sanitary authority are strictly limited to elimination of nuisances in quarters sanctioned by the Board of Trade and on the ship generally; nothing can be done to enforce the reform of the quarters themselves.

Three tables are given for the purpose of shewing the percentage of inspected vessels of various nationalities found defective during 1926, the number and percentage of British ships found defective during the past ten years and the percentage of particular defects to total defects in several of the principal ports. It must be understood that where the number of vessels dealt with is small, the percentage given cannot be expected to shew a true indication of the ordinary sanitary condition of any particular group.

TABLE D.

SHEWING THE NATIONALITIES OF THE VESSELS INSPECTED IN THE PORT OF MANCHESTER DURING THE YEAR 1926, AND THE NUMBER AND PERCENTAGE FOUND INSANITARY.

Nationality	Inspected	Insanitary	Percentage
British	1474	450	30·5
American, U.S. ...	110	19	17·2
Belgian	4	1	25
Danish	86	8	9·3
Dutch	29	3	10·3
Esthonian	3	0	0
Finnish	14	4	28·5
French	6	2	33·3
German	70	5	7·1
Greek...	27	9	33·3
Italian	15	1	6·6
Jugo-Slavian ...	2	1	50
Latvian	9	2	22·2
Norwegian	164	31	18·9
Roumanian	1	0	0
Russian	8	0	0
Spanish	16	4	25
Swedish	64	6	9·3

TABLE E.

SHEWING PERCENTAGE OF DEFECTIVE BRITISH SHIPS, 1917-1926.

Port	Number Inspected	Number Defective	Percentage
Manchester—1917 ...	1,816	611	33·6
1918 ...	1,620	544	33·5
1919 ...	1,695	580	34·2
1920 ...	1,709	595	34·8
1921 ...	1,304	396	30·3
1922 ...	1,488	486	32·6
1923 ...	1,507	534	35·4
1924 ...	1,500	484	32·2
1925 ...	1,494	465	31·0
1926 ...	1,474	450	30·5

TABLE F.

GIVING PARTICULARS AND PERCENTAGES OF INSANITARY CONDITIONS FOUND IN VESSELS INSPECTED DURING YEAR 1926.

	Bristol.	Cardiff.	Hull.	Liverpool.	Manchester
CREW'S QUARTERS:					
Ingress of water from broken and defective deck-lights and portlights	—	20·2	14·6	5·3	17·6
Defective bulkheads or coverings, allowing effluvia from holds, w.c.'s, chain lockers, etc.	—	2·0	2·2	·2	4·6
Defective drainage of quarters	·8	2·2	·09	·05	2·1
Dirty forecastles	50·5	34·9	—	81·3	25·6
Verminous forecastles	—	6·7	3·7	—	1·6
Badly lighted forecastles	·4	·8	—	—	2·9
Badly ventilated forecastles	·4	1·6	1·3	·2	3·2
Miscellaneous leakages into forecastles	3·8	1·9	13·3	2·1	14·3
HEATING:					
Defective appliances (stoves)	—	6·4	11·9	1·0	5·2
STORAGE OF FOOD:					
Defective lockers, food kept open in quarters, etc. ...	—	—	15·5	·02	·9
UNCLEAN WATER STORAGE	2·3	1·0	22·9	—	4·4
INSANITARY CONVENIENCES	15·5	11·1	4·6	7·1	12·1
MISCELLANEOUS DEFECTS	25·7	10·4	9·8	1·7	5·0

Now I am quite satisfied that the time is more than ripe for the merchant seaman to get his turn at a housing scheme, and one founded on a standard of fitness not necessarily gauged on a hero's qualifications, but rather on the rights of an ordinary human being. As previously indicated, the Merchant Shipping Acts give very little real power to effect what is required, and it is perhaps somewhat remarkable that they do not direct anyone to make regulations. Fresh legislation is required, and I make the suggestion to Members of Parliament that there could not be a better subject for a Private Bill than that of "Improvement in the Housing of Merchant Seamen on Shipboard." I further suggest that any regulations to be made under such a Bill should not be drawn up by the Board of Trade, but should be jointly produced by that Department and the Ministry of Health.

In 1922 a Committee of the Association of Port Sanitary Authorities went very minutely into the question of hygiene in crews' spaces, and in May of that year this Association adopted a report and drew up a series of recommendations. These are so much in accordance with the actual requirements, and so practicable as well as practical, that I think it well worth while to give them *in extenso*. They are as follows :—

1.—These proposals are intended to apply to new ships of over 300 tons registered, but on re-classification of existing vessels, improved accommodation should be made where necessary and practicable to bring the vessels up to the standard now laid down.

2.—In plans of new ships, the accommodation proposed to be provided for officers and crews to be approved by a competent sanitarian.

3.—After completion of construction, quarters should be certified as satisfactory previous to occupation.

4.—Separate accommodation should be provided for apprentices.

5.—Drying rooms should be provided outside the living quarters.

6.—Provision should be made for the protection of crews' quarters against mosquitoes, where necessary.

7.—The provision and arrangement of crews' space should be midships or aft, and not below the load line.

8.—Messroom accommodation should be provided apart from the sleeping quarters.

9.—A cubic space allowance for crews' spaces similar to Admiralty and Army Transport requirements of 200 cubic feet per head, with a minimum height of 6-ft. 6-ins. should be aimed at.

10.—The Board of Trade standard as to lighting in crews' quarters should be strictly adhered to, regard being had to any obstruction of light by furniture, fixtures or fittings.

11.—The Board of Trade Regulation as to ventilation of crews' quarters should be strictly adhered to, irrespective of doors, and other accessory sources. Improved circulation of air in stokeholds is recommended.

12.—Efficient heating should be provided.

13.—Water closets should be in single compartments, with urinals in addition where they can possibly be provided. Regulation 24 of Board of Trade survey should be a requirement, but is not approved as regards its last paragraph regarding position. They should be on or above the main deck.

14.—Shower baths and basins, with hot and cold water, should be provided. Fresh water supply for wash-hand basins is necessary.

16.—Port sanitary authorities should be empowered to deal with contaminated water on ships.

17.—Drinking water should be stored only in galvanised iron or steel tanks, which should be constructed so as to be readily inspected and have facilities for cleansing, and be away from the latrine and sleeping accommodation.

18.—Vessels trading in ports where water supplies are doubtful should be provided with chlorine "for purposes of purification," and effective water testing apparatus.

19.—Foreign going vessels should have hospital accommodation away from the crews' quarters.

20.—When the crew is quartered aft, "standard" ship accommodation for two-berth cabins and messing accommodation should be adopted.

These recommendations may be usefully studied by the Honourable Member who decides to open the Parliamentary campaign by means of the suggested Private Bill; they will be of great assistance to him in drafting the measure. At any rate, I do hope that my array of fact and argument may, in some degree, act as a stimulus to those who are able to do something.

THE Fifth English-Speaking Conference on Maternity and Child Welfare, organised by the National Association for the Prevention of Infant Mortality, in co-operation with the Maternity and Child Welfare Group of the Society of Medical Officers of Health, will be held at The Friends House, Euston Road, London, N.W.1, on July 2nd, 3rd, and 4th, with visits to institutions on July 5th, 1929. Though the detailed programme is not yet available for issue, it may be noted that the following will be the main subjects for discussion: (*a*) The care of the child between one and five years of age; (*b*) maternal mortality and morbidity; (*c*) the holding of special venereal disease clinics for women and children in connection with maternity and child welfare departments; and (*d*) the suffering entailed on mothers and young children by prolonged waiting in out-patients departments of hospitals. Information regarding the conference may be obtained from the Hon. Secretary, Miss Halford, O.B.E., Carnegie House, 117, Piccadilly, London, W.1.

The Port Medical Service.

By H. C. MAURICE-WILLIAMS, M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.P.H. (Lond.), Deputy Medical Officer of Health, County and Borough and Port of Southampton.

In presenting this paper to the Southern Branch at their meeting on December 7, 1928, Dr. Maurice-Williams gave as a reason that, except to those holding appointments under port sanitary authorities, the work done by the port medical service is practically unknown. The description given of the routine at Southampton is extremely fascinating and will be read with interest, and almost inevitably with profit, more particularly by those whose area of operations is far removed from the ports.

THE jurisdiction of the Southampton port sanitary authority includes the docks, and extends to an area of about ten miles down Southampton Water. Boarding and inspection of vessels are carried out by members of the sanitary staff, consisting of three medical officers, a chief sanitary inspector and five assistant inspectors. In connection with the medical inspection of aliens, a whole-time nurse is employed to assist at the examination of females. Each of the medical officers also acts, under the Home Office, as an inspector under the Aliens Order, and it is with this section of the work that I shall first deal.

MEDICAL INSPECTION OF ALIENS.

Duties commence with the arrival of the Cross-Channel boats, which are due at the docks at 6 a.m. All British passengers are allowed to disembark and to proceed to the customs shed after their passports have been scrutinised by an officer of the investigation department. Alien passengers, however, are congregated in a large waiting-room, and each takes his turn to come before the immigration officer, who ascertains the length of stay, the purpose of the visit and the amount of money possessed. All passengers pass before the medical officer in review, and he is required to pick out any suspicious case of infectious disease or any which are likely to be in an unclean condition. In addition, aliens may be referred by the immigration officer, such as those intending to take up employment in this country and who have already obtained a permit from the Ministry of Labour, or those purposing to remain for a period exceeding three months, including students on their way to convents and schools.

Under the Aliens Order of 1920, no person is permitted to land in the United Kingdom if he or she comes under one of the following categories :—

(*a*) Is a lunatic, idiot or mental defective.
(*b*) Is suffering from venereal disease in a communicable state, pulmonary tuberculosis, leprosy, favus, ringworm, impetigo, scabies, or trachoma (the last-named including doubtful cases).
(*c*) Is found to be verminous. (In some cases permission to land may be given after cleansing and disinfection).

In the case of infectious disease, an alien is allowed to land provided he proceeds to and remains in a hospital, approved by the medical inspector, until free from infection. Conditions such as heart disease, chronic lung disease, or defects and deformities which might subsequently prevent an alien from supporting himself and his family are carefully considered, and where there is a reasonable possibility of his becoming a charge to the State, permission to land is refused. Obviously this does not apply to the tourist class of passengers, or those whose financial condition is good. These methods of dealing with aliens are carried out in a similar manner in all ships arriving at the port.

INSPECTION AND DETENTION OF SHIPS.

For many centuries the dangers of seaborne infection have been fully realised. Indeed, the word "quarantine" owes its origin to the forty days' detention of ships first used by the Venetians as a precaution against plague in the fourteenth century. With the passage of time, quarantine methods have been considerably modified, and it is a matter of interest to note that about two hundred years ago some ships were actually sunk to prevent the spread of infection therefrom.

The world traveller quickly perceives the wide differences in the quarantine organisation adopted by different nations. "It is obvious that Great Britain and her Colonies tend to

follow rather than lead other nations in quarantine matters; and that the quarantine organisation of the United States and her Dependencies is better conceived and administered than that of any other nation. In quarantine, as in so many other matters, we do not take things sufficiently seriously. Commercial interests should never be allowed to prevent the imposition of quarantine restrictions. Again, very few countries would be so ingenuous as practically to entrust customs officials with the first line of quarantine defence which the British practice amounts to." (Brooke.)

Ships from " foreign " may have come from or may have called at an infected port. By this is meant a port which has been classified as infected by the Ministry of Health on account of the prevalence of plague, cholera or yellow fever. On their arrival in Southampton Water they are boarded by a customs officer together with a member of the port sanitary staff, and it is the duty of the *former* to ascertain from the captain or surgeon whether the ship has had, during her voyage, a case or suspicious case of plague, cholera or yellow fever. While plague is always a possibility and occurs from time to time in British ports, cholera and yellow fever are, in these days, very unlikely to be encountered.

In the event of the occurrence of one of these three major infectious diseases, pratique—that is permission to establish shore communication—is withheld, and the ship is ordered to anchor at a special mooring station for infected vessels. Should an officer of the port sanitary staff not be present at the time, it is the duty of the customs official to notify the medical authorities, who are required under the Cholera Regulations of 1907 to visit the ship and to carry out an inspection within twelve hours, as otherwise the vessel is at liberty to proceed to her destination. All passengers and members of the crew are examined, and any case in which the diagnosis is in doubt may be detained for forty-eight hours for the purpose of investigation. Thus, actual and doubtful cases are removed to an isolation hospital, while the remainder of the passengers and crew are permitted to land after they have furnished the name and address of their final destination, which are forwarded by the local sanitary authority to the medical officer of health of the district concerned. The duties of the local authority do not end here, for they are required to see that adequate precautions are taken to prevent the spread of infection by bilge or tank water, by mosquitoes, by rats, by bedding and clothing or by any other article likely to convey infection.

The International Sanitary Convention of 1926, which has been ratified by this country and is now in operation, should, if reasonably administered, facilitate the work of the port sanitary service and provide a greater barrier against the introduction of infection from foreign countries. Changes in port sanitary administration may be necessary to give effect to the provisions of the Convention, which require, *inter alia*, that all ships shall notify the port authorities at least four hours before arrival, by means of wireless, as to the state of health on board. In addition, it is proposed that a " declaration of health," duly attested by the captain or surgeon and pilot, be submitted to the customs and port sanitary officers on their arrival at the ship. This is a great advance on present methods for, owing to the comprehensive nature of the questions demanded in the declaration, and the fact that the customs official cannot so easily grant pratique, and must appeal more frequently to the medical officer for his advice, opinion and approval, it will tend to the removal of the difficulties which are a distinctive feature of port sanitary work in British waters.

While the foregoing elaborate precautions are obviously necessary, it is with the more common infectious diseases that the port medical officer is chiefly concerned. The Port Sanitary Authorities (Infectious Diseases) Regulations of 1920, authorise the boarding and inspection of any vessel arriving at the port, and require the examination of any case or suspected case of infectious disease together with the immediate contacts. Persons suffering from such conditions as enteric fever, diphtheria, scarlet fever, smallpox and typhus are removed to an isolation hospital, while those affected with measles, chickenpox, whooping cough, mumps, etc., may be permitted to proceed by private conveyance to their homes, on the understanding that the conveyance is subsequently disinfected. Bedding and personal effects of the patients are removed to the disinfecting station, and the cabin or hospital in the ship is closed until it has been properly cleansed and sprayed with a 40 per cent. solution of formaldehyde gas in water.

It may seem curious that smallpox should be regarded as a minor infection, and should not share the elaborate ritual reserved for plague, cholera, and yellow fever. This has exercised the minds of port medical officers for many years and, indeed, it constitutes a serious defect in the present administration. Happily, however, the proposals of the International Sanitary Convention will require more stringent measures as regards inspection and the granting of pratique to vessels hailing from smallpox-infected ports.

General Sanitation.

Sanitary requirements of all ships are under the jurisdiction of the Board of Trade, but nuisances are dealt with by the port sanitary authority under the Public Health Act of 1875. The port sanitary inspectors are, therefore, contantly engaged in inspecting and reporting any defects which constitute a nuisance and are a danger to the health of the crew or passengers. Samples of drinking water are sent at regular intervals to the public analyst and all domestic water tanks receive cleansing from time to time.

The Rat Problem.

Not infrequently sporadic cases or even small epidemics of plague occur in the vicinity of our great ports. It is for this reason that unremitting precautions must be taken to prevent the possibility of plague-infected rats introducing this dread disease into the country. A constant warfare is waged against these rodents. Rat-guards, the tarring of ropes, the " booming-off " of ships from the quay, and a continuous supervision and watch kept on all gangways are insisted upon. Rat-catchers are employed to deal with ships whilst in port, and all rats caught are killed and brought to the port sanitary office, where a certain number are submitted to a post-mortem and bacteriological examination for bacillus pestis.

Fumigation of Vessels.—The burning of sulphur has come down through the ages as a means of prevention in the spread of disease. As long ago as 460 B.C. we find in the works of Hippocrates that the burning of sulphur was an antidote against the spread of plague. To cite a period nearer to our time, an excellent account is given in a book written by John Masefield on " Sea Life in Nelson's Time," where he describes the method then in vogue for the disinfection of warships, which was carried out by the burning of gunpowder soaked in vinegar, or as an alternative method, the burning of tobacco in open pans throughout the ships with men standing at quarters " as long as they can bear it."

To-day considerable stress is laid upon the fumigation of vessels chiefly as a means to the effective destruction of rats and vermin, and the four common methods adopted are :—

(*a*) The burning of sulphur in open buckets.
(*b*) By means of Clayton gas.
(*c*) Liquid hydrocyanic acid.
(*d*) Zyclon B (a patent German preparation which consists of hydrocyanic acid and a silicic earth).

In order to obtain a Deratisation Certificate under Article 28 of the International Sanitary Convention, 1926, it is necessary for the shipping company to make arrangements to have their ship fumigated by one of the recognized methods, which is usually done by a firm of fumigating chemists, and to forward to the port sanitary authority a detailed plan of the vessel giving the cubic capacity together with the quantity of fumigant to be used. A primary inspection of the vessel is then undertaken by the port sanitary authority in order to see that the sections have been closed-up according to plan, and that there are no likely harbourages left, such as piled up bedding, dunnage, etc., where the rats might escape the gas.

Before operations commence, a notice is posted stating that the ship is to be fumigated at a certain time, and a roll-call taken to check any unauthorized persons remaining on board.

Sulphur.—Open buckets, each containing the appropriate quantity, which is 3 lb. per 1,000 cubic feet, are placed in the different sections. The sulphur is burnt and the vessel subjected to an exposure of at least six hours.

Hydrocyanic Acid.—A method of generating the gas from raw materials within the space being treated is now little used in Southampton. The process is to mix sulphuric acid with water just before use, and then sodium cyanide is employed to cause generation. The gas is given off with an explosive violence and, being hot from the acid, which is near boiling point, is thrown upwards, with the disadvantage that any possible defect in the sealing-up of the section is most likely to be at the top of the compartment.

Liquid Hydrocyanic Acid.—This is brought on board in steel cylinders, and the method of applying is to release under pressure by means of a valve which allows the liquid to be conducted through piping to the sections where it vapourises. The amount of gas required is

2½ ozs. of the liquid to every 1,000 cubic feet, which gives a concentration of ·23 per cent. of the acid. Naturally, only experts well versed in the use of gas masks, which contain caustic soda, soda of lime, and charcoal, are permitted to participate in the work, and after the vessel has been exposed to the gas for four hours, the ship is ventilated for a further period of twelve hours before the crew are allowed to resume duties on board, and then only after stringent tests have been made by a chemist, who goes through the ship with filter paper soaked in benzidene copper acetate, which shows the presence of HCN by turning blue in the presence of 1 part of HCN in 10,000 parts of air.

Zyclon B.—This is used by scattering the powder on the deck of the compartment which is to be fumigated. Fifty grams are required for every 1,000 cubic feet, from which the HCN is slowly given off.

Rat-proofing of Vessels.—During recent years a great deal of work has been accomplished in the rat-proofing of ships, for by efficient rat-proofing it is possible to reduce the rat population to a harmless minimum, and it will go further in eliminating, not only the danger of plague, but much of the expense and delay caused by fumigation. The principle aimed at is to make each compartment absolutely rat-proof by protecting all necessary openings, shutting off rat-runs and destroying any likely harbourage where the rats can breed, so that it is practically impossible for a rat to hide, nest or move about in search of food and water. Many ships under construction are built with this important point in view, thereby saving the after-expense of rat-proofing. Should it be found on inspection that a vessel has been efficiently rat-proofed, and there is evidence that the number on board is kept down to a minimum by these methods, an Exemption Deratisation Certificate, which does away with the necessity of a fumigation, is issued.

FOOD INSPECTION.

The port medical officer spends much of his time in supervising the sampling and examination of imported food arriving at the port. During the last few months special attention has had to be paid to consignments of mutton arriving from South America owing to the prevalence of a condition of caseous lymphadenitis found in the carcases. When discovered in any of the glands the whole of the carcase is condemned and destroyed. Vast quantities of food of every description are imported, and powers to deal with the inspection, detention and condemnation of foodstuffs by the port sanitary authority are given in the Public Health (Imported Food) Regulations, 1925. Some idea of the work carried out in Southampton during 1928 will be gathered from the fact that 295,949 tons of foodstuffs arrived, of which 154 tons were found to be unfit for human consumption.

CONCLUSION.

In this brief survey of port sanitary administration, as encountered in one of our greatest "Gateways of Empire," I have endeavoured to show that not the least task of preventive medicine is the constant vigilance which must be maintained in the coming and going of ships, and in the control of the nation's food supply. The present organisation is a result of slow and gradual evolution throughout many centuries.

Our methods meet with no inconsiderable degree of success; yet in view of the ever-increasing amount of sea-borne traffic and of the vital importance of the merchant service, I venture to hope that, in common with the development and extension of the health service generally, port medical work will receive greater attention that it has hitherto enjoyed, and that at no distant date it will become a completely organised and valuable unit of our national public medical service.

DR. ALOYSIUS MCMAHON, deputy medical officer of health and tuberculosis officer for Wigan, has been appointed medical officer of health for County Carlow, Irish Free State.

LANCASHIRE county council have appointed Dr. George Fletcher to the position of consultant tuberculosis officer, in place of the late Dr. J. L. Stewart, at a salary of £900 per year. Dr. Fletcher was previously Dr. Stewart's deputy.

SUBJECT to the approval of the Ministry of Health, the Nottinghamshire county council have approved the recommendation that Dr. A. C. Tibbits be appointed county medical officer of health in succession to the late Dr. T. E. Holmes, at a commencing salary of £1,200 per annum, rising by annual increments of £50 to a maximum of £1,400.

Air Travel and the Public Health.

By ARTHUR MASSEY, M.D., D.P.H., Deputy Medical Officer of Health, City of Leeds; Hon. Demonstrator in Public Health, University of Leeds.

This note by Dr. Massey is in reality an addendum to a paper of his published in the December, 1924, number of PUBLIC HEALTH *on "Travel and the Spread of Disease." Here he shows how the risks of disease propagation have increased as a result of the development of aerial transport, and the necessity for even more rapid advance on the part of health authorities in the direction of meeting these risks.*

THE subject of travel and disease propagation to-day includes the problems arising out of civil air navigation. Air transport facilities have developed and are developing apace, and the time is ripe to turn in all seriousness to the public health aspect of the problem.

The experimental stage of aircraft operation is passed, as witness, for example, the records of the British cross-channel and the Cairo-Basra services. Cross-channel air transport is increasing in remarkable fashion. A weekly service has been inaugurated between England and India; this is the first section of a projected air-route to the Antipodes. An air-route to the Cape has already been surveyed, and several successful flights by British pilots have been made between England and various parts of South Africa. The giant airships R.100 and R.101 are nearing completion at Howden and Cardington respectively; each will carry a crew of forty to fifty and accommodate in comfort one hundred passengers—perhaps ere long for regular passages to and fro across the Atlantic and between England and our Indian Empire. A net-work of air-routes within the British Isles is assured in the near future, and many local authorities are already showing commendable activity in the acquisition of sites for their aerodromes. Meanwhile developments for air travel are even more advanced in certain other countries. During 1928, the U.S.A. added 3,000 miles to their internal air-routes and now possess 12,400 miles of routes in regular operation. Germany has a veritable web of internal air-routes, and a regular service from Berlin to Bushire via Moscow and Teheran. The French Paris-London air service in 1928 showed an increase of 117 per cent. in passenger traffic over 1927. These facts—gathered somewhat at random—suffice to show that generalized air navigation is no longer a nebulous proposition.

The British Empire is so far flung that England will necessarily be an important place of confluence for air-routes from the five continents. The Eastern routes involve considerations which are especially vital both commercially and from the sanitary viewpoint.

Speed is the new factor introduced by air travel. It is a matter for careful consideration that aerial journeys from distant infected countries can now be accomplished in times less than the incubation periods of certain major infectious diseases (see table). The possible consequences are as important as they are obvious. Passengers by air from India, for example, may now land here in the incubation stage of eastern smallpox and subsequently develop the disease in the midst of a large community; whereas by sea, time permits of a warning by the manifestation of disease *en route*. A similar contingency is conceivable on occasion in the case, say, of plague despite the comparatively short period of incubation. The table on the next page will illustrate the substance of this paragraph.

The adequate safeguarding of the public health in the changed circumstances involves a problem which is not easy of solution. In the case of smallpox, vaccination requirements might be imposed. On embarking by air for this country from infected lands, passengers might be required to produce evidence of successful vaccination, the operation to have been performed within a period of seven years but not less than twelve days prior to embarkation. This measure would not find ready acceptance although it is not impossible of imposition in the case of air travellers from India, who are largely military personnel and government officials. Even were variola so excluded, there always remains the possibility of the importation of other major infections. The only safeguard which readily suggests itself for general application, is to impose observation at destination over an appropriate

Major Infection.	Incubation Period.	Infected Countries trafficking largely with Great Britain.	Time of journey here by sea.	Approximate time of journey by air.
Plague ...	2-8 days ...	India	21 days	7 days
		Malaya	26 days	10 days
		Iraq	20 days	6 days
		Egypt	12 days	4 days
		West Africa	14 days	4 days
		East Africa	20 days	6 days
		South America	17 days	4 days
Cholera ...	1-3 days ...	India	See above	See above
		Malaya	,,	,,
Yellow Fever[*] ...	3-6 days ... (Intrinsic Period.)	West Africa	,,	,,
		South America	,,	,,
Smallpox ...	12-14 days ...	India, Malaya, Iraq, West and East Africa,	,,	,,
		S. America	,,	,,
		South Africa	21 days	7 days

[*] Although yellow fever is officially categorized with plague and cholera, the danger attendant upon its importation is not real owing to the absence in this country of the agent of propagation, namely, the mosquito, Stegomyia calopus.

period upon all those landed here by air from tropical countries, or from elsewhere if circumstances especially indicate the necessity. As air traffic increases in volume, this will prove a cumbersome process and will be a source of irritation to air passengers and possibly a deterrent to some. The experience of time will doubtless prove a useful guide as to necessary procedure. Howbeit, a sanitary barrier must be erected at our air-ports against the contingencies just outlined as against infection already manifest on arrival.

There are other difficulties in the control of air-borne disease. Sea-going vessels must of necessity enter those ports equipped by nature or engineering skill to receive them. Air-craft are not so tied down by geographical circumstances. The law prescribes recognised places of embarkation and disembarkation and requires their exclusive use. In this way the routes of official air lines can be defined, although account must be taken of emergency landings which are bound to occur from time to time. In the case of privately-owned aircraft, however, evasion will not be difficult and strict disciplinary measures (as already foreseen by the Air Ministry) will need to be enforced against such evasion in the case of arrivals from overseas. In this connection, the problem will be common to the health and customs services, and close co-operation between the two (such as now obtains at the seaports) will be necessary.

Air traffic from distant parts will be largely restricted to the recognised lines, and sanitary control will usually take effect at the air-ports. Although the latter will be situated in various parts of the country, they will be virtually approximated by speedy intertravel and a centrally organized health service will be eminently practicable. Air traffic is national, or even international, rather than local in its application and the sanitary service, which will come into being in connection therewith, would be more appropriately a national charge, similar in this respect to the present customs waterguard. The central control of air travel in this country under a Director of Civil Aviation indicates wise prevision on the part of the Government.

Aliens inspection is already practised at the air ports as at the seaports. Such matters as sewage disposal on board aircraft, rat destruction and the like become relevant as airliners become larger and greater distances are regularly traversed and, above all, as airships come into commission. The Air Ministry recognises the need of absolute fitness—physical and mental—in aircraft pilots and crew. Their initial and subsequent periodical overhaul should be an important duty of medical officers connected with civil air stations.

The writer's paper on this subject in 1924 concluded with apologies for a series of speculations. Speculations have since become facts, and no apology is made now for this further examination of a matter of prime national importance.

The Fifteenth Annual Conference of the National Association for the Prevention of Tuberculosis will be held at Newcastle-upon-Tyne on October 10th, 11th and 12th, 1929.

The Society.

Reports, Proceedings and Announcements.

THE METROPOLITAN BRANCH.

President: Dr. J. B. Howell, M.O.H., Hammersmith.
Hon. Secretary: Dr. James Fenton, M.O.H., Kensington.

A meeting of the Council of this Branch was held at the house of the Society on April 26th, 1929, the President occupying the chair. Thirteen members were present.

The Branch Council had before them a letter from the Metropolitan Boroughs' Standing Joint Committee in which the views of the Branch were requested upon the proposal of the St. Albans City Council that medical officers of health should be empowered to isolate persons who have been in contact with, or are suspected of suffering from smallpox, especially inmates of casual wards in poor law institutions. After a full discussion of this matter it was agreed that the Standing Joint Committee be informed of the opinion of the Branch Council:—

(*a*) that local authorities should be given power to secure the vaccination of all direct contacts of a case of smallpox, and

(*b*) that local authorities should be given power to detain the inmates of casual wards who have been in contact with smallpox if, in the opinion of the medical officer of health, they are not adequately protected by sufficiently early vaccination or re-vaccination.

Reference was made by the Hon. Secretary to the demonstrations recently given to metropolitan medical officers of health at the smallpox hospital of the Metropolitan Asylums Board, and it was resolved that the thanks of the Branch Council should be conveyed to the Board and to Dr. Cameron for the privilege granted to medical officers of health of seeing the cases of smallpox under treatment at the hospital.

The Branch Council resolved that the Metropolitan Branch should support Dr. J. J. Buchan's nomination by the Yorkshire Branch for the Presidency of the Society for the ensuing session.

The Hon. Secretary reported the receipt of a communication from the British Social Hygiene Council in which the suggestion was made that a conference of representatives of that Council and the Branch Council should be convened to consider the lines on which the British Social Hygiene Council should direct their activities in regard to public health propaganda during the coming year. It was agreed that the British Social Hygiene Council should be invited to send representatives to an early meeting of the Branch Council.

The Branch Council resolved to accept an invitation from the Gas Light and Coke Company to visit that Company's Research Laboratories and Training Centre at Watson House, Battersea. The Hon. Secretary stated that it was proposed that the visit should take place on Friday, May 24th, and that the Company were prepared to welcome the members of the Branch and their ladies.

The attention of the Branch Council was drawn to a resolution of the Malling Rural District Council suggesting that the London public health authorities should accept responsibility for cases of infectious disease occurring in persons from London who are engaged in hop picking. It was agreed that the Medical Officer of Health of the Malling Rural District Council be informed that the Branch Council are not prepared to recommend the adoption of the principle embodied in the resolution of the Malling Rural District Council.

Attention was given to a letter from the Executive Secretary of the Society, calling attention to various items of business dealt with at a recent meeting of the Council of the Society, and the following decisions were arrived at:—

(*a*) That no action be taken upon the reference from the Council of the Society in regard to the Report on Rural Water Supplies submitted by the Advisory Committee on Water.

(*b*) That attention be given at the next meeting of the Branch Council to the position of the general practitioner in relation to preventive medicine.

(*c*) That the Council of the Society be informed that the Branch Council, having noted that a Committee has been appointed to consider the procedure of the Council in reference to committee work, references to Branches and Groups, etc., desire to state that they are satisfied with the arrangements at present in operation and would not favour any alteration which would involve the Society in additional expenditure.

THE YORKSHIRE BRANCH.

President: Dr. Cyril Banks, M.O.H., Nottingham.
Hon. Secretary: Dr. G. H. Pearce, M.O.H., Batley.

A meeting of this Branch was held, by invitation of the Chairman and Members of the Health Committee of the City of York, at the Fairfield Sanatorium, on April 26th, 1929, with the President in the chair. Fourteen members were present. Apologies for absence were received from nine members.

A letter from the Executive Secretary of the Society respecting (*a*) Rural Water Supplies; (*b*) the General Practitioner and Preventive Medicine; (*c*) B.M.A. Elections; (*d*) Procedure of Council; and (*e*) Annual Provincial Meeting, was considered, when it was unanimously resolved that Drs. Thornley and Bertram Hill be requested to expound the Report on Rural Water Supplies at the Annual Meeting of the Branch, and that the other subjects be placed upon the agenda for the next meeting.

The Hon. Secretary reported receipt of letters from the North-Western and Northern Branches and from the Naval, Military and Air Force Hygiene and the Dental Officers' Groups, agreeing to support the candidature of Dr. J. J. Buchan for the Presidency of the Society for the session 1929-30.

Consideration was given to a letter from the Secretary-General, British Social Hygiene Council, respecting an offer to send Members of the Council to confer with the Branch. The Hon. Secretary was instructed to convey thanks for the offer, and to state that it was not possible to accept owing to the fact that the programme for the present session was full and it was not expected there would be a suitable occasion during the session 1929-30.

A report of the Metropolitan Counties Branch of the British Medical Association (Wandsworth Division) which appeared on page 81 of the Supplement to the *British Medical Journal* of April 6th, 1929, was considered. It was unanimously decided that the attention of the Council of the Society be directed to this report.

Dr. P. R. McNaught, Medical Officer of Health, City of York, gave an address entitled "Tuberculosis in York during the Past Fifteen Years," in which the speaker traced the activities of the Corporation from the inception of its tuberculosis scheme to the present date. Dr. McNaught was heartily thanked for his address.

This was followed by an inspection of the Sanatorium, which consists of a mansion and grounds previously owned by the late Mr. Vyner. A tour of the farm and premises was also made.

After tea—generously provided by the City Council—the President, on behalf of the Branch, expressed thanks to the Council, and to Dr. McNaught and the Matron of the Sanatorium, who were responsible for local arrangements.

A Corporation motor omnibus, which had met the party at York Station and conveyed them to the Sanatorium, some three miles from the City, was available for the return journey, and it was generally agreed that a most interesting afternoon had been spent.

THE MATERNITY AND CHILD WELFARE GROUP.

President: Prof. A. Louise McIlroy, D.B.E., Professor of Obstetrics and Gynæcology, University of London.
Hon. Secretary: Dr. Margaret Emslie, 18, Weymouth Street, Portland Place, W.1.

The yearly provincial meeting of this Group was held in Manchester on February 21st, 22nd, and 23rd, 1929, and was presided over by Professor Louise McIlroy, D.B.E.

The meeting opened with a discussion on "Puerperal Fever."

Professor W. Fletcher Shaw, in the opening paper, dealt with autogenous and exogenous sources of infection. He believed exogenous infection was a more important source of sepsis than autogenous and, whilst recognising that there were cases due to the latter, felt that especially in teaching it was important to stress exogenous infection as the common cause. As regards the administrative side, he held that ante-natal work should be in the hands of obstetricians, and that cases of puerperal sepsis should not be treated in fever hospitals.

Professor H. B. Maitland mentioned that *streptococcus hæmolyticus* was the principal bacterial offender, and that carriers of this organism were common. The same toxin was produced in scarlet fever, puerperal fever and erysipelas. He suggested that the Dick test and the use of scarlet fever antitoxin in pregnancy might prove useful.

Dr. F. H. Lacey dealt with methods to avoid vaginal infection in the later months of pregnancy. He urged practitioners to employ midwives, and said that midwives should be subsidised, and sterilised outfits provided. Early notification of puerperal sepsis was essential, and special hospital wards should be provided for the treatment of such cases.

Dr. J. H. Kerr described the advantages of Dr. Remington Hobb's glycerine drainage treatment and also its contra-indications.

In the general discussion, in which Drs. Nash, Cassie, Emslie, Nicoll, Sutherland, Kidd and Fanning took part, mention was made of the limited use made of consultants provided; the overlapping of officials; and the want of co-operation between administrators and the obstetricians. Speakers also stressed that ante-natal clinics were merely a stop-gap until a better obstetrical service had been secured.

The President claimed that statistics needed to be put on a proper basis. She mentioned teeth as a common source of autogenous infection, and described the treatment given at the Royal Free Hospital in cases of puerperal sepsis, open air treatment and colon lavage being found beneficial. She also referred to the importance of post-natal supervision, feeling that resistance to infection was lowered by shock and exhaustion, and advocated the greater use of sedatives and anæsthetics in prolonged labours.

"Endocrine Deficiency in Children" was dealt with by Dr. C. P. Lapage, who also referred to Pink Disease, showing a number of slides. As regards Pink Disease, he suggested the name "Acroerythema" as being less misleading than those usually attached to the disease. Ninety per cent. of cases recovered, though slowly, and broncho-pneumonia was the commonest cause of death.

Dr. M. J. Rowland dealt with the effects of vitamin B deficiency on the intestinal tract, and illustrated his lecture with lantern slides, showing the dilation of the stomach and the atrophy of the muscular and mucous coats in rats reared on a diet deficient in vitamin B. He also showed how bacteria in such a condition invaded the lacteals and reached the circulation. He pointed out the importance in human beings of vitamin B, and suggested that deficiency of this vitamin was an important factor in the causation of intestinal stasis, rheumatoid arthritis and in cardiac cases from dilatation of the stomach. He considered vitamin B was the vitamin most deficient in the modern dietary.

The meeting on the second day was presided over by Dr. F. T. H. Wood, O.B.E.

Professor Stuart Cowell submitted a paper giving the views held by research workers as to the dietetic needs of the child from conception to adolescence. That the present dietary was inefficient was shown by the poor physique of many of our children, the infections, the disorders of calcification, and the enlarged tonsils and adenoids. He showed the need for a diet containing sufficient vitamin D and calcium; sufficient vitamin A to promote resistance to infections, and iron to prevent anæmia. He indicated food sources of these vitamins, and mentioned the work of Mrs. May Mellanby on calcification of teeth.

Dr. Chisholm, Dr. Campion and Dr. Scurfield were among those who took part in an interesting discussion which followed.

Some interesting visits were paid to the Manchester Babies Hospital; the Skin Hospital; the Salford Open-Air Nursery School, and the New Hospital at Davevhulme.

A Joint Meeting of the Group and the Obstetrical Section of the Royal Society of Medicine was held at 1, Wimpole Street, W.1, on March 15, 1929.

The chair was taken by Dr. J. S. Fairbairn, and Professor J. Munro Kerr opened a discussion on "The Future of the Maternity Service." He mentioned the great advances made during the last decade in maternity and infant welfare, and stressed the impossibility of the general practitioners giving adequate attention to obstetrics, for instance, during an influenza epidemic. He suggested two forms of obstetric service—one mainly institutional and the other largely domestic. Beds should be provided for all primiparæ, for all multiparæ whose labour was likely to be complicated, and for ante-natal cases. Normal multiparæ might be attended at home by midwives.

Dr. J. J. Buchan said that the general practitioner was a very potent factor in public health, and should not be divorced from work in midwifery. Childbirth was a physiological process, and the danger involved should be very small; that it was not so, was due to defects in health and development of women, failure to seek advice early in pregnancy, and want of facilities for advice and treatment. He thought the National Health Insurance Scheme should give benefit in kind in the form of a maternity service instead of in cash.

Mr. Eardley Holland pressed the importance of efficient personnel, and the need for large hospitals and training centres with a high standard of excellence, and staffed by obstetric

specialists. Ante-natal work should be in charge of a person who would conduct the labour. Much of the ante-natal work at present was utterly irresponsible.

Dr. Eustace Hill suggested the improvement of the status and training of the midwife; development of ante-natal centres on right lines; adequate provision in maternity homes and hospitals; adequate provision for sepsis; the elimination of the handy woman; and improved education of the medical student.

An interesting discussion followed in which Dr. Fairbairn, Lady Barrett, Dame Louise McIlroy, Mr. Griffith, Dr. Oxley, Dr. Stella Churchill and Sir Ewan Maclean took part.

Professor Munro Kerr and Dr. Eustace Hill replied.

NAVAL, MILITARY AND ROYAL AIR FORCE HYGIENE GROUP.

President: Surg.-Cdr. S. F. Dudley, O.B.E., R.N.
Hon. Secretary: Lt.-Col. G. S. Parkinson, D.S.O.

A meeting of this group was held at the house of the Society on April 23rd, 1929, when Dr. J. E. McCartney, Director of Research and Pathological Services, Metropolitan Asylums Board, opened a discussion on "The Mobile Laboratory—its use and limitations in time of war."

Dr. McCartney traced the history of mobile laboratories from their inception, and those present were greatly impressed by the clear and detailed account given of the working of one of these units during the Great War as well as by the valuable suggestions put forward as to how they might be improved.

An excellent discussion followed, and at the conclusion a vote of thanks to Dr. McCartney was carried by acclamation.

THE SCHOOL MEDICAL SERVICE GROUP.

President: Dr. T. P. Puddicombe, D.S.O., Asst. M.O.H., Essex County Council.
Hon. Secretary: Dr. W. J. M. Slowan, O.B.E., Asst. M.O., London County Council.

A meeting of this Group was held at the house of the Society on May 4th, 1929.

Owing to the very small attendance (four members), the election of officers for the ensuing session was postponed.

Dr. T. W. Hill, Assistant Medical Officer of Health, Willesden, read a paper on "Personal Experiences in the School Medical Service," which was listened to with great interest.

THE HOME COUNTIES BRANCH.

President: Dr. F. T. C. Linton, M.O.H., Tunbridge Wells.
Hon. Secretary: Dr. W. A. Muir, M.O.H., Gillingham.

On May 3rd, 1929, a visit was paid by this Branch to the brewery of Messrs. Watney, Combe, Reid & Co., Ltd., at Mortlake. The President and some twenty other members were conducted by guides through the many sections of the brewery, and the various processes in the manufacture of beer were interestingly demonstrated, *viz.*, (*a*) the "mashing" of malt by mixing with water in large tanks, (*b*) the clarifying process, (*c*) the boiling of the infusion with hops, and (*d*) the fermentation of the "wort" by yeast.

The members were entertained to tea by the directors, one of whom welcomed the Branch, and Mr. Julian Baker, the chemist, gave a short and illuminating address on certain aspects of the brewing of beer.

The President proposed a vote of thanks to the directors for their hospitality, and to Mr. Baker for his address, and this was carried by acclamation.

The Hon. Secretary read a letter from the Yorkshire Branch inviting support for the nomination of Dr. J. J. Buchan as President of the Society for the session 1929-30. It was resolved unanimously that such support be given by the Branch.

THE NORTH OF ENGLAND TUBERCULOSIS SOCIETY.

(Tuberculosis Section of the Northern Branch of the Society of Medical Officers of Health.)

A meeting of the above-named Society was held at the Medical Institute, Newcastle-upon-Tyne, on April 26th, 1929. Ten members were present.

Dr. W. H. Dickinson delivered his Presidential Address, entitled "Tuberculosis—Some Observations and Reflections." A general discussion followed, in which Dr. Bannerman, President of the Northern Branch of the Society of Medical Officers of Health, who attended the meeting in his official capacity, took part.

Business transacted included the election of officers for the ensuing year.

The Literature of Preventive Medicine.

SOME METHODS FOR THE PREVENTION OF TUBERCULOSIS. By W. BOLTON TOMSON, M.D., Medical Superintendent, "Sea-View" Sanatorium, St. Leonards-on-Sea, etc. London: Baillière, Tindall & Cox, 1929. pp. 148. Price 6s. net.

The author has given a great deal of study to the subject of the Grancher system, and has already written a small book upon it which was reviewed some two years ago in this journal.* In this new and larger volume he goes more generally into the question of tuberculosis prevention and, in doing so, has provided a work of reference that will be most useful to British workers in this field. In general his view is that the campaign against tuberculosis in this country has failed, and, re-asserting his belief in the Grancher system, he describes it and allied systems as followed in France, Belgium, Norway, Sweden, Switzerland, America, as well as this country. Tuberculosis colonies are also dealt with, and the American "Home Hospital Scheme" is described. This last is a modified colony scheme in which a suitable building is secured and quarters provided under proper hygienic conditions for tuberculous persons and their families. Through Dr. Tomson's influence a house has been taken at Hastings and fitted on these lines, and an account is given of a family (man, wife and one child) who live there.

The author does not appear to have seen the Memorandum on the Prevention of Tuberculosis in Children, prepared by the Tuberculosis Group of the Society of Medical Officers of Health, or the Report on the Employment of Tuberculous Persons, published by the Joint Tuberculosis Council. It is certainly doubtful if the tuberculosis campaign is as backward in Great Britain as the author believes; probably indeed, more is being done here by open air schools, and the boarding out of children, officially and unofficially, than in any other country. The admirable work carried out in Hastings has been done elsewhere in England on a larger scale, and is attempted to a greater or lesser extent in most districts, quarters being found by the tuberculosis officer, the health visitor, or some other suitable agent.

On care committees the author pins his faith, but these have not functioned everywhere with the same success. They provide, it is true, a valuable basis for propaganda, but in some localities they have been found too inquisitorial; in others their well-meaning attempts to secure work have advertised the existence of disease and prejudiced the patient. It seems clear that the success of a care committee depends on efficient direction by the tuberculosis officer or some other individual worker.

It is interesting to read that French infants about to be placed out are first given doses of B.C.G.; but this rather spoils the statistical returns of the B.C.G. enthusiasts, who cannot well attribute immunity from the disease to inoculation when the infant has been removed from the source of infection; nor can the advocates of the Grancher system claim the success when the child has also received B.C.G.

The book is interestingly written and, as stated, will be found a useful work of reference for British tuberculosis workers.

* PUBLIC HEALTH, July, 1927, p. 312.

GOOD HEALTH. By IAN S. THOMSON, M.A., M.D., D.P.H., Assistant Medical Officer of Health, City of Westminster. London: Longmans, Green & Co., 1929. pp. 122. Price 3s. 6d. net (paper covers 2s. net).

The output of books on health increases apace. All of these are not marked by the qualities of common-sense, sound knowledge and critical moderation which distinguish Dr. Thomson's little volume, to which Sir Arthur Keith contributes a foreword.

The text covers the ground of elementary physiology in certain of its most interesting aspects in very simple terms, leading from that to a clear and ample description of the mode of origin of such things as indigestion, heart disease and rheumatism, various forms of mental abnormality and certain chronic infections. Chapters also are devoted to an outline of state medicine and an account of what takes place in vaccination, diphtheria prophylaxis, etc.

The style of writing is pleasant, and there is nothing in the text beyond what most intelligent people should and would wish to know.

In the Annual Reports.

INFANTILE MORTALITY IN CALCUTTA.—Amongst babies 1 to 2 months old there were 597 deaths, during 1926, due principally to bronchitis and pneumonia, which caused 332 deaths, or about half the total. At the age 2 to 3 months, 380 deaths occurred, of which 201, or about 55 per cent., were due to respiratory diseases. From 3 to 6 months of age, 995 deaths were recorded. Here also respiratory diseases were responsible for 537 deaths, or 54 per cent. of the total. Amongst older babies, from 6 to 12 months of age, out of 1,594 deaths, no fewer than 732 were due to respiratory diseases. The large proportion of deaths from respiratory diseases has always been a striking feature of these returns. Overcrowding under insanitary conditions is largely responsible, but exposure of babes when inadequately clothed must also play an important part. The very low death-rate from diarrhœal diseases (6 per cent.) affords a marked contrast. This appears to be due to the fact that breast feeding is almost universal and milk is always boiled.—*Dr. T. N. Majumdar, Calcutta.*

DEATH RATES AND RACIAL PECULIARITIES.—During 1927 the death-rate declined and total deaths were 89 below the previous year; but the negro death rate advanced slightly. We have always known that negroes were more susceptible to lung troubles, tuberculosis and pneumonia; but less attention had been paid to the figures for heart disease or for nephritis, to both of which the negro must be more susceptible if the death figures are to be taken as accurate. To the contrary, unless diagnosis is faulty, the negro is far less susceptible to scarlet fever or the darker colour of skin makes accurate diagnosis more difficult. Since we have been recording our deaths, beginning with 1913, the negroes have had only 43 deaths from scarlet fever, while there were 486 white deaths, or more than eleven times as many. The negro appears to be considerably more susceptible to apoplexy or softening of the brain, and somewhat less susceptible to cancer. It would be interesting to have studies of these peculiarities to determine whether they are as they seem.—*Dr. Ennion G. Williams, Virginia, U.S.A.*

STREET ACCIDENTS.—An arresting feature in the causes of death during the last 17 years has been the phenomenally rapid rise in the mortality from accidents and injuries, particularly those due to mechanically propelled vehicles. In 1911, street accidents accounted for a total of 17 deaths, of which eight were due to motor vehicles and the remainder to vehicles of other descriptions and pedal cycles. Five years later (1916) the total jumped to 27, of which 16 were due to motor vehicles and 11 to vehicles of other descriptions. Last year the total was 57, of which 91·2 per cent. were due to motor vehicles and 8·8 per cent. to vehicles of other descriptions. In other words, in the 17 years, the mortality rate from street accidents of all kinds has increased by 235 per cent., whilst that for motor vehicles alone has increased by no less than 550 per cent.—*Dr. J. Johnstone Jervis, Leeds.*

HEALTH ON THE "BETTER FARMING TRAIN."—During 1927 (March to October) this Department provided a health section car on the "Better Farming Train," and an officer of this Branch was placed in charge to demonstrate and lecture on matters appertaining to public health. Lectures relating to hygiene and sanitary appliances were well attended, and from inquiries made at the conclusion of the lectures or demonstrations, it was evident that the country people were eager to acquire a better knowledge of health matters generally. Lectures on flies and other such pests were also given to school children in several of the districts visited. The care, management, and working of a septic tank were fully explained and lectures on the tank were delivered. For the purpose of giving information in reference to the suitability of sites for septic tanks, or as to the cause of the derangement of any existing tanks, it was frequently necessary to make special visits to various premises. The section dealt with both personal and public hygiene and created a considerable amount of interest, the exhibits, posters, etc., being the means of encouraging many pertinent questions on matters relating to improved sanitation and health.—*Dr. Robert Dick, New South Wales.*

LIEUT.-COL. G. S. PARKINSON, D.S.O., R.A.M.C. (ret.), has been appointed Assistant Director (part-time) of the Division of Public Health at the London School of Hygiene and Tropical Medicine. During the Great War, Colonel Parkinson was Deputy Assistant Director of Hygiene with the First Army, and later Assistant Director of Medical Services. After the armistice he was appointed D.A.D.H. at Gibraltar, a post he held for five years, the appointment including the duties of medical officer of health for the civilian population and the administration of a complete health department. From Gibraltar, Colonel Parkinson was appointed Assistant Professor of Hygiene at the Royal Army Medical College. For some time since his retirement in 1927, he has been acting as assistant to the Executive Secretary of the Society of Medical Officers of Health, and in this capacity is well-known to members. For the past six years Colonel Parkinson has been Hon. Secretary of the Naval, Military and Royal Air Force Hygiene Group of the Society, which he represents on the Council of the Society and of the Metropolitan Branch. With the experience in administrative and, more particularly, teaching work which he has had, Colonel Parkinson should be a valuable addition to the strong team which will work under the leadership of Professor W. W Jameson.

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Editorial.

National Baby Week.

THE first week of July once more sees the opening of a National Conference on Maternity and Child Welfare and the intensification of propaganda on behalf of maternity and child life which marks the celebration of local Baby Weeks.

The recently published figures for infantile and maternal mortality once more proclaim the heavy toll of deaths in the first month of life, approaching one-half of the total figure under two years of age. While these things remain, none can look forward to any lessening of the responsibility which rests upon each health officer to keep public attention alive and to arouse further efforts to a variety of ends, each having a bearing on the reduction of the figures. Coupled with this present liability, actually and sentimentally, is the greater tragedy to the individual and the family involved in the undiminished rate of maternal deaths. In this the loss that Britain bears continues to be greater than that of several European countries which, in their midwifery, are as well served and organised as the nation prides itself upon being in other matters of public safety. Common sense and pity demand that the matter should not remain where it is, but conditions vary and accurate knowledge as to what was wanting and what was practicable to be done has not been available. The prophets have spoken, of course, but even so it has not been possible to state in any oracular manner how the problem could be tackled so that poor and rich, slum dweller and remote cottager, cases potentially healthy and others essentially abnormal or diseased, could be helped, when poverty

and overcrowding were not the sole or even the necessary conditions of morbidity. This year, however, as the result of the several investigations into obstetric pathology and the possibilities of an organised national maternity service which have been going on, should see the beginning of a well-informed and concerted move in the right direction.

For other reasons the immediate future will be of acute interest in view of the changes envisaged under the Local Government Act, 1929. Maternity and child welfare workers early showed nervousness of the possible effects of the block grant in restricting funds and slowing down or obstructing prospective advances or new expenditure. The expressed intentions of the late Minister of Health were directed towards allaying such fears and encouraging rather hopes of a new era of development where development was most needed. Re-organisation at least will be unavoidable and the extent of the changes under the new law will react to the ingenuity and keenness of those to whom new powers and resources will be given. The opportunities and responsibilities implicit in the altered methods of administration are potentially of the greatest attraction and significance.

Appropriately of National Baby Week there is published in this number, a series of papers bearing on the problems of maternal and child health. In making presentation of these papers opportunity is made to pay tribute to the importance of the individual contributions relating to aspects of the subjects familiar to every health officer in practical issue. By such publication, too, there is indulged the hope that, by concentration of thought and purpose, the conception of a real dedication of service in this work may be revivified, and confidence in its eventual and necessary triumph may be increased.

* * * * *

Health, Disease and Integration.

FELIX qui potuit rerum cognoscere causas. And throughout the centuries, since the Roman poet wrote those words in his villa at Naples, men have striven for this happiness in the knowledge of the causes of things. How difficult is the task of search and how elusive is the reward are soon realised by those who make the attempt; for the secrets of Nature so essential to health are jealously guarded. In his venture,* Dr. Newsholme has produced a most thought-provoking study of a fascinating subject; and on completing the volume, which is by no means an easy book, the reader is struck at once with the earnestness of purpose of the author, and with the painstaking way in which he has elaborated his essay. Not that everyone will be able to agree with all the suggestions put forward, for many of these propositions are of a highly speculative and unorthodox nature. But Dr. Newsholme realises this and meets his trenchant critic by pointing out that he is aware that his hypothesis may "appear an extravagantly large edifice to erect on a narrow foundation of clinical material." And his object in putting it forward is to enable it to be adequately tested.

The essay is primarily conceived from an intimate analysis of a series of cases of encephalitis lethargica; and it is suggested that it may be necessary to revise our accepted ideas of disease, for probably there has been too much concentration on body or mind as distinct fragments, and no allowance has been made for personality as a whole. It is not the purpose of the thesis to show that infection does not play a part in producing cases of the disease, but that groups of factors are concerned, implying a disturbance of mental processes and a disturbance of the physical side of the body; that is, an alteration of the balance between body and mind. And "whether physical (including infective) or psychical factors appeared to be the prime agent in giving rise to the disturbance of equilibrium ending in encephalitis lethargica, the symptoms of the disease were, in either case, capable of explanation as the product of a psychical mechanism."

The discussion proceeds to enquire whether there is a possibility of non-specific causation in individual diseases; and it is suggeted that the living enzymes or viruses need not always be derived from an external source, but may be the product of the unhealthy body itself, possibly in encephalitis the result of some nervous activity such as acute emotion or cerebral irritation. And while the virus can

* HEALTH, DISEASE AND INTEGRATION. By H. P. NEWSHOLME, M.A., M.D., F.R.C.P., B.Sc., D.P.H., Medical Officer of Health, City of Birmingham; Examiner in Public Health, University of Oxford. An Essay based on a Study of Certain Aspects of Encephalitis Lethargica. London: George Allen and Unwin, Ltd., 1929. pp. 327. Price, 12s. 6d. net.

be, and doubtless often is, derived from an external source, it is not necessarily and universally specific in the present bacteriologically accepted sense of the word. Evidence to support this is claimed from other diseases like rabies and poliomyelitis; and the possibility is stated that the noxious quality of the micro-organisms which produce infectious disease may have been the result of abnormal and unhealthy manifestations within the tissues converting harmless into harmful micro-organisms and stimulating them to play parts abnormal to their original nature. This links up with the earlier suggestion that emotional changes may be a powerful factor in altering the character of the tissue fluids and the relationship between host and bacterium.

From this stand the argument proceeds to discuss the balance of body, mind, and spirit; and possibility is claimed of an alteration in the exact normal neuro-somatic poise being concerned in the production of diseases rather than that the purely physical and specific infection should always be clearly cut and uppermost. Integration and metabolism are commented on in relation to a heterogeneous set of clinical entities; and Dr. Newsholme weaves his argument with considerable acumen through the succeeding chapters to support the view that there is a disturbance of bodily integration in a number of general constitutional diseases with maladjustment of body and mind. And if the hypothesis is correct then "the fundamental point for medicine to attack is the consolidation and stabilisation of the bond between mind and body; and beyond this, and as a part of it, the stabilisation of integration between three aspects of the mind's activity—the emotions, the intellect, the spirit." This will not be an easy task.

Several general problems are introduced, and social and spiritual considerations bring the reader back again to the hypothesis of the importance of maintaining the neuro-somatic integration so that education may be directed steadily towards developing the one indivisible whole.

In one of his charming addresses, Osler reminded us of the legend of the Egyptian god Osiris; how Truth was hewn into a thousand pieces and scattered to the four winds. Since then many have searched, like Isis, to recover the fragments, all of which have not yet been found. And however far the future will prove or disprove Dr. Newsholme's theories, a welcome can meanwhile be given to his praiseworthy attempt to rescue yet another particle of truth from the boundless expanse of the Unknown.

* * * * *

Toxicity Tests for Novarsenobenzene.

THE value of any trepanocidal agent is determined by the ratio between its lethal and its curative doses. This relationship is termed the *chemotherapeutic index* and is expressed by the equation:—

$$\frac{\text{Maximal tolerated dose per kilo.}}{\text{Minimal curative dose per kilo.}} = \text{chemotherapeutic index.}$$

A chemotherapeutic index of 20 thus means that the single minimal curative dose is 20 times less than the single maximal tolerated dose. The ideal sought is a compound possessing a minimum of organotropism with a maximum of parasitropism.

In view of the widespread use of arsenobenzene compounds it is very important that the preparations used should be guaranteed as being not merely of high remedial value but also of low toxicity. It has been too readily assumed with respect to the arsenobenzenes that their toxicities are roughly proportional to their curative potencies. There would appear to be no solid foundation for this assumption. That arsenobenzene compounds can be very toxic has been well recognized; and sometimes, because of the effort to keep toxicity down, the remedial aspect has been neglected, and there has been a reduction of therapeutic value almost to vanishing point. From this, it has been assumed, without sufficient justification, that toxicity and potency vary directly the one with the other.

A course must be charted so as to avoid the Scylla of toxicity on the one hand and the Charybdis of impotency on the other. This was realized by the International Conference on Biological Standards which met at Geneva in 1925 under the auspices of the Health Organisation of the League of Nations. The dual testing of each batch of arsenobenzene compounds manufactured, with respect to both toxic and therapeutic properties, was then recommended. That Conference, while setting up standards by which the normal toxicity and therapeutic potency of the arsenobenzene derivatives might be defined, did not prescribe the limits of permissible variation from those normal values. Under apparently precisely similar manufacturing processes, different batches of arsenobenzene compounds from the

same laboratory vary greatly in their toxic reactions, and it is a matter of international health importance that no unduly toxic batch should be put upon the market.

The experiments recorded in the recent publication of the Medical Research Council on Toxicity Tests for Novarsenobenzene* were undertaken with the object of providing direct evidence concerning the accuracy with which the normal toxicity could be estimated. The record is both interesting and important; and after discussing the British, German, Japanese, and American tests, the authors describe a more sharply discriminating, and therefore fairer, test than any at present in use. They also emphasise the need for a collateral therapeutic test.

In these days when there is a strong body of opinion—both medical and lay—building up in favour of the compulsory treatment of venereal disease, it is necessary that the public should be assured that the main weapon in the treatment of syphilis is both accurate and safe. There is no remedial agent which stands higher in the therapeutic scale than arsenobenzene and its derivatives; and, provided that competence wields the syringe, there is nothing which is more certain in its results and more free from danger in its action.

* * * * *

The Young Child in the Tuberculous Household.

AT the request of the Joint Tuberculosis Council the Lancashire Group of Tuberculosis Officers, under the able direction of Dr. Lissant Cox, has produced a careful and valuable statistical study of the Fate of Young Children in Tuberculous Households.† Professor Major Greenwood and Dr. C. O. Stallybrass have very kindly helped with the mathematics of the report.

Young children are defined as those under five years of age, and a tuberculous household is one in which there is, or has been during the past five years, an adult suffering from tuberculosis. The histories of 1,486 children living in 1,063 households are analysed, and experience of the ordinary population of the geographical county of Lancaster has been used as control. The substantial majority of the children considered remained in constant contact with an adult tuberculous case in their homes during the period of observation. Some of the conclusions may be quoted.

(1) The death-rate from *non-pulmonary* tuberculosis of children exposed to risk from an adult with positive sputum exceeded that of controls nine times in the age group 0 to 1, fourteen times in the age group 1 to 2, and nineteen times in the age group 2 to 5. This excessive mortality was mainly due to deaths from tuberculous meningitis, which formed two-thirds of the total.

(2) Where the patient concerned had no sputum, or a negative sputum, the death-rate of exposed children exceeded that of controls by three times in the age group 0 to 1, four times in the age group 1 to 2, and ten times in the age group 2 to 5.

(3) The death-rate from causes other than tuberculosis was lower among children up to 2 years than among controls—possibly, it was thought, because of the extra supervision afforded to these children.

(4) As appears in other statistical investigations, the tuberculosis mortality was greater amongst the children of tuberculous mothers than of tuberculous fathers.

(5) The exposed children did not have a higher mortality from all causes as compared with the expectation of life in England and Wales, gathered from the Registrar-General's Decennial Supplement, 1921.

(6) Professor Calmette has stated that in France, 24 per cent. of the children of tuberculous mothers die from tuberculosis in the first year of life, if left with the mother, but in Lancashire the corresponding death-rate was 3·2 per cent., and from all causes only 11·5 per cent.

(7) Furthermore, exposed Lancashire children observed from birth to 4 years show a death-rate from tuberculosis and all causes a little lower than the French figure for children observed from 1 month to 4 years *who have been vaccinated at birth with B.C.G.*

Although the numbers dealt with in this report are not large it provides a model statistical study, and contains stimulating material for all members of the Public Health Service.

* Reports on Biological Standards. II. Toxicity Tests for Novarsenobenzene (Neosalvarsan). By Florence M. Durham, J. H. Gaddum, and J. E. Marchal. Medical Research Council Special Report Series No. 128. H.M. Stationery Office, 1929. pp. 40. Price 9d. net.

† FATE OF YOUNG CHILDREN IN TUBERCULOUS HOUSEHOLDS.—Report of the "Lancashire Group" of Tuberculosis Officers to the Research Committee of the Joint Tuberculosis Council. 1929. pp. 39.

Maternal Mortality and Allied Problems.

By ETHEL CASSIE, M.D., D.P.H., Assistant Medical Officer of Health (for Maternity and Child Welfare), City of Birmingham.

It is the opinion of Dr. Cassie that the reduction of maternal mortality and morbidity rates is largely dependent upon a reduction in the amount of puerperal sepsis and the toxæmias of pregnancy. In this interesting and stimulating paper she offers suggestions as to the lines of prevention to be followed, and stresses particularly the need for education of the public. The paper was read at a meeting of the Midland Branch of the Society on February 7th, 1929.

CONSIDERABLE publicity has been given lately to the question of maternal mortality in childbirth. That little or no reduction has been effected in its incidence for the last twenty-five years is in itself a startling fact, when taken in conjunction with the very great fall in the general death-rate and other mortality rates. There is, however, one comparable death-rate which is in the same position. I mean the neo-natal mortality rate. This, too, remains unaffected by the general improvement, and I think we may take it that very similar factors are controlling these rates and that they are largely inter-dependent.

The actual puerperal mortality rate has varied from 3·87 in 1911 to 4·11 in 1927. International figures, as given in Dame Janet Campbell's report, show that England occupies a middle position, lower than the United States, France, Switzerland and Scotland, but higher than Germany, Norway, Italy and Sweden. Such international comparisons are of little value, since customs and conditions vary to a remarkable degree. One fact we can be sure of—measures taken to improve the maternity service in this country have been insufficient to effect any material reduction in either the maternal mortality rate or the neo-natal mortality.

The one really important effort which has been made to control maternal mortality is the Midwives Act of 1902. The Act was defective in many ways; the permanent inclusion of the *bona fide* midwife, instead of giving her a period of grace only, and the omission of any clause forbidding the habitual practice of maternity nursing by handywomen, were both grave defects. Time is effacing the first, but very slowly. In Birmingham, we still have 36, or 18 per cent. of *bona fide* midwives. As for the second defect, handywomen flourish unchecked, and are still as largely used by doctors in spite of the efforts of the General Medical Council. In Birmingham, I am told, we have at least 100. Still, with all its defects, the Midwives Act was a most valuable piece of legislation, and no one will dispute that much has been accomplished through its instrumentality. The improvement in midwifery nursing is a very real thing. There is an enormous advance in every direction, and the district midwife is rapidly establishing herself as a self-respecting professional woman, with a high standard of asepsis, conscientious and careful to a degree. With the improvement now being made in the training of midwives, progress will be much more rapid than in the past. A revolution has taken place but, nevertheless, there has been *no fall* in the *maternal mortality rate*. I believe, though no statistics are available, there has been a fall in the *morbidity rate*. This is only a matter of personal observation, but such is the impression gained after twenty years' work among women.

Why has the mortality rate remained untouched?

I believe that, up to the last few years, the reforms have not reached the underlying cause. The dirty midwife has not been the only important factor.

A study of the figures for 1927 given by Sir George Newman brings out various points of interest. I would like to give them to you grouped, more or less, according to the etiological aspect.

The total maternal deaths in England and Wales were 2,690. Of these no less than 1,058 were due to sepsis, including cases of phlegmasia alba dolens, *i.e.*, almost half of the total. Embolism and hæmorrhages caused 470 deaths, toxæmias 537, accidents, including abortions, and ectopics caused 604. Two groups remain—insanity 14 and mastitis 7, both of which should probably join the septic or toxic group. Here, then are four large groups; sepsis twice as large as the others,

We know that to some extent embolism and hæmorrhage are caused by sepsis, either in the present or from a past confinement. Remington Hobbs' work is of considerable significance in this connection, and opens out lines of investigation which may show the origin of many obscure cases of puerperal sepsis. I think there can be no doubt that sepsis is responsible for the largest proportion of deaths, and for an extremely high percentage of morbidity. "Accidents" are difficult to foresee or to avoid. Deaths in this group are among those for which least can be done. The causes of abortion are still obscure, and we remain ignorant of the proportion that are self-induced.

It is in the septic group and the toxæmic group that improvement must first be sought. It is in these groups, accounting for at least 59 per cent. of the deaths, that intensive ante-natal work and better midwifery will give the earliest results. Better midwifery in this sense means less meddlesome midwifery, and better operative midwifery, with closer observation and earlier treatment in the puerperium. Cleanliness and asepsis *alone* are insufficient.

Puerperal Sepsis is still the most important cause of maternal mortality, and yet remarkable figures are given of its low incidence in certain selected practices. For instance, in the midwifery practice of the East End Lying-in Hospital there is a record of 47,503 consecutive cases with five deaths from sepsis, or ·1 per thousand against 1·15 for the country as a whole. The Queen Victoria Jubilee Institute has a similar record for 1927 in 53,502 deliveries. In addition, Dr. James Young has shown that the maternal mortality a century ago in the outdoor practice of the Edinburgh Maternity Hospital was lower than the maternal mortality in Edinburgh to-day. A century ago puerperal sepsis played its part chiefly as a virulent contagion in lying-in hospitals. In this form it is almost unknown to-day, but the death-rate remains as high. This points to the fact that it should be possible to reduce materially the death-rate from this condition. The morbidity rate resulting from puerperal sepsis cannot, of course, be estimated accurately. Dr. Remington Hobbs states that sepsis from some previous confinement or miscarriage is present in 70 to 80 per cent. of gynæcological cases. Numbers of women suffer from chronic ill-health due to mild sepsis, originating in the puerperium, who never receive gynæcological treatment; leucorrhœas, hæmorrhages and pelvic pain may result, while rheumatism, indigestion and neurasthenia may accompany or follow them. The morbidity is possibly of even greater importance and significance than the mortality. Dr. James Young in his very valuable paper published in the *British Medical Journal* in June, 1927, defined the three causes of puerperal sepsis as (1) auto-infection; (2) contagion, and (3) trauma. His brilliant analysis shows the predominating influence of trauma and the necessity of avoiding unnecessary interference. Speaking of contagion, he uttered a warning as to the danger of admitting to the same wards in maternity hospitals, clean and suspect cases—a very necessary warning, for in the majority of hospitals strict separation is not observed.

Auto-infection is not of great relative importance, but as Remington Hobbs has shown, a mild sepsis following one confinement may cause a fatal sepsis in the next.

The recent work published by Burt White on the value of the re-action to streptococcal toxins as a method of ascertaining liability to infection, with prevention by means of immunisation, is interesting and suggestive.

However, a study of the whole subject points conclusively to the importance of strict asepsis and unhurried midwifery with a minimum of interference as the only real solution. We have certainly not attained this ideal. The natural resistance to serious infection in a young healthy woman is high, and it is constantly traded on. All normal midwifery should be carried out by well-trained midwives, while the obstetric surgeon is called in for emergencies. The needs of a busy practice and an imminent surgery hour should not be allowed to hasten delivery. It is not lack of skill that is usually at fault.

Ante-natal care must assist by allowing difficulties to be anticipated.

The occurrence of puerperal sepsis should not be considered as necessarily due to faulty technique. Such an attitude delays treatment, since hope is entertained to the last moment that the condition will subside, and nothing need be said. Unfortunately, the lay public still believe that puerperal sepsis is a mysterious disease. There can be no mystery in a simple wound infection. I believe it is necessary to impress this view on the public since there can be no doubt that correct ante-natal treatment and good midwifery are only possible with the willing consent of the patients. Many doctors are worried by patients and their relatives into applying forceps when this is unnecessary, and a slight trauma following such an application may lead to a virulent septicæmia. It is not possible in the average working-class home to apply forceps with the same safety as in an institution. Statistical quotations from doctors showing immunity in their practices mean nothing, since morbidity is never taken into account, and the maternal mortality rate remains what it is.

Under present conditions I am convinced that the public must be educated, and it seems extraordinary that an eminent layman can publicly state that the puerperal fever is a mysterious disease, when it is quite clearly recognised as a wound infection. Similarly, until the women themselves demand intensive ante-natal care, it cannot be given efficiently.

Influenza and pyelitis are fashionable as a diagnosis for puerperal pyrexia. This is unfortunate, since once sepsis has occurred, it is only by early and energetic treatment that mortality can be reduced.

Many districts are without beds for the treatment of puerperal sepsis. The provision of such beds in a fever-hospital is only reasonable when the patient is under the care of a gynæcologist. Such provision can, of course, be made. Treatment in puerperal sepsis is much less efficient than prevention; still, early treatment gives some hope. Too often the cases are sent to hospital moribund.

More maternity beds are certainly required for difficult midwifery. No medical officer of health should be content to leave his district unprovided, and attempt to meet the difficulty with useless palliatives. Rapid transport is all important.

It is probable in many cases that the obstetrical surgeon should be taken to the patient, rather than the patient to the surgeon. Undoubtedly lives could thus be saved, and it is possible to make such arrangements in many districts. Such action is directly preventive of death from hæmorrhage and exhaustion. Such conditions even when not fatal themselves, lay open the way for sepsis by lowering resistance.

From what has been said, it will become obvious that the reduction of maternal mortality from puerperal sepsis depends on prevention, and in this the chief factors are:—

(1) Non-interference in normal cases, with a more careful technique in the earlier stages.

(2) The anticipation of difficulties by intelligent and intensive ante-natal care.

(3) The provision of satisfactory means of dealing with difficulties, *i.e.*, hospital beds, with skilled obstetricians and trained nurses.

(4) The education of women so that they will not only accept the necessary safeguards, but will demand them.

(5) The continuance of the present methods of avoiding contagion, but with the addition that, in hospital, separate wards must be kept for clean cases.

Toxæmias form the second important group of maternal deaths. Here again, prevention is emphatically better than cure. Intensive ante-natal care is the only preventive measure.

There can be no doubt that much can be done by careful observation, and with rest and dieting on the first appearance of the dangerous symptoms. Frequent testing of the urine and routine blood pressure examinations are bound to give a very early indication of the onset of toxæmia. Much of this work will appear to have been done needlessly. It is the great preponderance of normal cases which makes the regular and constant use of these tests so difficult to enforce. Still, it seems evident that if maternal mortality is to be reduced, 70 to 80 normal cases must be carefully observed, so as to avoid overlooking the five or six abnormal ones. It is emphatically the only way. Whether such close observation must necessarily devolve on doctors, remains doubtful. The enormous amount of work which this involves is only now becoming evident. There seems no good reason why trained nurses and midwives should not materially assist both in private practice and at ante-natal clinics. An early medical examination directed to the general physical condition, with pelvic measurement and examination, might be followed by a second medical examination in normal cases at the 34th to the 36th week, provided that careful fortnightly observations are carried out meanwhile by the nurses. Subsequently, for complete safeguarding, weekly examination of the urine and estimations of blood pressure are required. These might well be done by the nurse or midwife. The occurrence of any abnormality, however slight, would necessitate an immediate medical examination. Systematic examinations of this type would undoubtedly diminish the incidence and severity of toxæmias, and diminish unanticipated difficult labour. Once again, the education of women to recognise the importance of slight symptoms is essential.

In order to secure the right type of midwife,

adequate remuneration and a better status must be assured. The handywoman must go. Some system must be instituted guaranteeing adequate payment, but insisting on a higher standard of work. With this there will undoubtedly come some extension of the insurance system, to include medical ante-natal care and attendance at confinements. It is obvious to a medical audience that it is preferable that the woman should be attended at her confinement by the obstetrician who has examined her ante-natally. The ante-natal work will not only be more interesting; it will be more responsible. It should, however, only be undertaken by doctors who have the necessary training and experience, working in close co-operation with midwives. If these men or women are general practitioners, midwifery must take precedence in their practices. It might be possible to co-operate closely the work with child welfare centres, and with the health visitors, whose special duty would be the following up of cases and making of appointments, etc. I think the midwifery of the future will develop on these lines, but meanwhile very useful and valuable pioneer work is being done at the ante-natal clinics, staffed by whole-time or part-time medical officers, who do not attend confinements, but who do acquire subsequent knowledge of the nature of these confinements through their infant consultations and health visitors. Probably the final function of the present ante-natal clinic will be that of a consulting clinic.

To sum up—*What can be expected from intensive ante-natal work?*

(1) *A diminution of emergency midwifery* and with this a reduction of sepsis from trauma, and a reduction of neo-natal mortality and still-births.

(2) *Treatment of septic conditions* either of the cervix or other sources of sepsis, with a diminution of the auto-infective type of puerperal sepsis.

(3) *The early detection and treatment of toxæmias* on preventive lines. Here, particularly, further research is important.

(4) *Detection and treatment of venereal disease*, again with a diminution of stillbirths, congenital syphilis, and ophthalmia neonatorum.

(5) *Diminution of danger in cardiac cases* and in other failures of general health.

(6) *Improvement of the health of the expectant mother* with greater likelihood of a healthy breast-fed infant.

These are by no means extravagant claims, but in order to obtain their realisation, ante-natal care must be intensive. Perfunctory ante-natal care is worse than useless, since it gives a sense of false security.

At present, the midwives are being asked to do ante-natal work on a fairly extensive scale by the Central Midwives Board, but there are many difficulties. In the first place, a very high proportion of midwives are untrained. Secondly, few have suitable houses for the examination of patients, while examinations in the patient's own house presents many difficulties. The midwife cannot do satisfactory ante-natal work alone; she must have medical help. Then there is the important question of payment. It is asking a great deal to demand five or six special visits and examinations for the confinement fee ordinarily earned by a midwife.

For the general practitioner, ante-natal work offers certain difficulties even when he has been trained to do it. There is the difficulty of finding time, and last, but not least, the inadequate remuneration.

The ante-natal clinic at the child welfare centre is essential at the present time. Its educational value is immense; the fact that it is commonly staffed by women medical officers increases its popularity, while it offers the midwife the assistance she needs, but which she cannot obtain from the private doctor, since so many poor women cannot afford the necessary expenditure. The only drawback is that the medical officers are not the obstetricians, and every effort must be made to secure close co-operation with the midwives, doctors and lying-in institutions.

It has become more and more evident that the work of the ante-natal clinic must be supplemented by *post-natal clinics*. Such clinics are essentially gynæcological in character, and should be held at different times from ante-natal clinics. Women should be encouraged to attend within six months of their confinements to ascertain whether reparative or other treatment is required. These clinics are essentially preventive since such work diminishes the incidence of sepsis and maternal morbidity. The rapid development of such clinics may be expected.

From previous remarks it is obvious that close co-operation with the venereal disease clinic is essential. There are two difficulties. The first is the importance of obtaining a diagnosis without too blatantly proclaiming the suspicion. Blood tests are accepted fairly readily, but it is not always convenient to take blood at an ante-natal or post-natal clinic. A central consultation clinic at a child welfare centre is very convenient. The second difficulty is one of diagnosis. The frequency of a negative Wassermann in a syphilitic pregnant woman is often a real source of difficulty.

Neo-natal mortality—or the infant mortality in the first 4 weeks of life—is a problem closely connected with maternal mortality. The Registrar-General's figures show that there has been a slight fall in this rate since 1906, but further scrutiny reveals that this reduction is almost entirely confined to the 3rd and 4th weeks, and is even then out of all proportion to the reduction in the following periods. Thus:—

Period	Weeks. 1st.	2nd.	3rd.	4th.	Total under 4 weeks	4 weeks to 3 months	3 months to 6 month
1906-1910 ...	24·5	5·8	5·7	4·2	40·2	22·8	22·0
1921-1926 ...	21·7	5·0	3·9	2·8	33·4	12·8	11·3

The causes of death during the first 4 weeks of life, as given by the Registrar-General and taken from death certificates, are not very illuminating. Consequently the figures taken from a special enquiry made in these cases during 1927 in Birmingham may be of some interest:—

	Under 2 weeks.	2-4 weeks.
Want of attention at birth	8	—
Birth injuries, convulsions, asphyxia ...	44	1
Prematurity, congenital debility	294	41
Atelectasis	28	3
Other causes not connected apparently with ante-natal or birth conditions	97	49
	—	—
Total	471	94
Stillbirths	521	—
	—	—
	992	94
	—	—
Total ...	1,086	

It will be seen that the majority of deaths are concerned with obstetrics, and, with the stillbirths, represent a very considerable loss of life. It must be remembered, too, that a proportion of infants survive birth injury, and are left as defectives, either mental or physical. A high proportion of hydrocephalic cases have this origin. Premature babies have a hard fight for existence, and are a source of anxiety for months. Here again an enquiry made in Birmingham, at the instance of Dame Janet Campbell, has shown interesting results.

Every premature baby born in 1926 was followed up till it died, or was 12 months old, and the resulting figures show that out of 500, 176 survived to 12 months, and of these, 141 were healthy and well. There can be no doubt that with intensive care, more could have been saved, and that such a high proportion are healthy shows these babies are worth saving.

It has only been possible to outline very briefly the more important considerations involved in the problem of maternal mortality. Much of importance is necessarily omitted. The present position seems to promise better things for the future mothers of the country.

THE staff of the Division of Public Health in the London School of Hygiene and Tropical Medicine under Professor W. W. Jameson is rapidly approaching completion, one of the most recent appointments being that of Mr. H. H. Clay, Sanitary Inspector in the Metropolitan Borough of St. Marylebone, who has been offered and has accepted the post of Assistant in the Division. Mr. Clay has gained a number of honours, and in addition to being First Prizeman and National Honours Silver Medalist of the City and Guilds of London Institute, was awarded recently the Henry Saxon Snell Prize of the Royal Sanitary Institute for an essay on an aspect of domestic sanitary engineering, a subject in which he has specialised for a number of years. Ever since 1907, Mr. Clay has been lecturing on such subjects as domestic sanitation and sanitary engineering at the Surrey County Council Technical Institutes, the Willesden Polytechnic and elsewhere. He is a member of the Board of Examiners of the Royal Sanitary Institute and Sanitary Inspectors' Examination Joint Board and of the Board of Examiners in Domestic Sanitation and Plumbing of the Surrey County Council. On account of his special experience and qualifications, Mr. Clay will give the lectures on domestic sanitary engineering in the London School. During the War Mr. Clay served both in the Balkans and in France. He was finally granted his commission and gazetted Specialist Sanitary Officer in charge of No. 8 Sanitary Section.

Puerperal Fever.

By JAMES A. KERR, M.D., B.Sc., D.P.H., Assistant Medical Officer of Health, City of Chester.

When it was read at the provincial meeting of the Maternity and Child Welfare Group in Manchester on February 21st, 1929, this short paper attracted considerable attention, and readers who were unable to attend the meeting may be interested in the points brought out by Dr. Kerr.

THE concern of the public health authorities in this country is rightly more with prevention than with cure. In the case of puerperal fever, however, it appears not unlikely that, from a consideration of the means to procure the latter, more light will be shed on the former than by any other method. In order to carry out treatment and indulge in any measure of research, concentration of the cases is essential, and in Manchester, thanks to the co-operation of the poor law authorities, this has been in some degree accomplished. In three years more than 450 cases have passed through my hands. In my opinion, there are no disadvantages in concentrating these cases in a separate block in a fever hospital, provided common-sense rules are observed with regard to visiting, etc., and provided an up-to-date surgical theatre is available. A trained staff is also essential.

At Monsall Fever Hospital the senior nursing staff of the puerperal unit are both general trained and fever trained, and also hold the certificate of the Central Midwives Board.

There are four distinct advantages in utilizing the fever hospital:—

(*a*) In many of the smaller towns these cases are refused admission to the general or poor law hospitals. If health officers decide against utilizing fever hospitals, it ties the hands of those who are persuading local authorities to have their hospitals properly equipped.

(*b*) The fever hospital is usually better adapted for giving these patients adequate air and light.

(*c*) The nursing staff is skilled in barrier nursing. Many authorities fail to grasp that each case must be isolated as there are such a variety of causal organisms.

(*d*) The fever hospital is the only one able to cope with cases that frequently occur among the admissions. I refer to puerperal scarlet fever and pemphigus neonatorum.

I propose here to concentrate mainly on two aspects of treatment, which I think could be intimately correlated. I refer to the Dick Test and Hobbs' treatment.

I should like to draw attention to two papers by Drs. Parish and Okell,[1 2] in which they elaborate the unitarian theory of the relationship of the various streptococcal infections. In these papers they prove that hæmolytic streptococci obtained from various sources—scarlet fever, erysipelas, puerperal fever, etc.—produce similar pyogenic lesions when injected intradermally in rabbits, and that higher protective power is afforded by scarlet fever antitoxin than by any other antitoxin against the injection of these streptococcal strains from heterogeneous sources.

This has been confirmed therapeutically in the case of puerperal fever. Whereas formerly antistreptococcal sera of various types were given with very poor results, I think it is generally agreed that a definite improvement can be noted in the patient's condition subsequent to the administration of scarlet fever antitoxin, more especially in those cases in which there is a profound toxæmia with little or no septicæmia. I suggest that anti-scarlet serum should be given in all cases of puerperal fever as a routine, as it leaves the patient, as in septic scarlet fever, with only one battle to fight.

Parish and Okell also point out that all the puerperal strains they have examined have been able to produce Dick toxin *in vitro*, and this is of great importance in the question of prevention. I understand, though I have no definite information on this point, that Dick testing is carried out as a routine in some ante-natal clinics in London, and much information should accrue from this source in the future.

We would thus have means of ascertaining, to a certain extent, which cases are most liable to go wrong, as it seems feasible that all Dick positive reactors are susceptible to puerperal fever, though we must bear in mind that puerperal fever is sometimes due to other organisms than the streptococcus. In passing, it may

be mentioned that in the industrial north we have a much higher percentage of staphylococcic infections than in London, and many of you will remember Dr. Geddes'[3] statistical comparison between the incidence of puerperal fever and industrial conditions.

We do know that over 95 per cent. of cases of puerperal fever are Dick negative—a much higher proportion than would be obtained from the corresponding age groups in normal women. Unfortunately, in Monsall the average day of illness on admission was the fifth, and therefore Dick testing in nearly all cases of septic infection was relatively valueless.

With the Dick test we can thus segregate ante-natal cases into two groups, the susceptible and the relatively non-susceptible, and several obvious lines of procedure will at once occur to everyone:—

(*a*) Segregation in the obstetric hospital of the Dick positive and Dick negative reactors.

(*b*) When selecting cases for admission to hospital for confinement, the Dick results should be available.

(*c*) The obstetric surgeon would bear in mind the classification of the case when he was contemplating the question of surgical interference. There is no doubt that surgical interference increases the liability to sepsis by forming a nidus of bruised tissues for any latent organism to thrive upon.

(*d*) Hobbs' method of intra-uterine glycerine drainage could be applied to the Dick positives, constituting as it does, the best prophylactic measure yet devised for puerperal infection. Unfortunately, I do not think this is possible in a busy obstetric hospital, but it seems feasible that it might be carried out on these specially selected Dick positive reactors.

At the same time I think there is a great danger in utilizing Hobbs' treatment as a routine treatment in puerperal fever, unless one has a good deal of experience in this connection. Each case must be judged strictly on its merits.

With regard to the treatment of septicæmia itself, no work has shown more promise than that elaborated by Dr. Leonard Colebrook in his report to the Medical Research Council.[4] He advocates the routine administration of ·3 gram of Metarsenobillon intravenously at intervals of five days, and has endeavoured to get the optimum concentration of arsenic in the blood, which would kill the streptococci without damage to the leucocytes. It is definitely established that one can so increase the bacteriological power of the blood that a case of 25 to 30 hæmolytic streptococci per cubic centimetre of blood may easily be dealt with, provided there is no re-infection of the blood from a focus in the pelvic region. One case recovered after a growth of 300 colonies per c.c., but this is quite exceptional.

Three points that seem to me to be important in regard to treatment may be emphasised.

First, I would suggest, after my experience at Monsall Hospital, that there should be some more centralised hospital treatment for this type of case. In this connection it may be noted that, out of the 48 county councils, only 22 provide beds for the treatment of puerperal fever, and out of the 79 county boroughs, 57 have made some provision.

Secondly, besides the suitably qualified medical practitioners provided for by the regulations to act as gynæcological consultants, arrangements should be made for a bacteriologist or clinical pathologist to see these cases, and not merely to report on material sent to the laboratory. It is suggested that the latter should see the case first, and possibly his findings might be available for the former at the examination of the patient. So far as provision is concerned it may be noted that only in 18 counties out of 48, and in 37 of the 79 county boroughs, are facilities available for a bacteriological examination. It seems to me that the pathologist and the bacteriologist should be the front line of attack in this matter, the rôle of the gynæcologist being confined more or less to the question of surgical interference as has been done at Monsall Hospital.

Thirdly, much could be gained by a close association of the out-patients' department of the gynæcological hospital with the fever hospital. The extent of puerperal morbidity is incalculable, and it may well be the case as stated by Mr. Thomas G. Stevens, speaking at Queen Charlotte's Hospital in 1927, that at least one-third of the gynæcological out-patients give a previous history of puerperal sepsis.

REFERENCES.

1 *Lancet*, April 14th, 1928. p. 746.
2 *Lancet*, April 14th, 1928. p. 748.
3 Puerperal Infection. 1910. Oxford University Press.
4 Colebrook. Medical Research Council Special Report Series, No. 119.

Ut Ita Dicam.

(Being Comments, apropos and otherwise, on Sundry Matters.)

The New Minister of Health.

It is conceivable that presently the thunder will begin to roll but at the moment, in the piquant phrase of the "Gentleman with a Duster," the effect of the change in the administration and the replacement of Mr. Neville Chamberlain by Mr. Greenwood as Minister of Health has been as though a pin had dropped. Normally this is always a quiet time in health departments anyhow, the date generally chosen for the issue of regulations and such like to local authorities being usually just before the medical officer of health goes on a vacation or just after he has gone and has begun to make himself believe that there is no such thing as a public health department. This sort of thing happens so often that there must be more than mere coincidence in it, and I must be correct when I suppose that what really happens is that the people who have been charged with the issue of the new matter put on a spurt in order to get it over and done with just before they go on leave. That there may be an earlier break up of the quietness this time, and that it will be directly due to the efforts of the new Minister, is not improbable. In other government departments the new heads have been active already; the Attorney-General, for example, has brought the end of the Rye Lifeboat Fund in sight, and in doing so has, no doubt, provided an example for his colleagues who will each wish to try his hand at settling some question or other that has been vexing his department for a longer or shorter period. In the Minister of Health's department there are many matters that could do with a push and possibly they may receive it. The new Minister will have no difficulty in finding something to which he can turn his hand. In the doing he has, it may be taken, received the assurance that he will have all the support and assistance that those in his own department can give him. Equally he may rest assured that all the health officers engaged in the service of the people under the local authorities are with him, ready and anxious to second any effort he may make for the benefit of the public health.

Newcastle-upon-Tyne and the Break-up of the Poor Law.

Not unnaturally the change in the administration has led to a certain amount of talk in our circle as to what is to be the effect upon the working of the Local Government Act, but so far as can be gathered there has been none. The working towards the "appointed day" seems to be going on undisturbed and all over the country people are meeting for the purpose of hammering out schemes, trying to pick each other's brains, and discussing the dangers of declarations and comparative advantages or disadvantages of appropriation. There may be others, of course, but in Newcastle-upon-Tyne, for example, I note that things had been sufficiently advanced by June 22nd to permit a local evening paper on that date to make a front-page feature of the proposals of the council regarding the lines to be followed in connection with the transfer of the poor law system to that body. The bulk of the report, as the newspaper sees it, has reference to the administration of relief. I note, however, a number of interesting indications that very full use is to be made of the public health committee and the department with which it is particularly concerned. In general, and as far as is practicable, all the health, medical and hospital services operated by the poor law authorities are to go to the public health committee and there is specific mention of definite institutions and functions, including, of course, vaccination. Outdoor and medical services are to be discharged by the committee subject, where the Act requires, to the general direction and control of the public assistance committee—a body which the council decrees is to consist of thirty-six members, twenty-four being members of the council and twelve non-members. Being one of the earliest pronouncements to be made public, it is probable that the Newcastle report will come under the close scrutiny of local authorities and officers all over the country, and I can see Dr. Kerr overwhelmed with requests for copies and involved in prolonged correspondence with colleagues anxious for enlightenment and suggestions. The prominence given to the public health committee in the scheme particularly pleases me. In my own mind, that it should occupy a key position in the Newcastle scheme was never questioned, and that no question did arise is mainly, if not entirely, due to the esteem, personal and professional, in which Dr. Kerr is held in local government and other circles in the city. In other areas where like views of the medical officer of health are held, the scheme prepared against the dawn of September 27th, 1929, will be found to leave little room for any feeling on the part of the public health committee, the public health department and the medical officer of health that their capacity and ability to look after the health and medical side of the work has been doubted. With such recognition the starting point only has been reached. Thereafter comes the testing time and the need for the exercise of all the tact, influence, skill and ability of the officer as an administrator and organiser in what may very well amount to a complete rebuilding of the department of which he has charge. Probably it is unnecessary to say this; it is a point, however, that should be well in mind.

Stephen Hales, D.D., F.R.S.

Stephen Hales is the sort of name of which, upon hearing, everybody inevitably says: "I seem to know that name; now why?" If one is of the Corpus Christi College, Cambridge, one definitely knows about Stephen Hales. Certainly any such who have seen this book about him by Dr. Clark-Kennedy,* and have envied me its possession, have appeared extremely well informed with regard to the life and works of Stephen Hales, one time Fellow of the College. Possibly this may have been due to the fact that they heard the address (and, judging from this book, delightful it must have been) delivered by Dr. Clark-Kennedy on the two-hundred-and-fiftieth anniversary of the birth of Hales, though it is not unlikely that he is part of the spirit of the place and everybody just knows about him without quite knowing how the knowledge came. So far as others, particularly in the health service, are concerned, the name Stephen Hales, though less familiar, is known because though he was a divine, he was a remarkably keen and able researcher and much of the work that he did, in botany and physiology particularly, is still recognised as of extreme value and is still quoted. Intensely scientific, Hales did not limit his activities to his laboratory but was keen upon the practical application of his discoveries, and many of his investigations were obviously undertaken with the object of devising methods of dealing with conditions that were causing damage to health and acting as obstacles to progress because of their effect upon the health of those engaged in the work. Problems of ventilation, disinfection and food preservation interested him especially, and he devised a number of ingenious appliances and methods in relation to these matters. Also he lost no opportunity of pressing for the adoption of his schemes and apparatus—or so it would appear from the description which Dr. Clark-Kennedy has written. Stephen Hales, D.D., F.R.S., is definitely a personality of whom every health officer, if not, indeed, every member of the medical profession, should know something, and Dr. Clark-Kennedy has done excellent service in expanding the account given by him on Corpus Christi day, 1927, of his life and works. It makes a delightful book and is one of the most charming of biographies imaginable, not only because the quotations from documents relating to his subject have been so carefully and suitably chosen and used, but because the writing has been done so lovingly.

P.

* Cambridge University Press, 1929. Price, 15s. net.

THE Minister of Health, the Rt. Hon. Arthur Greenwood, M.P., has appointed Mr. A. Nevil Rucker to be his Private Secretary, and Mr. P. N. R. Butcher to be his Assistant Private Secretary. The Parliamentary Secretary to the Ministry of Health, Miss Susan Lawrence, M.P., has appointed Mr. D. C. L. Ward to be her Private Secretary.

THE Heritage Hospitals, Chailey, announce that they are prepared to receive marasmic infants for treatment at a payment of thirty shillings per week. Knowing the difficulty that exists in retaining beds in hospitals for long periods, the authorities make provision for acute cases for prolonged treatment, and not merely for convalescent cases. The Ministry of Health are most anxious that this clinic, which they have visited and of which they fully approve, shall be made full use of by the authorities responsible for children requiring such treatment. Applications for vacancies should be made direct to the Hon. Secretary, Heritage Craft Schools and Hospitals, Chailey, Sussex.

The Future of Obstetric Practice.

By E. FARQUHAR MURRAY, M.D., F.R.C.S., Honorary Obstetrician, Princess Mary Maternity Hospital, Newcastle-upon-Tyne; Honorary Assistant Gynæcologist, Royal Victoria Infirmary, Newcastle-upon-Tyne; Lecturer in Midwifery, College of Medicine, University of Durham.

Dr. Farquhar Murray—who is one of the best known obstetricians in the north country—in this paper, read at a meeting of the very active Maternity and Child Welfare Sub-Group of the Northern Branch, considered the effect likely to be produced upon obstetric practice as a result of the development of a maternity service for the community. His views on the organisation of this service are interesting and worthy of consideration by all members of the Society.

A STUDY of the post-war psychology of the nation reveals the existence of a wave of benevolence, and a desire to save life. It is the inevitable reaction following a period of strain and suffering unparalleled in the history of mankind.

Maternity, and all that is implied by that term, is attracting more attention than it has done hitherto, and the general public, educated in no small measure by the public press, are slowly awakening to the fact that a civilised State must focus its attention on the safety of its mothers and the well-being of its future citizens, even from their ovular phase. There is a desire on the part of the State to remedy many of the defects of the present system. It is showing its concern in a practical manner by loosening the strings of the public purse, whether national or local, so that the necessary reforms can be effected. For years the medical profession have called attention to the fact that many maternal deaths are preventable, and many almost certainly can be prevented. Deaths are, after all, merely the extreme penalty paid by motherhood in its service to the State, while invalidism, temporary and permanent, claims countless victims. The safeguarding of maternity implies the safeguarding of the new generation of citizens, many of whom would otherwise be lost or start life with a poor constitution.

Midwifery has hitherto been more or less of a Cinderella. This is evident nationally, academically, and in its more practical aspects when we consider nursing facilities and hospital accommodation. The State and general public have up to the present expected to see an A1 population develop by regarding all problems relating to this subject through C3 spectacles.

The second feature of the post-war period is that all sections of the community, but especially those most in need of a maternity service, are in a poor economic position and that unemployment is rife.

Lastly, the National Health Insurance makes demands on the profession which could not have been foreseen by those who were its strongest supporters when it was first mooted. This demand affects all sections of medical service, but in largest measure those who are engaged in industrial practice, and therefore most concerned with the practical working of an organised maternity service. A service implies an organised scheme whereby every pregnant woman is provided with those safeguards which modern knowledge has shown are essential for her safety. That section of the community which has largely been deprived of these facilities should have the first claim. Service to this section of the community has been given by the profession to the best of its ability, but no impartial student of the subject could honestly state that there has been anything approaching an organised maternity service.

There must be the freest possible exchange of opinion between members of the medical profession in actual practice and those who are more directly concerned with the administration of State edicts and the distribution of national and local monies, namely, the public health authorities. Neither unaided can provide the solution of the problem. They are in fact complementary, the one of the other. The obvious way to tackle this problem is to put down in detail the essential safeguards which must be provided, to examine critically the present system, and record in what aspects it is either weak or deficient and to decide how best these defects can be made good.

What are the minimum requirements of a service?

1. *Medical supervision during pregnancy,* with special reference to the routine known as ante-natal care.

2. *Medical supervision during labour,* with special reference to assistance in delivery, the repair of lacerations and dealing with such complications as cannot be prevented or corrected before the onset of labour, and yet which are quite within the range of so-called normal labour.

3. *Medical supervision during the puerperium* of the mother and baby with special reference to the prevention or early recognition of septic processes.

4. *Skilled nursing* in co-operation with and under the supervision of a doctor, during labour and the puerperium.

5. *Surgical cleanliness* during labour and the puerperium.

6. *Consultant services.*

7. *Hospital facilities.*

These individual items are the bare essentials but, of course, each covers much more than is conveyed by the text.

No one can dispute the importance of these requirements and no one can deny that a very large number of the women in industrial areas do not have them, although they are available for all patients of the wealthier classes. The industrial classes can be divided into two groups: (*a*) those who go into a maternity hospital and for whom such a service is available, and (*b*) those who are confined in their own homes. In the latter group there are a large number who are able to obtain, and who do obtain, the essential services, but there are many who do not. It is only necessary to state that roughly one-third of the women in Newcastle-upon-Tyne are attended by midwives alone, to realise how defective the present system is.

It is essential that a doctor and midwife co-operate in the care of every patient; the relative values of each at the respective stages is roughly as follows:—

	Doctor. Per cent.	Nurse. Per cent.
Pregnancy	90	10
Labour	50	50
Puerperium	10	90

Pregnancy should be under medical supervision, as medical and surgical problems have to be considered. The subordinate place of the midwife here might consist in her being responsible for the urine testing of the patients and, to some extent, as a health visitor.

The course of *labour* varies, but in the average case it requires the active co-operation of both doctor and midwife.

The *puerperium* is largely a question of general and local nursing, and the routine care of the baby. The doctor here acts purely in a supervisory capacity.

Each of these different phases might be usefully discussed.

Ante-natal Care.—This fulfils three important functions. It is preventive, corrective, and instructive.

1. Eclampsia, and most obstetric tragedies, are in large measure *preventable,* or if not preventable, the frequency of their occurrence can be diminished.

2. Malpresentations can be *corrected,* and a safer labour guaranteed to the mother and child. Occipito-posterior presentations, a common cause of "long" labours, "difficult forceps" deliveries and even "failed forceps" cases, can be converted into anterior presentations, resulting in easy deliveries.

3. The detailed knowledge obtained regarding the presentation of the child, the position of its back, and also of the fœtal heart, is *instructive.* It yields information which is essential for the proper supervision of the case during labour. Now most, if not all, of this detailed information can be obtained by an abdominal examination during pregnancy, but during labour it is only obtained with the greatest difficulty.

These are merely a few of the indications for ante-natal care. It is a vital part of a maternity service, and without doubt one of the most valuable pieces of preventive work which can be carried out.

Recognising the advantages of ante-natal supervision and knowing that many women have no doctor, and are looked after entirely by midwives, or call in doctors at the last moment, centres have been opened by the public health authorities where this supervision is available. These centres have developed an importance which could not have been foreseen. Midwives are encouraged to send their patients there, and women can attend without such an introduction. The public are being educated in the importance of submitting to such a routine. The value of such clinics in industrial centres, and the excellence of the work done there, must be admitted. It is, however, of vital importance that possible future developments should be considered.

A maternity service of some kind will be

developed, and this can only be done along two lines:—

1. A whole-time maternity service, provided by the State.

2. A part-time maternity service, run by local doctors, aided by the public health authorities.

1. *Whole-time Maternity Service.*—At present the midwives are encouraged to send their cases to the centres. Formerly their rules advisd them to send their patients to doctors for ante-natal conditions. What is at present a tentative arrangement will become a routine procedure, as the officer at the centre and the midwives are under the same authority. The officer at the centre would ultimately be in charge of a team of midwives as regards ante-natal problems. If the ante-natal officer resided in the area and had one or two assistants, the whole of the industrial obstetric practice of the community would pass into the hands of a whole-time service. Post-natal complications of the mother and ailments of the baby would also be dealt with at the centre.

2. *A Part-time Service* run by the local doctors, aided by the public health authorities.

As a prelude to this, which is the only rational solution of the problem, it is right that certain facts should be borne in mind. Ante-natal care is not a discovery. The care of the pregnant mother has been taught in every university in this country for years past but, owing largely to national apathy, and the niggardly support given to maternity hospitals, the clinical time allowed by medical schools and the clinical facilities offered have, until recent years, been shockingly inadequate. Durham, thanks to the untiring energy of Professor Lyle, has made good this deficiency. Doctors keen on midwifery have practised ante-natal care among the very class of patients now served by these centres, but their efficient work has not attracted public notice. Maternity work is still—and always will be—the backbone of general practice. The doctor residing in an area, and engaged in this work, becomes a vital part of the life of the community. He has been responsible for the safe arrival into this world of a large portion of his clientele. They grow up with him, although he may reasonably leave the safety of the oncoming generation, so far as obstetrics is concerned, to his juniors. This relationship must not be disturbed. It is an essential part of the life of the community. It can only *reasonably* be interfered with if it known that essential services are not being rendered.

These centres, therefore, should be run by doctors resident in the area, otherwise it will result in their being deprived of clinical experience, which is vital for the proper performance of their duties as obstetricians.

It is important that public health authorities should not feel that the popularity of the centres is the result of the withholding by doctors of such services. The ante-natal centre is, in plain language, the outcome of national generosity. It is privileged in two ways: (i) by its publicity and (ii) it meets a difficulty with which doctors engaged in industrial practice have always been faced. In very few cases, even in a good class practice, would a doctor make an ante-natal or gynæcological examination in his surgery. These examinations are, as far as possible, made at the patient's own house. Now conditions obtainable in many industrial dwellings cannot be compared with what is obtainable at the centre. It provides an examination couch, facilities for undressing and dressing, an attendant nurse, an atmosphere of privacy, and the knowledge that only one sex is present. Such facilities should be available for every doctor in an industrial area if he wishes to avail himself of them, either for an ante-natal or a gynæcological examination.

The staffing of these centres varies in different districts. They are an innovation, therefore no definite routine has been established. These centres should be staffed by doctors engaged in the practice of obstetrics, and resident in the area of the centre. On the face of it it seems absurdly simple to arrange for this, but when carefully considered the problem is not an easy one to solve.

The public health authorities, representing the national will and, incidentally, the national purse, demand two things—

1. Punctuality of attendance.
2. Proof of efficiency.

The former implies keenness on the work, which is reasonable, but the latter is a matter for discussion. In certain areas the line of least resistance has been chosen by the public health authorities, in establishing ante-natal centres. They naturally do not want to disturb the equilibrium of the existing medical community, so they appoint a personnel composed of three types:—

1. Members of the junior staffs of maternity hospitals.

2. General practitioners not resident in the area.

3. Whole-time medical officers working under the control of the public health authorities.

As a temporary expedient this is excellent, but as a permanent arrangement (with certain reservations) it is obviously unreasonable.

The profession must, therefore, show evidence of keenness and competence. Doctors can be divided into three classes; those who are *keen* on midwifery, those who are lukewarm, and those who have given it up or merely attend an occasional case. Class 1 will overcome the first objection.

As regards efficiency, many are competent to take charge of these centres, but will the public health authorities accept their declaration of competence, and what will their colleagues think who have been overlooked?

Doctors keen on midwifery should get together and, in collaboration with the public health authorities, agree upon a formula which shall entitle them to take an active part in the work of these centres. Residency in a maternity hospital, post-graduate study, or a special degree in obstetrics, should be adequate evidence of competence.

Those who engage in the routine work of these centres will find, certainly to start with and for an indefinite period, that their reward will consist in having excellent clinical experience and that they are doing a real service to the community.

The Labour.—When this stage is reached patients examined ante-natally have been divided into three groups: (i) normal; (ii) those requiring special supervision, and (iii) those who should be in hospital. Even normal cases require careful supervision. The nurse watches for evidence of maternal exhaustion, or fœtal distress. The progress of the labour is noted, and clinical reports are sent from time to time to the doctor in charge. This is vitally important for the proper conduct of labour, and can only be efficiently done by a nurse who has had special training in the subject. Many false alarms are sent when unskilled persons are in charge. Friends and relatives often over-rule the nurse, and urge that the doctor should be sent for. If she is trained she is better able to reassure the anxious relatives and discipline the household. It is, therefore, imperative that doctors engaged in this work should have such assistance, primarily in the interests of the patients, and secondly in their own interests. The demand made in these days on the time of a doctor, whether he is engaged in general or consulting practice, makes it imperative that this part of his work should be as highly organised and efficient as possible. False calls and the panicky atmosphere which results, lead all too frequently to a tendency to hurry labour; the general rush of practice plays a contributory part, and the extensive use of pituitary extract is the result. Many doctors already have the best of nursing assistance at their disposal, but a large number have not; they are only provided with handywomen. This must be remedied. Patients are divisible into two classes: those who can afford to provide the services of a midwife for the doctor, and those who cannot do so. In the case of the former, doctors should refuse to attend unless a midwife is provided, and many doctors have taken up this position. What are doctors to do when they know that the patient cannot pay for the services of a midwife? They have no alternative but to make the best of things. In such a case the public health authorities should provide the doctor with the necessary nursing service.

Contrary to what prevails in medicine and surgery, where women trained in nursing cooperate with doctors and are under their supervision, we find in the twentieth century that women with special nursing training in this subject are allowed almost complete independence of action, instead of supplying that assistance to the profession which they have been trained to give. Handywomen have no place in a maternity service, and it should be one of the first duties of a health authority—if necessary in co-operation with maternity hospitals—to guarantee an efficient nursing service for this class of work. Many midwives on qualifying are under an agreement with the Ministry of Health to give their services in whatever capacity it is required of them for a period of two years. If retained locally these nurses would form a nucleus for such a service, although the local practising midwives should also be on the panel.

The proper place of midwives is to act either individually, or as a team, in co-operation with a doctor who is engaged in the practice of midwifery in an industrial area.

Careful supervision of labour is merely one of the functions of a midwife. There is the question of surgical cleanliness, the reporting—in the case of a spontaneous delivery—of

lacerations which should be repaired, and the after-nursing of the mother and child. This leads to a brief consideration of puerperal sepsis.

Most cases of sepsis occur among women of the industrial classes, and the majority have originated from infection of perineal and vaginal lacerations. Cases conducted with the maximum of surgical cleanliness, attention to the repair of lacerations and careful after-nursing, are least likely to become septic. Septic processes can be checked or greatly modified by careful nursing. The more surgical principles are violated, the greater the incidence of sepsis.

When one thinks of the squalor of many industrial dwellings, the filthy bed linen, the absence of recognised surgical necessities, can one wonder that many patients develop inflammatory processes? The public health authorities should arrange to provide packages of dressings, such as can be obtained from nursing homes and certain surgical firms, for use at the time of the confinement and during the puerperium. Each might contain accouchement sheets, wool, diapers and perhaps a couple of towels. In certain cases it should be arranged to supply a pair of sheets as well. The sheets would guarantee that the puerperium was begun under as cleanly conditions as possible. Towels and sheets would, of course, be collected later. Obstetric packages should be available free of charge to patients who could not afford the expense, and at an agreed charge for those who could afford to pay either part, or the whole cost. Such packages would be extremely useful and popular.

Nursing efficiency must be increased if the problem of sepsis is to be successfully grappled.

Temperatures should be recorded night and morning for at least the first four days, and active local treatment adopted at the first evidence of inflammation. This may entail cleansing the septic area every three or four hours. In many cases an individual midwife would have difficulty in carrying this out, and here again the health authorities should, at the request of the doctor, afford him the additional nursing service required. It is quite unnecessary to send every patient with a slight temperature to hospital. The vast majority settle down, and the necessary treatment could very well be carried out in the patient's own home. Active nursing is most important at this stage, even if the temperature has not reached the notifiable stage.

The nursing facilities in any area should be organised to the highest possible pitch. The provision of nursing assistance after the official notification is received means loss of valuable time. The health authorities should provide a nursing service to cope with such cases, just as the civic authorities concentrate their fire extinguishing appliances on the most trifling outbreak, in order to prevent a conflagration.

Consultant Services.—These must be available, both for ante-natal conditions and those arising during labour, for that very large section of the industrial community who do not accept the service of a maternity hospital, and whose economic position precludes them from making arrangements for a so-called private consultation. It might be argued that this is all arranged for by a maternity hospital, with its out-patient department and its indoor facilities. Such an attitude, if defended, would indicate that its supporter was ignorant of the psychology of the pregnant woman, and had a very limited practical experience in the subject.

For puerperal consultations a scheme has been evolved by the public health authorities whereby a doctor can obtain the assistance of any of the recognised consultants should he desire a second opinion. This, of course, only refers to febrile conditions. Similar facilities should be available for doctors during all stages of this subject.

There should be institutional facilities for all classes of patients. Wealthy patients as a rule go into homes, mainly as a matter of convenience; the working classes go into hospitals largely as a matter of necessity—economic or domestic. One-third of the patients in residence at the maternity hospital have been sent in by doctors, or have been caught in the filter of the ante-natal department. The capacity of the hospital is, therefore, ample so far as medical requirements are concerned; the question of the extension of hospital accommodation on account of economic and housing problems is one which cannot be dealt with here. The necessity of organising the medical and nursing facilities for those patients of a similar class who are attended in their own homes must be obvious.

Emergency Measures.—To the existing list on the police call-boxes might be added "Maternity service." An ambulance should be available so that patients coming into labour in the dead of night, and indeed at any time, might be taken in comfort to the hospital. A nurse and not uniformed police would be more in keeping with the picture. The expense

should be borne by the community unless patients could afford to pay part or all of the modified charge. The call-box might also be used by doctors who are suddenly called to attend a patient who has come unexpectedly into labour and developed a complication, and for whom no midwife is provided, or, if provided, is not available. All telephonic calls could be sent direct to the maternity hospital, which would be the most suitable centre from which to run a maternity nursing service.

Lastly, there is scope for a first aid detachment. Certain cases blanched from loss of blood, or profoundly shocked, are admitted to maternity hospitals. The best treatment, in many cases, is not to rush the patient off to hospital, but to keep her warm, arrange for saline or blood transfusions, and so on. The first aid detachment might consist of:—

1. A nurse to assist those in attendance.
2. Transfusion apparatus and sterile gum saline solution.
3. Rubber bottles, stimulants, blankets, etc., etc.

During the past year a number of patients have died within a few minutes, or at most an hour or two, of their arrival at the maternity hospital, from conditions such as shock or loss of blood, due to varying complications, which certainly would have had a better chance of recovery had this emergency service been available.

The call-box would also ensure a specialist being in attendance if the doctor desired, either as part of the first aid equipment or independent of it.

No one section of the community can avoid bearing its proper share of responsibility for the conditions which have hitherto existed with reference to maternity. Maternity is the *fons et origo* of life itself, and in its relation to preventive medicine is as the keystone of the arch.

THE JOINT TUBERCULOSIS COUNCIL.

A meeting of the Joint Tuberculosis Council was held at the house of the Society of Medical Officers of Health on May 18th, 1929.

The following members were elected on Committees:—

(*a*) *Research.*—Drs. Roodhouse Gloyne (convener), Vere Pearson, Lissant Cox, A. Lyndon, G. T. Hebert, E. Ward, Sir Henry Gauvain, and Professor Lyle Cummins.

(*b*) *Employment.*—Drs. McDougall (convener), Sutherland, Vallow, Jane Walker, Jessel, Peter Edwards, and C. O. Hawthorne.

(*c*) *Memo.*—Drs. Sutherland (convener), Crossley, Carling, Lissant Cox, and Professor Lyle Cummins.

(*d*) *Royal Commission.*—Drs. Lissant Cox (convener), Burrell, Brand, Pearson, E. Ward, Lyndon, Sutherland, Vallow, Sir Henry Gauvain, and Professor Lyle Cummins.

(*e*) *Entertainment.*—The Officers of the Society and Dr. Hebert.

(*f*) *Training.*—Sir Henry Gauvain (convener), Drs. Brand, Pearson, Lissant Cox and Professor Lyle Cummins.

(*g*) *Notification.*—Drs. E. Ward (convener), Esther Carling, and James Watt.

The Notification Memo., previously circulated, was discussed, together with a separate Memo. drafted by Dr. Lissant Cox concerning a single notification form. It was decided:—(*a*) To send Dr. Cox's Memo. to the Ministry of Health, asking for their comments; (*b*) that the Committee be instructed to re-submit their Memo. at the next meeting with a suggested alteration in the present wording of the Tuberculosis Regulations where they now read "provided that a medical practitioner shall not notify . . . . the place of residence of the person is situate."

A Memo. on the Improvement of the Tuberculosis Service was presented on behalf of the Tuberculosis Group of the Society of Medical Officers of Health, and was referred to the Royal Commission Committee.

A letter from Colonel Fremantle, M.P., concerning the Camac Wilkinson Dispensary, had been sent by the Tuberculosis Group, and was referred to the Research Committee for their consideration and report.

Similar action has been taken with regard to a letter from Dr. Gordon Tippett, concerning the elimination of tuberculosis and the desirability of a laboratory test demonstrating activity of disease.

The Memo. Committee were asked to consider and report on Form IV. of Memo. 37/T, and Circular 138.

Saturday, November 16th, 1929, at 10 a.m., was provisionally fixed for the next meeting of Council.

WITH great regret we record the death of Dr. John Hedley Marsh, Medical Officer of Health of Macclesfield. Dr. Marsh was a member of the North-Western Branch and one of the senior Fellows of the Society.

The Diet of the Young Child.

By STUART J. COWELL, M.A., M.B., B.Ch., M.R.C.P., M.R.C.S., Professor of Dietetics in the University of London.

Read at a meeting of the Maternity and Child Welfare Group at Manchester on February 22nd, 1929, this paper by Professor Cowell brings vitamins more definitely into the realm of practical dietetics than is usual in publications relating to these factors. The views expressed with regard to oatmeal and whole-meal bread are particularly illuminating.

THE fact that this subject has been chosen for discussion implies the recognition that diet may play an important part in the health of the young child, and in this connection and at the outset it is interesting and appropriate to consider in what directions the general standard of health among children is capable of improvement.

(1) *Physique.*—In the poorer districts of many of our cities there are large numbers of children whose general physique, as measured by their height, weight and posture, is definitely below that of the normal standard for their age.

(2) *Infections.*—Contagious diseases are not likely to be eradicated altogether in our time by any simple hygienic measures. The effects of such diseases, however, vary enormously in different individuals during the same epidemic, and complications such as pneumonia may cause great havoc among children during a wave of some disease, such as measles, which is commonly regarded as of no great consequence. Rheumatic fever and tuberculosis are universally acknowledged to be two great scourges of child life. Acute enteritis in infancy still takes its toll of life, although for several years past its devastating effects appear to have been controlled to a very considerable extent, no doubt largely as the result of the strenuous efforts of our public health authorities in general and the infant welfare centres in particular. Lastly, may be mentioned the very great frequency among children of recurring or chronic respiratory affections and skin infections of the type of impetigo and furunculosis, which may not be immediate sources of danger to the child's life, but lead nevertheless to a great deal of discomfort and ill-health.

(3) *Disorders of Calcification.*—In many large cities one cannot fail to be struck with the evidence of disordered calcification in great numbers of the children. The immediate and remote effects of rickets have been so often stressed that it is not my intention to enlarge upon the subject now—let it suffice to remind you that the disease is still with us, in spite of the fact that it is definitely one of the preventable diseases. But, apart from the occurrence of rickets, there are other disorders of calcification which are extremely common, and which are no less responsible for a very great deal of ill-health, namely, dental defects and dental caries. That faulty diet plays an important part in the production of these disorders is proved beyond a doubt, and we ought to consider very seriously what steps should be taken to eliminate them from the coming generations.

(4) *Other Disorders.*—Other common disorders of childhood which may or may not be related to dietetic faults are anæmia and enlarged tonsils and adenoids.

This list is not, of course, exhaustive, but a very large proportion of the recognised causes of disability among young children are included in these categories. Is there any chance that attention to the feeding of the child may help to eliminate them? That is the question I propose to discuss with you.

The first point I wish to stress is that the ill-effects of a faulty diet, particularly in the young, may persist long after the fault has been remedied. If, then, the maximum benefit is to be gained from correct feeding, such feeding must be instituted at the earliest possible moment in the life of the child, and that implies attention to the ante-natal feeding of the mother.

The principles about to be mentioned have been formulated largely as the result of animal experiments. It is not certain that they apply in every case to the human subject, although it is probable that they do. There is a great opening for carefully-controlled observations on these lines in this country, and the establishment of ante-natal clinics and infant welfare centres in close touch with one another would seem to afford ideal opportunities for carrying out such investigations.

One of the essential requisites of a diet for the pregnant woman is that it should be capable of promoting calcification. During the later months of pregnancy the developing fœtus requires very considerable amounts of calcium for the formation of its bones and teeth. If the mother takes a diet which is deficient in calcium and, more important still, deficient in the calcifying vitamin which promotes the efficient utilization of available calcium, there is a risk that both she and her child may subsequently show signs of the deficiencies. Extreme examples of the results of defective calcium utilization during pregnancy are met with in osteomalacia, in which condition the bones of the mother become soft and deformed from loss of calcium. The fault lies not so much in a deficiency of calcium as in the lack of the calcifying vitamin which is not present in sufficient amounts in the food, and is not manufactured in the skin as normally it should be, on account of the secluded life commonly led by the patient, shut up away from the direct rays of the sun. It is probable that lesser degrees of decalcification produced by a deficiency of the calcifying vitamin are associated in this country with ill-effects such as the rapid spread of dental caries which is so frequently met with during pregnancy.

During lactation there is still the urgent demand for calcium on the part of the mother, for she has to furnish in her milk all the calcium needed for the rapidly growing child, and she must have a liberal supply of the calcifying vitamin as well as of calcium at this time if she is to save her own tissues from calcium loss. We are concerned here, it is true, rather with the well-being of the child than with that of the mother, but it has been amply proved in animal work that this attention to the calcifying properties of the mother's diet results in long-lasting benefit to the progeny. The fœtus and suckling young can store up considerable supplies of the calcifying vitamin when it is furnished in abundance to the mother, and these supplies may subsequently help to determine the perfectly calcified skeleton and well-formed teeth which should be the heritage of all children. I shall have more to say later concerning the relation of diet to tooth formation and dental diseases; here I remind you that the child's teeth are already undergoing calcification before birth, so that if dietetic factors do play a part in determining the structure of the teeth, attention cannot be paid too early to the supplying of those factors which promote normal calcification.

There is another fat soluble vitamin that may influence the well-being of the young child, namely, vitamin A, which has recently been called by Mellanby the anti-infective vitamin. The frequency with which mild grade infections attack young infants brought up in poor surroundings must have struck every observer: the nasal and bronchial catarrh and the attacks of enteritis which are so frequently met with may, in all probability, in many cases result from a deficiency of vitamin A. Seeing that this vitamin can be stored up in the liver of young animals in very considerable amounts when the pregnant or lactating mother receives a liberal supply, it seems surely worth while seeing that the mother gets the necessary quantity so that her child may start off his independent life with a supply which may prove of great help to him in fighting infections he may have to encounter almost immediately after birth.

One other point in connection with pre-natal feeding is concerned with the supply of certain mineral elements which are necessary for the child. I have already spoken of the supply of calcium; iron is another mineral element which may sometimes be lacking in the diet. The pregnant mother's diet should contain enough iron, not only to supply her own needs and the requirements of her child for the elaboration of hæmoglobin *in utero*, but to enable the fœtus to store up reserves in its own body. Human milk contains more iron than cow's milk, but even so it does not contain sufficient to meet the needs of the growing infant, who is continuously elaborating large amounts of hæmoglobin. For this purpose the infant is constantly drawing on his own reserve store of iron to supplement the amount he receives with the milk. If for any reason these reserves are insufficient for his needs, there is a grave risk of the development of a secondary, so-called "nutritional," anæmia. The obvious method of encouraging such a storage of iron in the fœtus is to see that the pregnant mother receives a liberal supply in her food.

To sum up this aspect of child feeding, it would seem that, in the light of our present knowledge, the most important dietetic factors to which attention should be paid in the case of the pregnant and lactating woman are (1) the calcifying vitamin D; (2) the anti-infective

fat soluble vitamin A; (3) the mineral elements calcium and iron. The practical methods of supplying these factors will be considered later.

I do not propose to say more about the feeding of the nursing infant than this; whether the infant is being breast-fed or bottle-fed, it is strongly to be recommended that some additional source of the fat-soluble vitamins A and D be given continuously to the child, and it is a wise precaution to see that the antiscorbutic vitamin is also added, in the form of orange juice, swede juice or tomato juice. Extra iron and other valuable food factors can be very profitably added by the giving of small quantities of egg yolk from the third month onwards.

The principles just outlined for the feeding of the nursing mother and of the infant are also those that seem to be of the utmost importance in the feeding of the child after weaning. We may now turn our attention to the feeding of the older child, with particular reference to the conditions of ill-health mentioned at the beginning, asking first if it is possible to improve the general physique by dietetic methods. The rate of growth and standard of nutrition of any young animal is obviously dependent to some extent on the amount of food eaten. But apart altogether from any deficiency in the total quantity of food, what evidence is there that qualitative food deficiencies adversely affect the rate of growth and standard of nutrition? Conceivably, deficiency in the amount of good protein may be of practical importance among poor children whose diets consist largely of cereals and starchy foods. This possibility has been recognised in the case of school children, and has been met to a certain extent by the provision of milk to such children as show obvious signs of malnutrition. Milk is particularly valuable to the child on account of its content of good protein, valuable salts, such as calcium, and vitamins. This value is not based merely on theoretical principles, but has been very beautifully demonstrated by Dr. Corry Mann in the familiar experiments carried out on boys at Dr. Barnado's Homes. The striking improvement in the rates of increase of both height and weight as the result of giving one pint of milk a day in addition to the ordinary mixed diet was not tracked down to any one constituent of the milk. It was certainly not due to the increase in the energy value of the diet, for a corresponding increase in the energy value produced by adding biscuits to the diet failed to produce the extra gains in height and weight. That it was not entirely due to the fat-soluble, growth-promoting vitamins present in milk is made probable by the subsequent experiments on the same lines carried out in Scotland, in which the same acceleration of growth was produced by skim milk, which contains much less of these vitamins than the whole milk used in the original tests of Dr. Corry Mann.

I have spoken of calcium and iron as mineral salts which are quite likely to be deficient in the diet of the young child. Milk is one of the richest sources of calcium, and if a liberal supply of milk is given there is not much danger of a lack of calcium. Iron is found in relatively large quantities in the yolk of eggs and in green vegetables. The yolk of eggs can be given to quite young infants and furnishes valuable means of guarding against the nutritional anæmia that may easily affect them; expense is the chief drawback, but they are a very valuable food from many other points of view, for they are a rich source of fat soluble vitamins, other mineral salts such as calcium, and protein of good quality. Older children may receive the necessary iron from green vegetables. There are many people who despise this form of food, and certainly only too often the retail prices demanded for it are excessive. None the less, their use by poor families should be encouraged and they should be cooked in such a way as to preserve as far as possible the mineral elements intact.

I wish now to consider what would appear to be the main dietetic deficiency among the children of this country—a deficiency which is of great importance, not only because it is widespread in its incidence, but also because its rectification would be followed by obvious benefits to the community—I refer to the deficiency of fat soluble vitamins. The existence of this deficiency is largely due to economic causes. The fat soluble vitamins are contained most abundantly in dairy produce which is too expensive to be purchased in adequate amounts by the poorer classes. In the case of the fat soluble vitamin D, or calcifying vitamin, people living under normal atmospheric conditions can make up for the absence of this factor from their diet to a certain extent by manufacturing it themselves under the influence of direct sunlight falling on their skin; but in our smoky cities this is impossible during a great part of the year.

What are likely to be the effects of these

deficiencies? I intend to speak first of all of the fat soluble vitamin A. Many of you will remember that a short time ago a paper appeared in the *British Medical Journal* by Green and Mellanby, in which they suggested that this vitamin should be named the "Anti-infective Vitamin" in order to emphasize one of its most striking properties. They found that of a large series of rats kept on a diet deficient in this vitamin, virtually every one developed some gross infection, while the control animals receiving the vitamin, but otherwise kept under identical conditions, all remained free from infection. This protective power of the fat soluble vitamin A had previously been demonstrated by Mellanby in the case of dogs, and has frequently been noticed by others who are engaged in this kind of work. The question that interests us is, does the same principle apply to man? There is not much direct evidence on this point as yet, but what there is certainly should encourage us to apply it on an extended scale. One or two observers, who have had the opportunity of watching the effect of the routine administration of a rich source of vitamin A to infants and young children maintained for long periods in institutions, have remarked on the relative freedom from infection that such children have shown when contrasted with the frequency of epidemics of infections observed before the routine administration had taken place.

I would suggest that the question is one of real practical importance. This provision of vitamin A must be ensured from a very early date in the infant's career if he is to receive the maximum protective effect: he should be given the chance of protection before any infection has firmly established itself. What might be the effects of such a prophylactic measure? In the first place we should expect it to lessen very considerably the incidence of the diarrhœal diseases of infancy with the risks of subsequent malnutrition which are even now not rare. Secondly, it would be hoped that the catarrhal infections of the respiratory tract, with their frequent complications of sinus infection and middle-ear disease, would be reduced. Thirdly, the incidence of serious complications following the common contagious diseases of childhood might be very considerably lessened. It is not suggested that an absolute immunity can be procured by dietetic means; but it does appear possible that within certain limits there may be a quantitative relation between the amount of vitamin A received and the capacity to resist infection, and if this proves to be the case it is likely that the liberal supply of this factor will aid in the resistance to infections that have already got a foothold, and may thus reduce the mortality rate for those infections. Lastly, whether the supply of vitamin A liberally throughout the whole period of infancy and childhood will materially reduce the risk of infection by such specific agents as the tubercle bacillus and the streptococcus, or other organism responsible for the appearance of rheumatic fever, cannot be predicted with certainty. It seems quite possible, however, that this may be the case, and any available evidence on the point would be of the greatest interest.

Assuming the possibility of increasing the resistance of children to infection by increasing this supply of vitamin A, how shall we set about to accomplish it practically? In the first place the diet of the pregnant mother must contain abundant sources of the vitamin. Dairy produce—milk, butter and eggs—should be taken when they can possibly be afforded, and fresh green vegetables and salads can be relied on to supply fair quantities. When butter cannot be afforded, vitaminised margarines may be used instead of the ordinary brands. Cod-liver oil or other preparations of vitamin A may be given during the last stages of pregnancy. The breast-fed infant should receive a good supply of this factor in his milk if the mother herself is getting liberal quantities in her food. But on general principles it is safer to supply extra amounts both to the breast-fed and to the artificially-fed infant. The simplest and cheapest method of doing this is to give daily doses of cod-liver oil to the infant. A quarter of a teaspoonful a day can be given safely to the child after the first two or three weeks, and the amount should be raised gradually till at three months it receives one teaspoonful a day, and at nine months three teaspoonfuls a day. This dose may be continued throughout the whole life of the young child. This recommendation, it is realised, will not be put into universal practice immediately, and in very many cases the children will have to rely on other less rich sources of the anti-infective vitamin. Where good butter cannot be afforded, beef dripping and vitaminised margarine are to be preferred to bacon fat or ordinary vegetable margarine. Eggs and green vegetables are useful sources,

as already mentioned, and so is summer milk, *i.e.*, milk from cows fed on fresh grass. Even when cod-liver oil is given, these types of foods should still be supplied, for many of them contain other valuable nutritive properties in addition to vitamin A.

The necessity for supplying the pregnant mother with abundance of the calcifying vitamin has been noted. The distribution of this factor is very similar to that of vitamin A, *i.e.*, it is found in dairy produce—milk, butter and the yolk of eggs; but only negligible quantities are found in green vegetables. It can be manufactured in the skin under the influence of direct sunlight and artificial ultra-violet rays. To ensure a liberal supply, especially during the later months of pregnancy, cod-liver oil or some preparation of the pure vitamin, irradiated ergosterol, may be given. Cod-liver oil supplies vitamin A as well as D, but if there are any strong objections to taking this oil, concentrated preparations can now be purchased containing vitamin A together with irradiated ergosterol.

While the breast-fed and artificially-fed infant is receiving an adequate daily supply of cod-liver oil, he will be to all intents and purposes protected from rickets. But after weaning, while the bones and teeth are still developing rapidly, the abundant supply of the calcifying vitamin is of great importance, and it is often during this time that the effects of its deficiency first make themselves felt. Before proceeding to discuss the practical methods of ensuring this supply, a few words must be said about the physiological action of the calcifying vitamin and its relation to other components of the diet.

The calcifying vitamin enables the tissues to utilize effectively whatever supplies of calcium are available in the food, and to build it up into well-formed bone and sound teeth. The amount of vitamin needed to produce this result varies with other factors in the diet and environment. If the diet is very rich in calcium, or if the subject receives a plentiful supply of direct sunshine on the skin, less of the vitamin is needed. If, on the other hand, the diet contains large amounts of carbohydrates, and especially if it contains certain types of cereals, the amount of vitamin needed to produce good calcification must be increased.

In view of the fact that carbohydrate is the cheapest form of food, it is only to be expected that the children of the poorer classes will tend to consume an excess of it, which will not be balanced, as it should be, by an adequate supply of the calcifying factor which is contained in abundance only in the more expensive dairy products. Too often the diets of young children consist largely of bread and jam, bread and margarine or bacon dip, and potatoes, with perhaps milk pudding made with a minimum quantity of milk. It is not surprising that rickets is common among children fed in this way.

Exhaustive animal experiments have proved that all carbohydrates are not alike in their capacity for producing rickets. Mellanby has shown both with puppies and with rats that certain cereal products have a particularly well pronounced anti-calcifying power. It is difficult to prove by direct experiment that these results apply to children, but there are reasons for believing that this is the case, and therefore it seems reasonable to eliminate these particular cereal products from children's diets when there is any chance of insufficient calcifying vitamins to counteract their harmful action. The two cereal products that are the worst offenders in this respect are oatmeal and the germ of cereals.

Now, the germ of cereals happens to be a particularly rich source of one of the water-soluble B vitamins, namely B1 or the anti-neuritic vitamin, and there has been a great deal of discussion lately about the waste of this vitamin in our food, caused by the consumption of bread made with white flour. I do not intend to enter into any lengthy discussion of the matter, but I would say just this. There appears to be no indisputable evidence of any widespread deficiency of the B vitamins in this country as the result of consuming white bread. The consumption of wholemeal bread, and bread made with added germ or of any preparation of cereal germ, should on no account be encouraged among children whose diets are not exceptionally rich in both the fat soluble vitamins. Not only does the germ of cereals possess the anti-calcifying property which can be counteracted by vitamin D, but when given in any considerable quantities has been shown by Mellanby to produce in dogs permanent degenerative changes in the spinal cord which lead to paralysis. The poisonous substance in germ which produces these degenerative changes in the nervous system has not been identified and is apparently not identical with the anti-calcifying factor: it is not neutralized by vitamin D, but apparently is so affected by

the fat soluble vitamin A. If there is any reason to suspect that deficiency of the B vitamins exists in individual children, it would seem to be much safer to supply them in the form of some yeast preparation such as marmite, which contains the vitamin B2 as well as B1, rather than in the form of cereal germ which contains chiefly B1 and possesses the toxic properties just described.

The next point that I wish to stress concerning the action of the calcifying vitamin is its relation to the dental problem. Many of you will be familiar with May Mellanby's work on the relation of diet to the structure of the teeth and to dental diseases. She has shown conclusively that precisely the same factors that promote or prevent the normal calcification of bone in the young animal, influence the intimate structure of the teeth and their arrangement in the jaw. The difference that the addition of some source of the calcifying vitamin, such as cod-liver oil, to a diet containing otherwise a deficiency of this factor, can make in the gross appearance of a dog's teeth is so striking that any one who has observed it cannot fail to be impressed by the importance of dietetic factors for the production of perfect teeth. In the absence of the calcifying factor the teeth tend to be crowded together and to erupt at irregular angles to the plane of the jaw; the enamel is discoloured and its surface is roughened and studded with ridges and depressions. In the presence of the vitamin, the teeth are regularly spaced and the enamel is shining white and smooth. The dentine, *i.e.*, the calcified layer immediately below the enamel, shows corresponding differences in the two cases. In the presence of the vitamin the dentine is homogeneous and evenly calcified, while in its absence there are numerous defects or gaps in this calcified layer. The conclusion is reached that the calcifying vitamin determines the structure of the developing teeth, just as it does that of growing bone; and in order to ensure the development of perfect teeth evenly spaced in the jaw, there must be a sufficiency of this vitamin during the whole period of development, *i.e.*, during the term of gestation and throughout the whole period of childhood.

This is in itself a worthy aim from an æsthetic point of view, but does it have any bearing on the more important problem of the prevention of dental caries? May Mellanby's argument that the production of perfect teeth and freedom from dental caries are intimately related may be presented briefly as follows. By microscopical examination of a large series of children's deciduous teeth, it was found that the vast majority of carious teeth were imperfectly calcified, and it was rare to find a perfectly calcified tooth that showed any evidence of caries. Since it has been proved that the structure of the teeth can be improved by a liberal supply of the calcifying vitamin, is it not possible that the resistance of the teeth to caries can be raised by the same proceeding? The answer could be found only by experiment, and the experiment was therefore carried out. Thirty-four children in an institution were given an ordinary hospital diet which did not include extra amounts of milk nor any rich source of the calcifying vitamin; at the end of eight months it was found that, on an average caries had spread in 5·6 teeth per child. A second group of thirty-two children were given simultaneously a diet rich in the calcifying vitamin and in calcium: at the end of the same period caries had spread in only 1·7 teeth per child. The experiment was repeated with further groups of children and almost precisely the same results were found. It was further proved that by giving large amounts of the relatively pure calcifying vitamin in the form of irradiated ergosterol, existing caries could frequently be arrested.

There is, therefore, every indication that the calcifying vitamin plays an important part in determining the resistance of teeth to decay. This demonstration is obviously of immense practical importance. In spite of the fact that all the results have pointed in the same direction, there has been a good deal of opposition to this view; opposition under such circumstances is usually better met by further experimental results than by mere arguments, and such results will probably soon be forthcoming, for further tests on a large scale are now in progress in this country.

The practical methods of ensuring the supply of vitamin D may be summarized as follows. During the period of gestation the diet of the mother should contain rich sources of the calcifying vitamin and of calcium—that is to say, plenty of milk and, when they can be afforded, butter and eggs. Otherwise, vitaminised margarines should be substituted for the ordinary varieties, and cod-liver oil or some concentrated preparation of the calcifying vitamin should be given just as was recommended for furnishing the fat soluble vitamin A. The young infant can receive its

supplementary vitamin D in the form of cod-liver oil: this is recommended because in this way vitamin A is furnished at the same time: an alternative would be to supply vitamin D in the form of a solution of irradiated ergosterol, and to combine it with vitamin A as a concentrate of the fatty fractions of mammalian liver, which is even richer in vitamin A than cod liver. Such preparations are now on the market and have the advantage over cod-liver oil of being almost tasteless and, therefore, rather more easily administered.

The problem of how to protect children on a large scale from defective calcification has received a great deal of attention during the past few years. There are many alternative methods, each of which has its advocates—(1) the provision of cod-liver oil; (2) the provision of some preparation of irradiated ergosterol; (3) the establishment of artificial sunlight clinics; (4) the sale of irradiated milk.

A word or two should be said concerning the last two methods. Sunlight clinics are undoubtedly effective, but many who have tried them for wholesale prophylaxis have found it extremely difficult to ensure the regular attendance which is necessary: for this reason, and because of the expense entailed, the method is not in my opinion to be recommended for universal adoption. The irradiation of milk, as is well-known, confers upon it potent anti-rachitic properties. Forms of apparatus have been devised which enable this irradiation to be carried out on a large scale at a comparatively small cost. For the purposes of prophylaxis against rickets it is not necessary for the whole of the daily ration of milk to be irradiated, so that the additional cost should not be more than a halfpenny a day per child. The disadvantage of both these methods is that they make no provision for the supply of extra quantities of fat soluble vitamin A.

Besides the provision of concentrated preparations of the calcifying vitamin, how should the rest of the diet of the young child be adjusted to promote efficient calcification? Milk must be taken to provide the necessary calcium. Fat in the form of butter or, where that cannot be afforded, beef dripping or vitaminised margarine, should be eaten with bread, and not always jam or syrup. Eggs should be provided when they can be afforded. In addition, advantage should be taken of every opportunity of getting the young children out into the direct sunshine.

Now to sum up the points raised. It would seem to be possible immediately to improve the standard of nutrition and physique; to protect our children, to a degree which can only be determined by tests carried out on a large scale, from many types of infection; to banish rickets and reduce very considerably the incidence of dental caries; to guard against the not uncommon nutritional anæmia of early childhood. Measures recommended to bring about these results are comparatively simple:—

(1) The diet of the pregnant mother, particularly during the later period of gestation, should include an abundant supply of milk to provide calcium and good protein; green vegetables to supply iron and vitamin A, and butter or vitaminised margarine and eggs to furnish the fat soluble vitamins A and D. It is recommended that additional supplies of vitamins A and D should be given for some weeks before parturition, in the form of either cod-liver oil, or of a reliable concentrated preparation.

(2) During early infancy, milk should be supplemented by some rich source of the fat soluble vitamins—either cod-liver oil or a concentrated preparation which contains vitamin A as well as vitamin D. Yolk of egg may be given after the second month of life; this supplies iron as well as fat soluble vitamins, and is particularly valuable to the artificially-fed infant.

(3) During early childhood it is very important for the child to receive a plentiful daily supply of milk—at the very least one pint a day. Fats containing the fat soluble vitamins and green vegetables should be given. Eggs should be provided when this is possible. In the absence of abundant supplies of the fat soluble vitamins, those cereals which interfere with calcification should not be taken. Cod-liver oil, or an efficient substitute containing both vitamin A and vitamin D, should be given to all children brought up in our big cities, especially during the winter months.

The objection is frequently raised that such artificial products as cod-liver oil and vitamin concentrates are unnatural foodstuffs and therefore cannot be considered seriously as essential for normal development. The answer is, I think, that the conditions under which our children have to live, particularly in our large cities, are also unnatural, and the ill-effects produced by unnatural conditions may sometimes have to be counteracted by unnatural remedies.

The Society.

Reports, Proceedings and Announcements.

NOTICE.

The annual meeting of the School Medical Service Group will be held at the house of the Society on Friday, July 12th, 1929, at 5.30 p.m. —*W. J. M. Slowan, O.B.E., M.D., Group Hon. Secretary, 24, Queenswood Court, King's Avenue, S.W.4.*

THE NEECH PRIZE.

The Neech Prize, offered annually for the best paper read before a Branch or Group of the Society of Medical Officers of Health, has been awarded for the Session 1927-28 to Dr. H. Stanley Banks, Medical Superintendent of the City Isolation Hospital, Leicester. Dr. Banks' subject was "The Intensive Serum Treatment of Severe Diphtheria," and the paper was read before the Fever Hospital Medical Service Group of the Society.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on Friday, May 31st, 1929. The President (Dr. J. Howard-Jones), was in the Chair and there were present Drs. Snell, Porter, G. F. Buchan, Wilshaw, Chalmers, J. J. Buchan, E. Ward, Stirk, Puddicombe, Annis, Muir, Linton, Tapper, Wood, Gibbons Ward, Bertram Hill, Pearce, Cates, Picken, Paterson, Brackenbury, Jolly, Jameson, Veitch Clark and Fenton, Professors A. Bostock Hill and H. Kerr, Lt.-Cols. A. J. H. Russell and G. S. Parkinson.

The minutes of the last meeting having been approved and signed, apologies for absence were received from Professor H. R. Kenwood, Dr. A. A. Mussen and Dr. T. Eustace Hill.

Representation of the Society.—Dr. H. P. Newsholme was appointed to represent the Society at the annual general meeting of the General Council for the National Registration of Plumbers. Dr. Maitland Radford reported his attendance on behalf of the Society with the deputation to the Minister of Health in reference to the conditions of appointment of Health Visitors, when the Minister expressed his sympathy with the recommendations previously approved by Council. An invitation to extend the patronage of the Society to an exhibition to be held by the Smoke Abatement League of Great Britain at Manchester in November next was accepted.

League of Nations Interchange.—The Council confirmed the nomination of Dr. R. H. Wilshaw as a participant in the interchange of Health Officers to be held in Denmark and Holland during June-July.

Local Government Act, 1929.—A report from the Special Committee appointed to consider the working of this Act was discussed at length. It was agreed that the Committee be asked to report further on various points raised during the discussion. Members of the Committee agreed to meet again on Saturday, June 8th, at 10 a.m., with Drs. J. J. Buchan, Picken and Veitch Clark added to their number. On the proposal of Dr. Picken it was decided that a representation be forwarded to the Ministry of Health urging the importance of an early recommendation to Local Authorities that the Medical Officer of Health should also be appointed Chief Medical Officer of the Committee responsible for medical services formerly provided by the Poor Law Authority.

General Practitioners and Preventive Medicine.—After some discussion it was decided to refer the representations of the Southern Branch in reference to the training of medical students in regard to the preventive aspects of medicine, with Dr. Brackenbury's suggested amendments (*see* Proceedings of Council, April 19th, 1929), to a special committee consisting of Professors Kenwood, Jameson, Bostock Hill and Kerr, Drs. Porter, Picken, Lyster, G. F. Buchan and Brackenbury for consideration and report.

Control of Venereal Diseases.—Detailed discussion of the summary of replies received from the Branches to the questionnaire circulated by resolution of Council (January 18th, 1929), was deferred until a future meeting of the Council.

The Council received and approved the following representation from the North-Western Branch of the Society, *viz.*:—

"That it be a recommendation to the Council of the Society of Medical Officers of Health that propaganda work against venereal diseases is essential;

that local authorities cannot carry it out effectively without a central organisation for the supply of films, press notices, literature, etc: and that members of the Society should use their efforts to encourage local authorities to support the British Council of Social Hygiene in the valuable work they have carried out during the past 15 years."

Nomination of President.—Seven Branches having forwarded the name of Dr. J. J. Buchan, and there being no other candidate, the Council decided to nominate Dr. John James Buchan, Medical Officer of Health for the City of Bradford, for election as President of the Society for the Session 1929-1930.

Election of Officers.—The following officers were elected for the Session 1929-30:—

Vice-Presidents: Dr. J. Howard-Jones, Dr. E. H. Snell, Dr. R. A. Lyster.

Hon. Treasurer: Dr. G. F. Buchan.

Hon. Editor: Dr. C. Porter.

The Annual Dinner.—In order to avoid clashing with other medical fixtures it was left to the President and the Executive Secretary to fix the exact date of the Society's dinner after consultation with other organisations.

Security of Tenure.—Dr. W. Bertram Hill asked if the Council proposed to take any further action in reference to security of tenure for Medical Officers of Health holding their posts in combination with assistant county appointments. It was agreed that such combined appointments had hitherto been definitely insecure, and that in connection with appointments under the Local Government Act, 1929, it might be advisable to remind the Ministry of Health of the Council's previous representation in this connection, *viz.*, that every medical officer of a local authority should be appointed under the Public Health (Officers) Act, 1921 (*see* Proceedings of Council, December 21st, 1928).

The Scale of Salaries.—Dr. G. F. Buchan, as chairman of the Salaries Committee, reported on the progress of the negotiations with Local Authorities in regard to salaries and conditions of service for medical officers. Dr. Buchan said that although the agreement they hoped to reach did not represent what they would regard as anything like full recognition of the just claims of the Public Health Service, he thought they must all be completely satisfied with the way their case had been submitted by Sir Robert Bolam and Dr. Brackenbury in the name of the British Medical Association. He was sure that the Public Health Service would gratefully recognise that Sir Robert and Dr. Brackenbury had achieved everything possible on their behalf which could be obtained at the present time and in very difficult circumstances. In supporting this tribute to the representatives of the British Medical Association, Dr. E. Ward said that some mention should be made of Dr. Buchan's own services in this connection. During the recent negotiations, and throughout the last two years, Dr. Buchan had contended nobly in the interests of his colleagues, and they were not likely to forget his untiring and persistent efforts. These expressions of gratitude to Sir Robert Bolam, Dr. Brackenbury and Dr. Buchan were received with warm applause by the Council.

The President having urged the attendance of members at the Provincial Meeting to be held at Sedbury Park on June 29th, the Council adjourned.

THE METROPOLITAN BRANCH.

President: Dr. J. B. Howell, M.O.H., Hammersmith.
Hon. Secretary: Dr. James Fenton, M.O.H., Kensington.

A meeting of this Branch was held at the house of the Society on May 24th, 1929, the President occupying the chair.

Attention was given to the Circular, recently issued by the Chief Medical Officer of the Ministry of Health, relating to the reports upon maternal deaths to be prepared and submitted to the Ministry's Maternal Mortality Committee. The Branch noted that no copy of, or extract from, such reports should be made or kept and, in these circumstances, it was decided to abolish the Maternal Mortality Sub-Committee established by the Branch.

Consideration was given to the resolution of the Finsbury Borough Council regarding the alleged hardship involved in the granting of inadequate pensions to tuberculous ex-service men. It was agreed that a copy of the resolution should be forwarded to the Metropolitan Tuberculosis Sub-Group with an intimation that the Branch would be glad to have the benefit of the views of that Sub-Group in this matter.

Visit to the Gas Light and Coke Company's Laboratories and Training Centre.—After the meeting a visit of considerable interest and importance was made by some sixty members and friends to establishments of the Gas Light and Coke Company. The party journeyed by motor coach from the house of the Society, and on arrival at the head offices

of the Company in Horseferry Road, Westminster, were received by the Governor (Sir David Milne-Watson), who also presided at the luncheon at which the members were most hospitably entertained. Sir David, in extending on behalf of the Company a cordial welcome to the medical officers of London, reviewed the activities of the undertaking from the time that gas was first made as a commercial product in this country in 1812 on the very spot where they were congregated that day, and concluded his remarks with an earnest expression of the hope that co-operation between the gas industry and the public health service might be still further fostered and strengthened.

Dr. J. B. Howell, President of the Branch, in thanking the Company for the excellent arrangements made for the visitors, referred to the important part played by the gas industry in regard to the health of the people. The clearer atmospheric conditions were, in his opinion, due largely to the use of gas in the household, and still further improvement would be looked for as a result of the extended use of the smokeless fuels in which the Company were interested.

Dr. Charles Porter seconded the vote of thanks to the Company and supported the remarks of the President as to the vast amount of assistance received from the gas companies in the work performed by the public health service. There was no question whatever that a great improvement in the atmosphere was taking place, and that gas was an important factor in such improvement.

Mr. G. S. Elliston, Executive Secretary of the Society, in supporting the expression of thanks, referred to the valuable educational work of the British Commercial Gas Association.

After luncheon the party proceeded to Watson House, Nine Elms Lane, Battersea, where an inspection of the Company's Laboratories and Training Centre was made. At this establishment the testing of fittings, tubing and appliances is carried out by a variety of operations and methods, the tests and reports covering almost every type of apparatus on the market. The second feature of the work at Watson House is research, directed to the fundamental problems of the combustion of gas and of coke. Other matters dealt with in this section include the distribution of gas, and the mains and governors employed. A good deal of work in particular has been done on the corrosion of pipes. Lastly, but no less important, is the training of the fitting staff. Each year about one hundred boys from 14 to 15 years of age are started on a six-year course of technical training, combined with general education. The practical training is carried out in special machine, carpentering and smithing shops at Watson House and, later, under fitters attached to the various district offices. The theoretical training and general educational classes are given at the Westminster Technical Institute in collaboration with the London County Council. Fitters on the district also attend the training centre from time to time for short instructional courses in order to make them familiar with new types of apparatus and with improved methods of working.

During the tour of the building the equipment and the many processes used in connection with the work of the testing and research sections were ably demonstrated by the members of the staff, and great interest was displayed by the visitors in all that they were shown. At the conclusion, tea was taken on the premises, and Dr. Howell took the opportunity of renewing the thanks of the party to the Company for the attention and consideration devoted to the visit. Mr. F. W. Goodenough, after voicing the pleasure it had given the Company to receive such a representative gathering of members of the metropolitan public health service, said that the Company were all out for safety first in connection with the use of gas, and would spare no endeavour to eliminate every possibility of risk to the consumer and to the general public alike.

*** *Reference to the above visit was also made in the editorial columns of the last number of* PUBLIC HEALTH (*p.* 281).

THE NORTH-WESTERN BRANCH.

President: Dr. F. T. H. Wood, O.B.E., M.O.H., Bootle.
Hon. Secretary: Dr. G. W. N. Joseph, M.O.H., Warrington.

A meeting of this Branch was held in Manchester, on May 10th, 1929, the President occupying the chair. Sixteen members were present.

Dr. Morley Mathieson raised objections to the method of selecting candidates for election as Representatives of the Public Health Service on the Representative Body of the British Medical Association, and it was resolved that the question of the constitution of the Council

and of all Committees and Representatives thereof be referred to a Special Sub-Committee for consideration and report to the Branch. It was further resolved that the following Sub-Committee consider the matter:—The President, Dr. Morley Mathieson, Dr. C. O. Stallybrass, Dr. J. E. Spence, the Hon. Treasurer (Dr. Hitchon) and the Hon. Secretary.

Mr. E. B. Turner, F.R.C.S., and Mrs. Neville Rolfe, O.B.E., representatives of the British Social Hygiene Council, were introduced to the meeting by the President in order that they should have an opportunity of consulting the members on certain matters of policy. Mr. Turner said that there was a great danger of thinking that the need for propaganda work was exhausted because of the great progress that had been made in recent years in the reduction of venereal disease. During the last two years there was, however, a distinct increase that might be due either to more persons presenting themselves for treatment or an actual increase in the number of cases. The exact position was not known but, at any rate, a continuance of the spread of knowledge with regard to the terrible effects of these diseases was warranted. He drew attention to the need for more ante-natal work and considered that special clinics should be instituted for women and for children under school age and special steps taken to enlighten young people in industry, for the "peak age" of infection was from eighteen to twenty-four years of age. Mr. Turner read a letter that the British Social Hygiene Council had received from the Minister of Health and urged medical officers of health to endeavour to get lay bodies interested.

Mrs. Neville Rolfe stated that the Society of Medical Officers of Health had been consulted, and it had been agreed that the opinion of the Branches should first be sought as to the necessity for the continued existence of a special society for propaganda work against venereal disease. She pointed out how, under the Local Government Act, 1929, responsibility for health education fell upon local authorities. There were at the moment sixty local authorities who had done no active propaganda work against venereal disease for more than five years, including just those who had the least efficient schemes of treatment, *i.e.*, no liaison between their maternity and child welfare and venereal disease centres, and no social workers to follow up defaulters. These were just the areas in which the diseases could be spread and, moreover, the areas from which those suffering were most likely to go to other centres for treatment. It was, therefore, to the interest of the active centres that the passive ones should be roused. The problem of the country areas was instanced in which the line of approach was quite different from that of the county boroughs. The central grant under the Act for propaganda work goes to the county council, but if that body is apathetic to the subject the boroughs and smaller areas are bound to suffer.

Mrs. Rolfe showed that, if the areas were willing, a definite scheme could be arranged under which the British Social Hygiene Council would arrange a certain proportion of any programme free of cost. She asked what additional central services the Council could render to local authorities or in what other ways could they assist local endeavours.

Among the central services now being rendered are:—

(1) Work in the national press—editorial notices and advertisements. In response to this no less than 105,025 letters from individuals had been received at headquarters, each one of which had had the attention of a qualified medical man. The numbers received from each county borough in the area of the Branch for the past year were given.

(2) Films.—The cost of production (which was prohibitive for any ordinary local authority) was pointed out, and, although not wholly in favour of them for propaganda work, Mrs. Rolfe stated that their use often trebled the attendance over ordinary lectures.

(3) Cinemotor Lorries.—The charges to authorities for their use only covered running costs and personal services; nothing was charged for capital outlay.

(4) Propaganda work which does not come under any one local authority's purview—posters, lectures, plaques, and conferences with firms centrally having branches all over the country who agreed to diffuse knowledge to all their workpeople.

(5) Complete equipment for health exhibition.

In the past most of this had been financed through a grant from the Ministry of Health. Under the new Act the British Social Hygiene Council would, if it was to continue its existence, be dependent on receiving from local authorities a proportion of the grant paid by the Ministry for propaganda work under the new Act.

Dr. Wood pointed out how, in the case of the Merseyside Boroughs (Liverpool, Birkenhead, Bootle and Wallasey), it would be difficult to support by way of actual grant, although it could be done by paying commercial rates for films and material.

Dr. Stallybrass, in thanking the representatives for placing the matter before the Branch, agreed with Dr. Wood, and in congratulating the Council on its valuable work in the past wondered how much had been saved in the prevention of the sequelæ of these diseases.

That arrangements in the Merseyside Boroughs were fairly complete was also stated by Dr. Morley Mathieson, who thought that the production of new posters was very important.

Dr. Gibson emphasised the difficulty of the non-county boroughs in propaganda work, because they had received no central grant.

As the outcome of the discussion it was resolved that it be a recommendation to the Council of the Society of Medical Officers of Health that propaganda work against venereal diseases is essential: that local authorities cannot carry it out effectively without a central organisation for the supply of films, press notices, literature, etc.: and that members of the Society should use their efforts to encourage local authorities to support the British Social Hygiene Council in the valuable work they have carried out during the past fifteen years.

THE YORKSHIRE BRANCH.

President: Dr. Cyril Banks, M.O.H., Nottingham.
Hon. Secretary: Dr. G. H. Pearce, M.O.H., Batley.

A meeting of this Branch was held at the Education Offices, Calverley Street, Leeds, on May 30th, 1929, the President occupying the chair. Twenty-two members were present. Apologies for absence were received from Drs. Channon, Dunne, W. Bertram Hill, Linton, MacDonald and Weaver.

The Hon. Secretary reported the receipt of letters from the Metropolitan and Home Counties Branches to the effect that each of these Branches agreed to support the nomination of Dr. J. J. Buchan as President of the Society for the session 1929-30.

Consideration was given to a letter from the Executive Secretary of the Society respecting (1) General Practitioners and Preventive Medicine and (2) Procedure of Council. It was agreed (*a*) that the Southern Branch representations with Dr. Brackenbury's suggested revision be approved; (*b*) that the recommendations of the Council be approved subject to proceedings of Committees being circulated to members of Council before meetings of the Council; and (*c*) that it be a recommendation that occasional meetings of the Council of the Society be held in the provinces.

A discussion on the Local Government Act, 1929, was opened by Dr. S. G. Moore, Medical Officer of Health, Huddersfield, and many of those present took part. Owing to insufficient time it was decided that the discussion be adjourned until the next meeting.

The Hon. Secretary was requested to write to Dr. Francis, Medical Officer of Health, Barnsley, expressing the good wishes of the members of the Branch to him and their pleasure on hearing satisfactory reports of improved health following his long and serious illness.

THE HOME COUNTIES BRANCH.

President: Dr. F. T. C. Linton, M.O.H., Tunbridge Wells.
Hon. Secretary: Dr. W. A. Muir, M.O.H., Gillingham.

The annual meeting of this Branch was held at the house of the Society on June 7th, 1929. The President occupied the chair, and twenty-two other members were present. Apologies for absence were submitted from Drs. Garrow, Tapper, Milligan, Holden, A. E. Porter and Gordon.

The Hon. Secretary read a letter from Dr. Thomas (Acton) with reference to Death Certification and it was resolved to postpone discussion of the matter.

The Hon. Secretary having read a letter from the Executive Secretary regarding (*a*) Rural Water Supplies and (*b*) Procedure of Council, it was suggested that any member so desiring should send observations on the matters direct to the Executive Secretary.

The Election of Officers for the Session 1929-30, as recommended by the Executive Committee, was approved as follows:—

President: Dr. Elwin H. T. Nash, Heston and Isleworth.

Hon. Treasurer: Dr. A. E. Porter, Reigate.

Hon. Secretary: Dr. A. A. Turner, Finchley.

The following were elected Branch Representatives on the Council of the Society: The President, the Hon. Secretary, and Dr. F. T. C. Linton.

Professor Bostock Hill, Chairman of the Propaganda Committee of the British Social Hygiene Council, having dealt briefly with the work of the Council and the criticisms directed against it, introduced Mrs. Neville Rolfe, O.B.E., the Secretary-General, who

stated that the Council was anxious to obtain the views of medical officers of health more particularly with regard to the continuance of national services for venereal disease propaganda and the possibility of extending those at present in existence. She also pointed out that under the Local Government Act, 1929, the relationship of the British Social Hygiene Council to local authorities will be much closer than in the past; that hitherto the cost of supplying national services for propaganda has been defrayed by a grant from the Ministry, but that in future the central fund from which these services will be rendered will be derived from grants made by local authorities.

A vote of thanks to Mrs. Rolfe for her very interesting address was proposed by Dr. Sanders and heartily endorsed by the members present.

After one of the films produced by the British Social Hygiene Council had been exhibited, the following resolution was passed:—

That this Branch heartily supports propaganda work for the prevention of venereal disease; that propaganda work of local authorities can best be carried out through a central body, and that members, on account of the valuable work carried out by the British Social Hygiene Council, should advise local authorities to support the Council's activities in the future.

It was also proposed and carried that the British Social Hygiene Council should endeavour to produce films more likely to interest the public than the one shown to members of the Branch.

THE TUBERCULOSIS GROUP.

President: Dr. Harold Vallow, Senior T.O., Bradford.
Hon. Secretary: Dr. Ernest Ward, T.O., South Devon.

A meeting of the Group Committee was held at the house of the Society on May 17th, 1929, the President occupying the chair. There were also present: Drs. Mayberry, P. Moxey, H. Cameron Renwick, Peter Edwards, L. Crossley, Christopherson, George Jessel, N. S. R. Lorraine, and the Hon. Secretary.

(1) The Hon. Secretary announced that the Home Counties Branch had elected Drs. Lorraine, Mayberry, and Renwick to represent tuberculosis workers in the home counties. The President welcomed Dr. Renwick, who was present for the first time.

(2) The Hon. Secretary reported that he had been informed that a safeguard under the new Local Government Act to prevent money previously spent on tuberculosis being diverted to other uses was that any body of practitioners could draw the attention of the Ministry of Health to any defect in the service arising from such a cause.

(3) The Council Representative reported—

(*a*) Negotiations were proceeding with the representatives of local authorities with regard to the Salaries Scale.

(*b*) The Central Council for Health Education had published a book of propaganda and posters available to local authorities. The circulation of *Better Health* had reached 200,000 a month.

(*c*) A letter to the *British Medical Journal*, signed "M.B.," had criticised a little unfairly the activities of this Society, and Dr. Buchan had replied. The Council Representative considered that departmental services should be better represented on Committees of the British Medical Association.

(*d*) The Sun Life Insurance Company of Canada had offered 50 scholarships of £100 for British tuberculosis workers to visit Canada and the United States at the time of the British Medical Association meeting in 1930.

(4) A letter from Colonel Fremantle, concerning the Camac Wilkinson method of treatment, was read and referred to the Joint Tuberculosis Council.

(5) A letter from Dr. Gordon Tippett, concerning the elimination of tuberculosis, was also read and likewise referred to the Joint Tuberculosis Council.

(6) Security of tenure and the Dagenham case were discussed.

(7) Form IV. of Memorandum 37/T was considered and referred to the Joint Tuberculosis Council, which had a committee dealing with the subject. To them also was referred Circular 138.

(8) It was decided to discuss at the next meeting:—

(*a*) The utilisation of sanatoria.

(*b*) The value of contact examination.

(9) Friday, September 20th, 1929, at 10.30 a.m., were the date and time fixed for the next meeting.

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Editorial.

The Chepstow Meeting.

SUCCESS invariably attends the provincial meetings of the Society, and that held at Chepstow on Saturday, June 29th, proved no exception in this respect. Owing to counter-attractions in the shape of congresses and conferences, it is often difficult to secure a representative gathering of members during the summer months. The excellent attendance at the Chepstow meeting was therefore particularly gratifying, members being present from the Metropolis, the Midlands and from overseas, in addition to those from the West of England and South Wales.

The Sedbury Park Hotel, with its two-hundred-and-fifty acres of parkland, formed an admirable headquarters, and in its splendid seclusion a great deal of useful work was accomplished before the social part of the programme was undertaken. Committee meetings on Friday evening were followed by a meeting of the Council on Saturday morning, at which, as is recorded elsewhere, a number of matters of importance were dealt with. The Council meeting in turn was followed by the annual provincial meeting. After the transaction of formal business, an exceedingly helpful and interesting discussion took place on "The Medical Aspects of the Local Government Act, 1929." This included valuable contributions by Dr. Colston Williams and Dr. Picken, which, together with the subsequent discussion, are reported fully in this number.

At the luncheon which followed the meetings the President informally presided. While speeches were taboo, Dr. Snell gracefully proposed the health of the President and

Mrs. Howard-Jones—a toast which was accorded with enthusiasm.

In the afternoon a party of over fifty, including a number of ladies, motored to Chepstow Castle, Tintern Abbey and Raglan Castle, and thence to a garden party at Llanover Park, by invitation of Lord Treowen (Lord-Lieutenant of Monmouthshire) and Lady Treowen. On the return journey the members, by varying the route, completed the circuit of the beautiful Wye Valley.

The meeting generally may be counted an unqualified success, and for the excellent arrangements made congratulations are due to the President, with a special word of praise for the Automobile Association, whose display of "M.O.H." direction cards at cross roads and turning points was a helpful and not unattractive feature of the landscape.

* * * * *

The London School of Hygiene and Tropical Medicine.

THE opening of the London School of Hygiene and Tropical Medicine by the Prince of Wales on July 18th marked the beginning of a new era in the history of preventive medicine, and attracted a large number of distinguished guests to the ceremony. The new building is situated at the corner of Keppel Street and Gower Street, W.C.1, and was designed by Mr. P. Morley Horder and Mr. Verner O. Rees, A.R.I.B.A.

The Prince of Wales was received by the Rt. Hon. Lord Melchett, P.C., Chairman of the Board of Management; Sir Holburt J. Waring, C.B.E., Chairman of the Court of Governors, and Sir Gregory Foster, Vice-Chancellor of the University of London.

Dr. Andrew Balfour, C.B., C.M.G., Director of the School, was presented to the Prince, who then proceeded to the Library to receive an address of welcome from Lord Melchett.

Lord Melchett said:—

In July, 1926, the ceremony of the laying of the foundation stone of this building was performed by Mr. Neville Chamberlain, and the American Flag and the Union Jack flew overhead side by side, as they do to-day, as a reminder that we were about to embark upon an enterprise made possible only by the benefaction of the Trustees of the Rockefeller Foundation. The whole British nation and all other nations are under a great debt of gratitude to the Trustees for this magnificent building. The gift of the Foundation followed immediately upon, even if it was not the direct consequence of, the recommendations of a committee which met in 1921 under the presidency of the Earl of Athlone. That committee found the arrangements for teaching for the Diploma in Public Health in London scattered and inadequate. The great post-graduate teaching centre which the Athlone Committee visualised as a necessity at once became possible by the fact that the Trustees of the Rockefeller Foundation, realising that London had unrivalled claims as a centre for teaching of preventive medicine, offered the munificent gift of 2,000,000 dollars for carrying out the project which the Athlone Committee recommended. In this way it became possible that Hygiene and Public Health should have a University Institution of its own; and when, further, in the course of our deliberations, the Seamen's Hospital Society expressed their willingness that the old School of Tropical Medicine should become merged in the institution, we felt indeed that these great twin subjects of hygiene and tropical medicine had at last their long-sought opportunity, and that a new epoch in the history of medicine and the related sciences, and in hygiene, was about to be opened. Mr. Chamberlain, at the Foundation Stone Laying, reminded us of the distinguished part which his father, Mr. Joseph Chamberlain, had played in founding, at the instance of Sir Patrick Manson, the School for the study of diseases of the tropics, and it is a pleasure again to recall this fact. We shall continue to be indebted to the Seamen's Hospital Society for clinical and pathological facilities for the study of these diseases now that we have entered into our new home. The presence of the late Minister of Health, with the present Minister, is a witness of the fact that the laws of health are not the plaything of politics. The presence of the High Commissioners and other distinguished visitors from overseas is a reminder that hygiene knows no frontiers. There are no patent rights in the field of research in the medical sciences. The discoveries made in the laboratories and research rooms are no local or national property. For these reasons, we venture to think that the visit of your Royal Highness this day is concerned with no unworthy object. America has played her part in presenting funds for this building and its equipment, and it is for the British public and the British Government to see that this institution is adequately—it is not too much to say, generously—maintained. The Governors of this School, the Vice-Chairman, Sir Cooper Perry, and my other colleagues on the Board of Management, are very proud to welcome your Royal Highness and to ask you to do us the honour of formally declaring the building open. With us in the welcome is associated the Vice-Chancellor of the University of London, to which we are proud to be affiliated.

The Prince of Wales in reply said:—

You have cause to be proud of this magnificent building, and if the laboratories, museums and lecture theatre make good the promise of this library, I think you are indeed to be congratulated, and the building will be a notable addition to the homes of learning in London. Reference has been made to the part played by America and to the duty which lies on both the British Government and the British people to see that it is worthily endowed and maintained. The building is a sign that post-graduate education in medicine is about to come into its own.

The establishment and endowment of this centre of teaching in preventive medicine is a signal example of the bond between the two great English-speaking races of the world. The chairman has rightly said that there are no territorial frontiers in hygiene. The instruction in the classrooms and laboratories of this building will be conveyed by medical practitioners of every nationality to the far corners of the earth. This research will find its results wherever man lives and moves and has his being. There are three periods in medical science, each definitely stamped with its own characteristics. The first was from 1870 to 1900, and was one of sanitary reform. The next period was marked by growing concern for the protection of the individual, which formed the basis of recent legislation, as evidenced by maternity and child welfare and the treatment of tuberculosis and the National Health Insurance scheme. We now stand in the early days of an era of preventive medicine, in which the progress made in sanitation and care of the individual will be developed, and fresh research will lead to the solution of problems not yet solved and to the prevention of much ill-health. The establishment of this school is of special importance to the British Empire, and it has undertaken great responsibilities. In my travels I have discovered at first hand the appalling loss of life and effort due to tropical diseases; and I have realised how great is the need for research in tropical medicine and hygiene. In the cause of hygiene generally the school will help and develop the growing work that has already been done. For these reasons I believe that the establishment of this school provides a great opportunity for this country and for the whole world. If its work is properly conceived and carried out, there should follow a special development and interest, and a quickening of the public conscience, which will lead to a steady decrease in preventable diseases, suffering and death. By its work in this connection the school will be judged.

The Prince of Wales then declared the building open, and the event was announced by a fanfare sounded by the trumpeters of the Coldstream Guards.

Sir Holburt Waring, in expressing the appreciation of the school authorities to the Prince of Wales for performing the opening ceremony, said:—

The Vice-Chancellor of the University of London, who holds the office which I myself had the honour to occupy, might be forgiven for regarding us as a young and upstart body, pegging out a claim as forerunners in Bloomsbury of the University itself in the now famous site across the way, when he reflects on the old Institution down the street which has so recently celebrated its centenary. We have, however, every reason to believe that, although pressing towards the same goal and imbued with the same traditions as, on the one hand, University College and the other schools which have been teaching for the Diploma in Public Health in the past, and, on the other, the old School of Tropical Medicine, we may yet strike new paths and explore fresh avenues of development. On our public health side, the welcome presence of one of the sheriffs of the City of London and of the Mayors of Holborn and St. Marylebone and the Chairman of the Urban District Council of Willesden with their respective medical officers of health, is an indication that these important authorities will be closely associated with our work, and that for all local authorities throughout the land we have in this Institution a great service to render, and one at the same time in which these authorities and their medical officers can co-operate. As for our work for the Empire, we shall, with due appreciation of the task in hand, remember that this day is for us the Door of Opportunity. In this building we have at all stages in its progress kept clearly in view that it is first, and all the time, a workshop. Our architects properly conceived this idea, and with it the associated idea that space and light were prime considerations. In the expenditure of the large sum of half-a-million sterling on building and equipment we have, we hope, shown a real concern so that it shall be said that the money has been spent wisely and judiciously.

Sir Gregory Foster said:—

As Vice-Chancellor of the University of London, I deem it a high honour to associate myself with the representatives of the London School of Hygiene and Tropical Medicine in thanking you for coming here to-day. This School will take its place as a part of the University—the University of the Capital City of the Empire—whose work is organized not merely for the well-being of London, not merely for the well-being of the Empire, but for that of the whole world. I feel confident that the new School of Hygiene and Tropical Medicine will add to the glories of our University and will help to maintain and extend its tradition of service in the cause of humanity. For from its doors will issue many students, coming from all parts of the world, who will go out as missionaries to spread the word of health and hygiene, and as soldiers to fight against pestilence and disease.

The Prince of Wales then made a tour of the building.

At the conclusion of the opening ceremony the guests were entertained at luncheon, and afterwards were conducted by the Director, the Professors and other members of the staff round the building. The band of the Coldstream Guards played selections of music, and short cinematograph displays were given in the lecture theatre.

Among those associated with the public health services who accepted invitations to be present at the opening ceremony were:—

Lt.-Col. R. B. Ainsworth; General H. P. W. and Mrs. Barrow; Major-General Sir Wilfred and Lady Beveridge; Dr. H. B. Brackenbury; Dr. R. King Brown; Dr. George F. and Mrs. Buchan; Sir George and Lady Buchanan; Dame Janet M. Campbell; Dr. T. Carnwath; Dr. A. K. Chalmers; Dr. Stella Churchill; Dr. F. J. H. Coutts; Dr. S. H. Daukes; Mr. G. S. Elliston, Executive Secretary, Society of Medical Officers of Health; Lt.-Col. F. E. and Mrs. Fremantle; the Rt. Hon. Arthur and Mrs. Greenwood; Sir William Hamer; Professor E. W. Hope; Dr. J. B. Howell, President, Metropolitan Branch, Society of Medical Officers of Health; Dr. C. W. Hutt; Professor W. W. and Mrs. Jameson; Professor

H. R. Kenwood; Sir Thomas Legge; Professor A. Louise McIlroy; Dr. F. N. Kay Menzies; Dr. A. A. Mussen; Sir George and Lady Newman; Dr. R. A. O'Brien; Lt.-Col. G. S. and Mrs. Parkinson; Dr. R. M. F. Picken; Dr. Charles and Mrs. Porter; Sir John and Lady Robertson; Sir Arthur and Lady Robinson; Colonel Sir William and Lady Smith; Dr. F. H. Thomson; Dr. J. Sim Wallace, and Dr. C. F. White.

*** *Reference to courses of study for the Diploma in Public Health, to be provided at the new School, was made in* PUBLIC HEALTH, *June*, 1929, *p.* 278.

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The Maternity and Child Welfare Conference.

THE Maternity and Child Welfare Conference, held annually in July, seems to be developing a migratory habit, for it moved to new premises again this year in the House of the Society of Friends, Euston Road, N.W.1. The meeting hall, less gilded but not less spacious and dignified than the Guildhall of the Corporation of the City of London, made an admirable centre for the conference sessions and the numerous sideshows which have to be accommodated on these occasions. The committee deserve congratulation on the record number of delegates, 850 in all, by which thirty-nine countries were represented.

The most interesting advance in the programme this year was, perhaps, the substitution of puerperal morbidity for mortality as the chief subject for discussion. A whole morning was devoted to the consideration of the care the mother receives apart from her accoucheur (doctor or midwife) and the opportunities which careless nursing and attention to her toilet at unskilled hands present for the entrance of sepsis and a variety of abnormality. Maternity nursing undoubtedly is an enormously important factor in the mother's recovery from her confinement, and while our maternity service remains insufficiently skilled and assured in every detail for every case, mothers will suffer from disabling conditions which are most serious in their effects on the community, however small a minority of them are actually recorded as fatal cases.

Another factor in maternal ill-health which probably does not receive sufficient attention is the increasing laxity of the public conscience towards abortion. A number of speakers testified to this, remarking from the medical side the inevitable ill-effects of repeated abortions, and from the lay the incredible extent of the trade in abortifacient drugs. Much of the latter appears of late to be associated with the sale of birth control appliances, and, indeed, the indications are hardly lacking that this business should be put on a reputable footing. An interesting point made by one of the speakers was that whereas in the past it was the unmarried girl in trouble who sought to relieve herself of her pregnancy, it was now far more often the married woman who declined to submit to the natural results of marriage.

A paper which excited considerable discussion dealt with the question of how to approach the middle-class mother from the point of view of teaching her mothercraft, and mention was made of several centres which have recently been established of which membership is attained by payment of an annual subscription. Possibly in London this provides an easier solution of how to help this indefinable variety of matron than any other that readily comes to mind, but it appears certain that those ladies who are not rich enough to be tempted to leave the care of their young children almost entirely to highly skilled professionals are beginning to clamour for some kind of education and help. That some instruction in the practical duties as well as the moral implications of parenthood should be included in the education of the adolescent appeared to meet with fairly general agreement.

The larger view also that care of the child in the infant centre is not ended when his physical needs are seen to, seemed already to have been reached by most of the delegates. A paper on child guidance clinics was received with very hearty appreciation, and a host of intelligent questions and fuller interest was satisfied by lectures on psychological subjects later in the day. Venereal disease and the proper measures for combating its advance were also considered at length under the most able guidance of the officer who has put this work on a rational basis in Edinburgh.

From what has been said, although it is impossible to discuss the conference sessions at length, it will be seen that they were directed on lines likely to give variety of interest and profit to those who came from far distances to hear, to ask and to observe.

A word must be added on the social programme, which was on an unusually ambitious scale this year owing to the universal desire to celebrate Miss Halford's majority of service in the infant welfare movement. Miss Halford personifies energy, willing information and always most generous help for thousands of workers in this country and abroad who have neither seen nor met her, and their tribute was found in the happy gatherings, medical and lay, which met to do her honour. Dame Louise McIlroy, President of the Maternity and Child Welfare Group of the Society, was received, along with Miss Halford, as guest of honour by her colleagues at the dinner of the Group, and Lord Riddell, as Chairman, paid his respects to the two distinguished ladies. The Group added to its own history also by initiating, on the suggestion of the President, a post-graduate course which preceded and followed the conference and added greatly to the pleasure and profit of a large number of medical delegates.

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Sir Alexander Houston and his Thames.

IN his twenty-third annual report* which, quite unjustifiably, Sir Alexander Houston presents "with much diffidence," there is no word of water shortage. This is refreshing in these days of reports of deputations from the British Waterworks Association received by the Minister of Health, and of memoranda on water shortage issued by the Ministry. It is not strange that there should be no such talk, since one of the things that Sir Alexander has aimed at in his years of work has been to ensure the health of the metropolis on the water side by securing for its teeming population a supply that should be adequate and safe. How well he has succeeded is known, and the reports he has issued year by year testify to the colossal amount of work done, and give some indication of the class and excellence of that work. This report is one of the series in which particular sources of London's supply are dealt with. With the enthusiasm of the expert, and in a style even more lyric than that revealed in the reports on the New River, the Kent wells and the Lee, he writes now of the Thames. As he could not fail to be, he is a Thames lover and everywhere his love is revealed. In the multitude of illustrations he reveals more than his love (how unexpected but inevitable to find "Near dear Marlow" as the name given to one picture!); he shows his intimate knowledge of every inch of the ancient stream and waterway.

It may be doubted if anything like so complete, perfect and beautiful a collection of river pictures as exists in this report has been produced before. Its value from this point of view must be immense and must increase. Needless to say, of course, that, striking as the report is on this account, it is extremely valuable and important from the technical aspect as well. It is the report of a master of his subject. That it is the report of an artist and a poet as well does not detract from, but adds greatly to, its attractiveness and its value as a treatise on the water of the Thames, to which London and the nation owe much more than can be obtained by merely using it for "pure ablution" and everyday hygienic and dietetic purposes.

* Results of the Chemical and Bacteriological Examination of the London Waters for the Twelve Months ended December 31st, 1928. By Sir Alexander Houston, Director of Water Examinations, Metropolitan Water Board. London: P. S. King and Son, Ltd., 2 and 4, Great Smith Street, Westminster, S.W.1. pp. 112. Price 21s.

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The Imperial Social Hygiene Congress.

PERHAPS nothing will lead to more surprise than the fact that in such a few years the question of social hygiene has become so prominent, and that one of the most important summer congresses now held in relation to health may be said to be the Imperial Social Hygiene Congress, at which specialists from every part of the Empire, as well as from certain other neighbouring countries, come to discuss points not only of scientific import, but of practical administration.

The congress now closed was remarkable for the fact that some two hundred representatives of dominion and colonial governments and of mandated territories were present; also delegates from departments of the home government, from many of the local authorities of Great Britain, and from public organisations interested in the subject.

The importance of the congress was acknowledged when the Marquess of Linlithgow, Mr. Wedgwood Benn, M.P., the Secretary of State for India, the Under Secretary for the Dominions, the High Commissioner for India, and representatives of the High Commissioners for Australia and New Zealand joined in greeting the delegates.

The programme was of great interest. It included a study of the work of the League of Nations which deals directly or indirectly with problems relating to social hygiene. The efforts to reduce venereal disease in the Navy, Army, Royal Air Force, Mercantile Marine and the civil population in Great Britain and

overseas all received full consideration, while perhaps in many respects a still more important point, that of the value of biological education in leading to the only possible method of education in sex conduct was duly stressed.

It will be seen that with such a body of representatives the survey was comprehensive and it was interesting to note that delegates were unanimous in their desire for closer co-operation in the attainment of better conditions regarding facilities for treatment and also of general measures towards the prevention of infection, not only in the services, but in the general population.

One point which received special attention was the respective merits of a voluntary system of treatment versus notification and compulsory treatment. It was shown that the total attendances at treatment centres per case did not exceed figures returned from other areas in which the voluntary system has been in operation, and it was generally felt that the question of the procedure to be usefully adopted must be left to the particular area, and that such points as the probable psychological effect of legislation on the population must be considered.

It would seem as a result of the deliberations that the general opinion was that a process of enlightenment coupled with modern facilities for treatment must be antecedent to any scheme of compulsory notification.

Colonel Harrison brought to the notice of the congress the need for standardisation of tests in the diagnosis of syphilis, while other delegates raised the point of the difficulties which beset the detection of gonorrhœa in women, and various suggestions helpful in diagnosis and treatment were made.

The value of such a congress which brings from all parts of the Empire experts who are ready to pool their experiences, discuss their difficulties, report progress in their work, be it in methods of treatment or in legislative or educational measures, cannot be over-estimated. Not only does it serve to gather together information regarding venereal diseases from all parts of the Empire, but from knowledge mutually gained and from opinions freely exchanged it acts as a stimulus to further effort both at home and overseas.

It is very gratifying that the congress proved the advance which has been made since the Third Imperial Social Hygiene Congress was held in 1927, and there is reason for the strongest hope that the one which has just come to a close will add a stimulus to the work which will be made very manifest at the next congress in 1931.

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Damp Houses.

AT the request of the Science Committee of the British Medical Association, who invited the Royal Institute of British Architects to co-operate with them in dealing with the serious question of dampness in dwellings, a special Sub-Committee was appointed by the Royal Institute for this purpose.

The report of the Sub-Committee, which has been prepared after considerable labour and research, has now been issued, and though it does not appear to add much in the form of support to the view that there is a close causal relation between dampness and rheumatism, it contains, nevertheless, a considerable amount of useful information. The returns analysed had reference to 53 damp houses under and 1,014 over ten years old. By way of conclusion, the Sub-Committee draw special attention to the fact that satisfactory conditions depend mostly on roofs, walls and protection from damp ground, and they wish to emphasise that no considerations of economy in cost can justify sacrificing the necessary treatments to secure a reliable water-proof shell for the building as regards roof, walls and floor, as well as damp-course protection. The Sub-Committee strongly recommend that the erection of dwelling-houses should be subject to stricter technical supervision, whether by architects engaged to supervise the work or by properly qualified officers of local authorities. It is clearly undesirable that buildings with defects as to protection from damp should continue to be erected mainly for want of such adequate supervision. The Sub-Committee also draw attention to the fact that bye-laws alone, as they now stand, do not provide a complete safeguard so far as resistance to the penetration of damp is concerned, and certain amendments to the Public Health Act are necessary, or would be necessary, to enable the bye-laws to deal with several important matters. The Sub-Committee recommend that suitable amendments in the Act should be made.

DR. THOMAS GIBSON, Medical Officer of Health, Wakefield, has received an increase in salary from £1,000 to £1,050 per annum.

The Medical Aspects of the Local Government Act, 1929.

By E. COLSTON WILLIAMS, M.D., B.S., Lond., F.R.C.S., Edin., L.R.C.P., Lond., D.P.H., Medical Officer of Health, Glamorganshire County Council; and R. M. F. PICKEN, M.B., Ch.B., B.Sc., Glasgow, D.P.H., Medical Officer of Health, County Borough and Port of Cardiff.

No more appropriate subject than the Local Government Act could have been chosen for discussion at the annual provincial meeting of the Society, held at the Sedbury Park Hotel, near Chepstow, on June 29th, 1929, and in the following contributions on the medical aspects of the measure by Dr. Colston Williams and Dr. Picken will be found much information of interest and value at the present time.

DR. COLSTON WILLIAMS.

THE difficulty of this subject to my mind is that there is a temptation to prophesy, and to prophesy is always a dubious business. Indulgence in that respect has rather obscured the discussions in the county group because, whatever our particular views are with regard to a certain matter, it is to some extent problematical if our councils, varying as they do in their political composition and social outlook, will take the same view as we do. Again, the feeling of the local districts with which the county will come into contact is also an unknown quantity.

Speaking on a few general matters, I would like to point out that probably this is a period when for many of us we shall, as opportunity offers, have to review our ideas as to what the public health service consists of. While the preventive outlook in the service must ever be foremost, it seems to me that in the future those who are concerned with the administration of counties and boroughs will have to take anything and everything and, while being guided by certain ideals, there is nothing that comes to their hands that they must not grapple with.

In counties, owing to differences of population and area, the manner in which the Act will be applied must necessarily be varied. My own experience has been, first with the London County Council service (London being a problem of its own); my second that of an agricultural county, and my third and present experience that of a large industrial county where the questions are entirely different. Therefore, problems in areas can only be dealt with according to the local frame in which the work is set. In the county it seems to me that when the poor law institutions come into our hands they will be of great use because they will round off the deficiencies which are so marked in county work.

In regard to maternity and child welfare, for example, a great deal of the organisation at present is very partial. It is not so marked in the boroughs, but in this service in the counties the centres are run by the medical officer of health or an assistant, and if he has not a hospital and a gynæcological service behind him it seems to me that the maternity and child welfare service, regarded as a medical service and not merely as an educational service, is an extremely incomplete one. I foresee that for the counties in time it will be possible to provide central clinics which will deal with particular cases which are in need of a higher degree of skill than is possible in the present centre.

In the same way I have long been impressed in Glamorganshire with the great need there is for children's hospital accommodation. Those who work in the maternity and child welfare centres must see constantly a large amount of surgery—hernia and so forth—most frequently encountered in the child from infancy to five years of age, that cannot be got into a general hospital or operated upon in the district. I hope this deficiency will be made good when the present position with regard to the poor law is substantially changed.

The time will come when, with separation of these institutions, certain of them will be working under the Public Health Act and in free association with the general public in a way that is not repugnant to them. In the same way it will be necessary for any development of maternity and child welfare in connection with the poor law to deal with the problem of the prostitute, who is more or less

exclusively dealt with by the poor law maternity service, to which the ordinary respectable woman will not go. In Glamorganshire, for instance, there are a number of first-class, well-staffed maternity departments in connection with the poor law which are very largely unused. That, of course, will require an entire change.

In the county group we have been mainly concerned with the discussion of details; for example, as to the precise meaning of certain parts of the Act and the question of declaration; that is, whether it will be possible to deal with certain matters entirely under the Public Health and other Acts instead of dealing with them under the poor law organisation. It seems quite clear that the possibilities of declaration differ in the counties, and that even in the case of those best equipped under other Acts, declaration will be of an extremely limited character. As far as my own case goes, at present it is only proposed to declare a small amount in connection with the Education Act and the Blind Persons Act. In the latter instance the reason is that some few years ago my county decided to deal with the necessitous blind person outside the poor law.

Perhaps I may be permitted to read some extracts from a report submitted to my council, who have expressed a desire for information on the general ideas in the minds of their officers. Those who are well versed in the technique of this matter will realise that this statement is entirely general and quite simple:—

The possibilities under this Act in respect of improvement of medical services for the nation are considerable, and it is the culmination of successive pieces of legislation which have assigned the care of special classes of the afflicted to the special committees of local authorities rather than impose additional duties on the guardians. The Mental Deficiency Act is a recent example.

When the Public Health Act, 1875, was passed and it was necessary to find some staff to work it, as there were medical officers of the poor law in every district in England, the first medical officers of health were poor law officers, and there was no recognised public health service until special officers were appointed by the large cities. This explains why vaccination as a piece of preventive medicine has, up to the present, remained a function of the poor law.

The new possibilities may be considered in two classes:—

(1) Medical work in connection with institutions of the poor law.

(2) The changes which are permissible or obligatory in re-organisation of matters in relation to what are known as public health services.

The medical service of the poor law consists of service in institutions and service to the necessitous poor outside, and for the present I propose to confine my comments to the former.

Throughout the country there are the widest variations in hospital service. In some parts of London, in provincial towns and in Glamorganshire, the poor law infirmary has become to a varying extent separated from direct association with and control of workhouse administration, and by suitable buildings, good staffing and good nursing, has reached a high degree of excellence and, in response to a demand for further hospital accommodation, has become already, in some measure, not only a service for those who normally come within the scope of the poor law, but a service to include the treatment of patients who contribute according to their means, and to function in varying measure as a public hospital.

The first duty of the public assistance committee is to provide for the needs of the sick poor in the institutions, and it may be roughly classified into (*a*) illness and infirmity of old age for which the chief need is medical supervision and nursing, and (*b*) illness which may be cured or palliated by medical or surgical aid. At a later stage class (*b*) might be dealt with under the Public Health Act, while class (*a*) could be dealt with in the workhouse infirmaries. It is anomalous that the voluntary hospitals which were once established for the necessitous poor now serve a class which is substantially of a different character and in large towns provide a good quality service.

The sick poor, speaking generally, do not receive the assistance of so highly organised and specialised a service except under circumstances which have already been mentioned. It may be possible in the future to effect a greater separation of these two classes and to apply skill and care to a greater degree to all cases of remedial sickness.

Further extension of hospital service will come when this first task of attending to the needs of those who have the first claim has been accomplished. It is assumed by the friends and well-wishers of the voluntary hospital system (of whom I am one) that they have to fear the immediate and overwhelming competition of bodies controlling public funds. A little consideration of the matter will show that in the early period the public authorities will require re-arrangement and improvement of their institutional medical services, which will make demands upon time and money. It will require careful consideration of any initial steps they care to take in regard to the admission of cases not within the control of the poor law and a substantial change in the mode of admission before there will be urgent demand from the outside public. There is provision made in section 13 of the Act for consultation between public bodies and those representing the interests of the voluntary hospitals.

Under the Public Health Act, 1925, local authorities have power to contribute to the funds of voluntary hospitals, and it may be possible to use this power in future to arrange that particular needs which voluntary hospitals can meet should be dealt with in this way by an agreed contribution, but, on the other hand, if voluntary hospitals cannot meet public needs it is unreasonable to complain if such needs are satisfied in any other reasonable way.

In maternity provision there are excellent maternity sections in the poor law institutions. This provision is largely unused for two reasons, namely, the method of admission and the fact that in the small number of cases now dealt with there is a proportion of undesirable females who, in respect of speech, habits and character, are repugnant to the ideas of other women who might wish for hospital service, and it would be necessary to deal with this type of patient apart from the others. It will be possible to re-arrange and classify accommodation in the county group, because in the future the institution of each old union will not be considered as an individual local problem. There will, in the future, be a pool of institutions under the control of the public assistance committee, who will view the hospitals and medical problems as a group. Having settled their policy as to the functions of each institution, and being provided with a transport service which will be one of the first necessities, they will be able to classify by transference of appropriate cases to the most suitable point.

There is a considerable amount of hospital accommodation for infants and children which, under the new conditions, can be used to greater advantage, and it is desirable that the districts doing the local work of maternity and child welfare propaganda should be in closer relation with the county as a hospital authority in the future, both for maternity and for treatment of the sick child in hospital. It is also desirable that the control of the public assistance committee should be supreme on all institutional policy, and that there should be no possibility that the committees who undertake the local work of institutional supervision should be able to prevent or hinder the considered policy of the controlling committee.

In addition to the wide functions which the county council already possesses as an institutional authority in relation to asylums, institutions for the mentally deficient, education, and its share in the provision of institutions for tuberculous persons, it now becomes a controller of workhouses, infirmaries, cottage homes and other special places of poor law function. It is given power by section 14 of the Act to provide such hospitals for its needs as may be approved by the Ministry of Health, and this new power, along with its place as an institutional authority, is likely to check what has been the practice up to the present time.

In building, maintaining and staffing hospitals, it has hitherto been usual to call on county districts to provide isolation hospitals and maternity hospitals. In the past, such districts as had sufficient financial power made provision in small hospitals for their local needs, but the small hospital for infectious diseases fluctuates between overwork and comparative idleness, and is costly in respect of maintenance because of its intermittent demand. Under conditions of modern transport it would be more economical and more efficient to have a larger unit, say of one hundred beds, serving several districts and provided with a resident medical officer, laboratory and adequate staff, rather than carry indefinitely the charges of the small unit hospital which tends in times of slackness to carry almost as many staff as patients. The small local maternity hospital is a costly undertaking for the same reasons, and here, too, the advantages of group provision would be possible when the time arrives to alter or supplement such provision in the county. Under section 63 of the Act it will be necessary at some future time to review and reconsider provision for infectious diseases.

When the question of re-arrangement of areas is dealt with, the appointment of whole-time medical officers of health will be a matter for consideration, for it is laid down in section 58 that, in future, districts shall be of sufficient size, either alone or in combination with adjacent districts, to employ a whole-time medical officer of health. This is in conformity with the trend of events and opinion that the public interest may best be served by an officer who is not in private practice and who can deal with health matters in his district free from fear or favour. While excellent service has been rendered by part-time officers in the past, the best of them agree that such a change will probably be for the better. In addition, by section 59, the qualifications of medical officers who carry out any of the public health services under special Acts, such as tuberculosis and venereal diseases, are to be made the subject of regulation by the Minister of Health. This also applies to health visitors.

Section 60, which deals with the maternity and child welfare service, would seem to have in view that the medical care of infancy and childhood might best be dealt with by one authority, and suggests that where a district is doing maternity and child welfare and is not the local education authority, the existing arrangement should be reconsidered. Where a Part III authority does its maternity and child welfare work it is able, without difficulty, to provide treatment for the cripple child and those requiring treatment of dental, eye and throat defects, because it already has machinery for dealing with school children, but where a non-Part III authority is carrying out the propaganda work of maternity and child welfare quite efficiently, it may be unable to provide such services for comparatively small numbers. In addition, when the education authority has to provide milk or feeding for children in its area and it is not the maternity and child welfare authority, there is not the same knowledge of the needs of the individual family as when it administers both services.

The matter might be dealt with in various ways. Where there is a part-time officer at present responsible for maternity and child welfare, the county might arrange for treatment services. Whatever re-arrangement may seem desirable the council would wish to do all in its power to provide as uniform a service as possible throughout its area, for the burden to be borne in the future by education authorities in respect of child defect will depend largely upon the prompt and efficient treatment of remediable defect in its earliest stages; and when the county will be able to offer hospital treatment for infants and children, which is now so deficient in amount and so much needed, substantial public benefit may be expected.

In the administrative scheme the assistance of necessitous blind persons may be relegated to another committee by declaration. This has been anticipated

by us for some years, but the assistance of dependents of blind persons cannot be dealt with in the same manner. The policy of unions in the county up to the present has differed so that what was given by our public health committee in some cases was reckoned to some extent as poor relief and the amount subtracted from assistance to dependents. In future the public assistance committee will only have to agree with the policy of the public health committee to make the assistance of dependents uniform.

By section 62 of the Act, the council of a district which employs a whole-time medical officer of health and controls maternity and child welfare work may apply for power to supervise the midwives in its area and become the local supervising authority. This will impose upon it the financial liability for medical assistance rendered under the Midwives Acts, and this matter is to be dealt with by consultation and, if necessary, by local enquiry.

By section 57, the county may assist a local authority in the cost of performance of public health functions in the provision and maintenance of sewers, sewage disposal works and water supplies; these are specifically mentioned, but it is not clear that such assistance is entirely confined to the specified public health functions. This clause, if generously interpreted, might be of great assistance to an area of restricted financial power, *e.g.*, the progress of a satisfactory water supply in one of our areas has hitherto been prevented by its poverty in rateable value. If this district had been abundantly supplied with good water from a neighbouring authority, its development would have been much hastened, for an ample supply is the pre-requisite of modern drainage; it rapidly raises the value of agricultural and building land, apart from being a prime necessity for health.

It has been suggested that there might be a surplus of institutional accommodation which might be appropriated for other purposes, but after visiting all the institutions in the county I do not see any likelihood of this.

One is impressed with the amount of mental defect which is apparent among the resident population of poor law institutions, and the question will arise whether it is desirable to remove this class as soon as possible from mixed workhouses; in my opinion, it is.

I must bear tribute to the impression that has been given me of the good organisation and humane management of the county institutions, and while change and re-organisation for many reasons must be slow, I am convinced that the internal reforms which have been going on for the last twenty years in poor law work will be hastened, and that in the new Act under favourable circumstances there exists the possibility of building up a national hospital service of greater value and an efficient consolidation of public health services.

In conclusion, I would like to make some additional reference to two matters. First, I think the duties of a medical officer of health should be as multiform as possible. The specialisation of so many of our members is a thing which I doubt very much is to the public advantage or to the benefit of the service. Secondly, the various forms of public assistance in the past have been unrelated, and the bodies carrying out the functions have been unaware of the policy of each other in dealing with families. In order to meet this difficulty it is suggested that there should be available a dossier of each family containing particulars of all forms of public assistance received by the family.

DR. PICKEN.

I was aware that Dr. Colston Williams would deal very widely with the subject of this discussion, and so far as his remarks apply to county boroughs I agree with them and need not repeat anything he has said.

It seems to me that it would be more useful if I referred to some details regarding the transfer of the poor law, more particularly since we have come to the time when schemes are in course of preparation. In the first place, I think we have to make up our minds as to what we can do and what we cannot do under the Act as regards the management of the transferred functions of the poor law authorities. In the case of the work of the district medical officers there is some difference of opinion as to whether or not such work could be dealt with under the Public Health Act. Personally, I do not think it can be. You will remember that we have been giving free supplies of diphtheria antitoxin for many years under section 133 of the Public Health Act which enables us to give temporary supplies of medicine, and I take it that it was under that section that it has been thought that we could give medical assistance to the poor, but the section definitely contains the word "temporary," and those who have adopted the practice of giving supplies of insulin will know that the Ministry of Health now regard the matter differently from the supply of diphtheria antitoxin, and make the local authority apply every year for permission to supply insulin: they consider it a temporary measure on the part of the local authority. Similarly, it appears to be the correct legal view that the work of the district medical officers cannot be dealt with as a permanent service under the Public Health Act, but must remain under the poor law, that is to say, it will be a function of the public assistance committee no matter to what extent it may be desired to lift the medical services out of the poor law.

The next point I wish to discuss is the important question of making declarations under the Act—declarations that such work as could be done under other Acts (Public Health, Mental Deficiency and so on) will be entirely administered under those Acts by the local authorities. I take it that we are all of the opinion that it would be far better if the medical services which have hitherto been carried out by the poor law authorities were carried out, not under the Poor Law Act, but under one of those other Acts by a committee which is responsible for the operations under those Acts, and that therefore it would theoretically be very desirable that we should make declarations such as those proposed to be made by the County of Glamorgan under the Blind Persons Act. But if you make such declarations it seems to be quite clear that the local authority definitely commits itself to giving all hospital treatment, for instance, to all sections of the community who may require it under the Public Health Act, and that treatment under the Poor Law Act will cease. It means that if you are going to do so you must have institutions adequate for the purpose and separate from the poor law administration. I am afraid there are very few of us in that fortunate position. The same remark applies to mental deficiency work and to work in connection with blind persons. But it ought to be remembered that it is possible, apparently, to declare that certain parts of work may be taken out of the poor law; for example, certain work under the Blind Persons Act. Other questions arise in that connection too. Suppose you declare that you are going to treat all your tuberculous cases as part of the tuberculosis organisation and not under the poor law, it means that in future you will have no cases of tuberculosis in poor law institutions. It is questionable whether it is entirely desirable that you should do so even if you have enough accommodation, and that will depend again on whether or not the accommodation is capable of classification. There are certain types of cases who will make havoc of an institution, and if they are taken in it will be found rather difficult to retain the decent tuberculous patients who require institutional treatment and expect to have it under conditions where there are at least some amenities.

Similar problems arise in connection with maternity work, where, for instance, the pregnant prostitute constitutes an administrative problem if she is mixed with other mothers.

There is, therefore, this problem of classification which will have to be faced if declarations are made. Now, it might be possible to overcome these difficulties if the advantages of making declaration were sufficient to justify the effort, and we should have thought that, if work were declared away from the poor law, such work would automatically be carried out under the public health committee, mental deficiency committee, and so on; but it is stated by legal authorities that by merely making such declarations it is not made possible to lift work away from the public assistance committees; the work will still remain their responsibility. It is true that the Act enables the public assistance committees to delegate their work to other committees, and there is a difference of opinion as to what that means, but it seems to me that such a state of affairs is impossible. It appears to me that matters relating to delegated functions of this kind will be recorded in the minutes of the various committees, and that these minutes must go to the public assistance committee before they reach the council. It is exceedingly doubtful if any advantage is to be gained from working in this way.

Further, with regard to declarations, the practicability of making declarations depends upon the facilities there are for carrying out the work; but if the facilities are available there is no reason at all why the amount of work done under the appropriate committees should not continue and increase without the making of any declaration whatever. Take, for example, work under the Blind Persons Act in the past. Some local authorities have had agreements with boards of guardians under which outdoor relief of the blind is given, not by the guardians, but by the local authority under the Blind Persons Act, and in Cardiff the board of guardians actually asked the local authority to take over the work and relieve them of it entirely, before any Local Government Act was in existence. It is, therefore, not necessary to make declarations if the facilities exist. By making declarations you have to commit yourself to take under control cases which conceivably it may be convenient to leave under the poor law organisation.

There is still another way of dealing with some of these problems. If, for instance, you have an institution available for a certain purpose, distinct from the poor law organisation —a new poor law hospital, for example, which was intended to be administered as a hospital

quite separate from a workhouse—it will be possible to appropriate that hospital for public health purposes without making any declaration at all, *i.e.*, the institution may be appropriated and may be administered by the local authority as a public authority hospital without making any declaration whatever. It will enable the authority to treat cases under the Public Health Act, while patients it is found inconvenient to treat in that way may be sent to the existing poor law hospital, which may continue to be administered as a poor law institution. There appears to me to be no reason why a public health committee which appropriated an institution of this kind might not charge to the public assistance committee all persons who are on their register as receiving relief. Cross-accounting is, of course, a common feature of municipal work, and there is no reason why the public health committee should not make a charge of this kind against the public assistance committee, and the latter recover the cost of cases whose settlement is outside the area.

There is a point at present not settled, but which will have to be cleared up. There might be objection to appropriation of an institution of the kind mentioned as it might appear to lead away from the ultimate unification of services which we desire to see. It seems to me that this question of the unification of the health services is really the important point, and that it does not matter which committee is responsible for the work if we can get unification by any other means—and there are other means. In many county boroughs and most counties the medical services existing are already unified under the medical officer of health, who is school medical officer under the education committee and is responsible to that committee for the branch of his department which deals with the school medical service. He is similarly responsible to the mental deficiency committee for the part of the work concerned with mental deficiency. Although the committees are different the services are unified, and it seems to me that the most straightforward and simple way is to try to persuade local authorities to make the medical officer of health responsible for the administration of the medical services of the public assistance committee, and to make the public health department responsible to the public assistance committee for the medical services of the poor law, just as it is responsible to the education committee for the school medical service. The responsibility of the medical officer of health, however, ought not to be merely advisory. He should be definitely and officially recognised as the officer responsible to the public assistance committee for medical work. But again there are administrative difficulties in many areas, where, for example, the institutional medical work is carried out in the sick and infirm wards of workhouses. Administration in such a case must be under one head, and the question arises as to who is to be responsible for the institution. In Hull it has been decided that the medical officer of health is to be responsible for all the institutions, and that seems to be one practical way out of the difficulty.

I should now like to deal with one or two rather more general points, including the question of classification of cases within the existing poor law institutions. Those of us who have made detailed classifications in these institutions must have been impressed by the fact that the classification is not carried out in a manner similar to that of the large voluntary hospitals. There are, in the poor law institutions, gynæcological cases lying side by side with medical cases, and cases of abortion lying next to clean gynæcological cases who have been the subject of abdominal operations. Now that particular problem, it seems to me, ought to be soluble within these institutions themselves, and I think it is possible, from what I have seen, to carry out a stricter classification without institutional specialisation. The problem must, however, be looked at from the point of view of poor law administration and we should not be entirely prejudiced by our bias in favour of the voluntary hospital system.

We shall soon have to face the very big question as to how public authority hospitals ought to be staffed. In some areas they are staffed more or less like voluntary hospitals, with short-term residents on low salaries gaining professional experience, and visiting staffs who are consultants in the area. Sometimes these hospitals have an administrative superintendent; sometimes a superintendent who is three parts a surgeon and one part an administrator. We shall have to make up our minds on the subject, and must bide our time before we assume that the system in voluntary hospitals, which we naturally favour, is in all respects the very best.

One point to be borne in mind is the use of isolation hospitals for other diseases than the so-called fevers. I was much impressed in Copenhagen by the use made of such hospitals. It is customary there, when there is a low epidemicity, to utilise beds for cases of acute pneumonia and acute rheumatism, and under a unified system in our own areas it might be possible to make better use of our hospitals when they are running at a very low ebb.

Lastly, I would like to mention the question of our negotiations with voluntary hospital authorities. Under the Act we are under an obligation to consult the representatives of voluntary institutions before we provide new hospital accommodation. It may be a question as to how soon such consultation should take place. There is one matter that may force the issue. I gather that the commission likely to be appointed soon to control the distribution of radium may desire, first of all, to have the local position very closely studied to ensure that not more than one hospital is doing the work in the area and that the radium is being used to the best advantage. If that question arises I think we shall be faced immediately with the problem as to whether the treatment of cancer is to be carried out in a municipal hospital or in a voluntary hospital, and as to how interchange of cases is to be organised. I think, therefore, we may find ourselves brought into the negotiations which the Act contemplates earlier than we expected. It seems to me that we ought without delay to be getting our minds ready as to the distribution of cases between the voluntary hospitals and the poor law hospitals.

DISCUSSION.

Dr. R. A. Askins (Medical Officer of Health, Bristol): Dr. Picken suggests wisely that the amalgamation of medical services is a very important point. What committee is going to make the combined appointment? In Bristol, for example, the position is entirely unsatisfactory, as the appointment of various members of the medical staff is made by different committees. Would it not be possible to bring into the administration a medical service for the whole city, and for the health department to supply all the medical services in the area, just as the city engineer provides all the engineering services?

Dr. James Fenton (Medical Officer of Health, Kensington): One point only I wish to make—the possibility of medically treating poor law cases under the Public Health Act, 1875. Section 131, has, of course, been used in the past entirely for fever hospitals, though, it will be noted, the section does not make use of the word "fever." Local authorities can provide hospitals for any purpose under that section. How far can the word "temporary" in section 133 apply to poor law patients? In the case of my own authority, which works under a similar section (77) of the Public Health (London) Act, 1891, it has obtained permission to treat, in a clinic, children suffering from rheumatic fever, thus providing medical assistance which is by no means temporary. Section 130 of the 1875 Act says that a local authority can provide treatment for epidemic diseases. It will be remembered that the Tuberculosis Regulations, 1912, which enable a local authority to set up treatment, were framed under that section, and I believe, therefore, that it would be possible at the present time to undertake medical treatment under section 133 in spite of the word "temporary."

Dr. W. G. Willoughby (Medical Officer of Health, Eastbourne): Personally, I feel inclined to advise my authority to beware of declarations. In two instances we have had to transfer from our own hospital to the poor law hospital tuberculous patients who were making life hideous in the municipal hospital. A similar state of affairs might easily arise in connection with the maternity and child welfare service.

Dr. Thomas Evans (Medical Officer of Health, Swansea): I would like to ask Dr. Picken why he states that the voluntary hospital committee must be consulted only with regard to new accommodation. One other point is this: that we should simply peg away with our existing work. If we continue developing the school medical service and the maternity and child welfare service and establish public health hospitals, then I do not think there is so much need of declarations. The members of the public assistance committee are simply members of the local authority, and if we have the confidence of the local authority we can produce the changes within the existing poor law service.

Dr. Picken, replying to points raised, said: In answer to Dr. Askins, all chief appointments in Cardiff are made by the council; all subordinate appointments in the public health department are made by a joint committee of the public health and education committees and are subject to confirmation by both committees. If amalgamation of this kind were extended, appointments would similarly be subject to confirmation by the public assistance committee. The total cost of salaries is allocated amongst the committees according to the amount of time devoted to the several functions. With regard to the district medical officers, they are definitely under the poor law and their conditions of appointment and superannuation differ from those in the public health department. They have security of tenure, for instance. As to the point raised by Dr. Fenton, it is, of course, very largely a matter of opinion, but it seems to me that the sections to which he referred carry this proviso: that no provision is made without the sanction of the Ministry of Health, and if they care to say that they are not going to approve, they have the last word. As to the query of Dr. Evans relative to consultations with voluntary hospitals, I, too, thought at first that one of the things we had to do immediately was to get into consultation with the voluntary hospitals, but it appears to be the opinion, at least of some officers of the Ministry, that consultation is only necessary when we are making *new* provision.

On the motion of the President, a hearty vote of thanks was accorded to Dr. Colston Williams and Dr. Picken for their most valuable contributions to the discussion.

Ut Ita Dicam.

(Being Comments, apropos and otherwise, on Sundry Matters.)

The Sheffield Congress.

From all accounts not the least attractive of the very many attractive items in the programme of the highly successful Congress of the Royal Sanitary Institute at Sheffield was the Conference of Medical Officers of Health. The attendances here were so large as to constitute a record, and the desire to discuss the questions raised in the papers read on Cremation and Abortion and Orthopædic Cases, so great as to necessitate a further meeting on the Friday. This constitutes a record also, I imagine, as I, personally, cannot remember an occasion when more than one day was required for the dispatch of all the business, including the delivery of the address by the president. For the papers themselves there was nothing but praise, and the recording secretary (Dr. Pearce of Batley this time), is to be congratulated on securing such an interesting selection of subjects and speakers so capable for introducing them.

The Preventive Medicine Section.

In addition to what they did in their own conference to help to secure for the Congress the extraordinary success it attained, medical officers of health—Fellows of the Society particularly—acted as openers of the bulk of the discussions, the exceptions being those definitely technical of other professions, architects and engineers, for example, and even there they quite commonly added most usefully to the discussions held. An interesting exception to the rule was that of the Preventive Medicine Section where, as it happened, no contribution in the shape of a paper came from a medical officer of health, and so far as the discussions were concerned these officers in the main contented themselves with the part of listeners. The principal reason for this was that the subject chosen—Mental Hygiene—so far as local authorities and their health officers are concerned is only at the moment being opened up, and what is wanted is information from those who have specialised in it or particularly investigated it. On the programme of the section there was quite a galaxy of such persons, and most helpful instruction and real stimulation were provided by, amongst others, Dr. Crowley, Dr. Letitia Fairfield, Dr. Auden, Dr. Mapother (Maudsley) and Dr. Gilmour (Middlesex Hospital). Though medical officers of health in the main remained silent, it was noteworthy that they were in force amongst the very large audiences attending the sessions of this section, and in conversation were most appreciative of the opportunity afforded to hear something of a subject that it is felt must become one in which health departments generally will be compelled to take concern.

On Congresses in General.

This is not the first occasion upon which the Preventive Medicine Section at a Royal Sanitary Institute Congress has served as a place for the dissemination of information upon new procedures for the benefit of the health of the people. It was at this section, for example, that the possibility and advisability of the adoption of diphtheria immunisation schemes by local authorities were first discussed by experts and persons of experience before an audience including both health officers and representatives of health authorities. I have never heard a health officer express gratification that such sections as that of Preventive Medicine exist specifically on the ground that they help him in his work by educating representatives of his authority on particular subjects and by stimulating their interest in the newer procedures. This, when I come to think of it, is rather surprising; no less surprising than is the tendency on the part of some—nearly all of them quite regular attendants at congresses—to condemn such meetings. To my mind, congresses have an immense value, if for no other reason than that indicated—that they provide opportunity for the instruction of representatives of health authorities side by side with their officers and amongst other representatives and officers. Year by year they are destined, I believe, to become increasingly valuable because of the greater and more intelligent interest taken in health matters and the processes of preventive medicine by members of local governing bodies. For these there is no better place for learning than the mixed conference arranged by such a body as the Royal Sanitary Institute. The atmosphere is the correct one, being municipal; the subjects discussed are municipal, or such as it is considered should become municipal, and there is given just sufficient of a scientific flavour to afford pleasure and to lead to a desire for more.

The Mixed v. The Professional Meeting.

Once or twice I have heard it said that medical officers of health and the Society in particular should abandon the practice which has been growing steadily of holding meetings of one sort and another in connection with the Institute Congress and prefer to arrange these for the week of the British Medical Association meeting. Conceivably we might learn a good deal at a professional meeting of this kind, but since such a severance would inevitably convey an impression that the interests of the officer were definitely professional and that he had no desire to see matters from any other point of view, it is certain that harm would be done to medical officers of health individually and collectively and to the health service of the people as well. Though it is possible that some day it may occur that all this talk of congresses being valueless and merely joy rides, and of there being far too many of them, will lead to us all flocking together to hold our meetings under an eye that is entirely medical, at Sheffield there was little evidence that such a day was near. As usual, the Council of the Society held one of its meetings during the course of the Congress, and the Central Council for Health Education arranged for a meeting also in order to discuss certain matters of importance. The meeting of the latter body was unfortunately timed to begin at exactly the same hour as the closing meeting of the Congress—which, by the way, seemed larger and more effective and less of a formality than usual. As a result of this clashing, postponement was necessary and only formal matters could be dealt with. That it is a good thing to include a meeting of the Central Council, and to have it billed that that body will meet in Congress week, cannot be doubted, and those who are members will hope sincerely that next year and in succeeding years care will be taken to ensure that the time fixed will not be one that leads to clashing with some other meeting or function.

Bostock Hill.

It may be thought that I have already made sufficient reference to the Congress, but there is one more section I want to mention and that, not primarily at any rate, for the reason that I desire to extol the papers and the discussions, excellent as they were, that I heard there. The section I have in mind is that given over to the Conference of National Health Insurance Services, and I refer to it because it was its President, Mr. Duff, who, associated with the Society only to the extent of being a member of the Central Council for Health Education, made the only public reference to the fact that, during the week of the Congress, Dr. Bostock Hill had completed a half century of association with public health, and in graceful phase offered him and the service congratulation, and with real sincerity expressed the hope that the day was far distant when he considered it necessary to sever his connection with public health and preventive medicine and to deprive us of his wise counsels. Echoing these expressions and hopes, as I am certain does every member of the Society, I cannot escape a feeling of regret that on an occasion when medical officers of health were present in force such an opportunity of voicing the regard, esteem and admiration so widely felt for the doyen of our service should have been lost. As one gets older, I think, one inclines more to assessment and one assesses better such a thing as the value of an individual or a procedure to a cause or to an institution. In my mind, amongst the many responsible for the elevation of the Society to its high place, Bostock Hill stands out most prominently. His ideals are extremely high, and his desire to see them attained vastly strong. The influence he can exert for them and the fighting power he can use if necessary are tremendous. To that influence and to him as a fighting force we owe much more than many realize, or ever indeed may realize. That there are other bodies who recognise that they owe him something too is shown by the fact that the University of Birmingham, through the Faculty of Medicine, passed a special resolution congratulating him as Emeritus Professor of Hygiene and Public Health, on having attained the jubilee year of his connection with the body and expressing the hope that he may continue to enjoy good health and happiness for many years to come. We, I think, might very well do no less than this, and it is my hope and belief that Dr. Bostock Hill will not hold us ungrateful that up to the present the only recognition from our side is made so lamely and in such a place as this.

With Hardly Any Comment.

It is reported that on a recent occasion at an examination in midwifery, conducted by an examining board in London, out of sixty-three candidates, sixty-three failed to satisfy the examiners. For twenty years or more the maternal mortality rate has remained stationary.

P.

Recent Research on Enamel and the Incidence of Dental Caries.

By J. SIM WALLACE, M.D., D.Sc., L.D.S., Lecturer on Preventive Dentistry, King's College Hospital.

The importance of dental caries in relation to health is generally accepted, and Dr. Sim Wallace, in discussing in this paper recent researches into the subject, provides much information that cannot fail to prove of value.

DURING the past few years a fair amount of reliable research work has been done which has a bearing on the great problem of the prevalence of dental caries. The first and most important piece of work associated with the subject is the recent communication "On the Chemical Evidence of the Organic Content of Human Enamel," by Messrs. Sprawson and Bury, read before the Royal Society.* "These authors, using exact chemical tests not previously applied to this work and using the enamel of milk teeth, young permanent teeth and adult permanent teeth (from people over fifty years old), find that the organic content is the same in all cases, with but very small variations in the different samples tested. The total nitrogen and carbon were estimated after the elimination of CO_2 and found to agree approximately with the ratio of these substances found in protein. The nitrogen was estimated calorimetrically by means of Nessler's solution; this test will indicate the presence of 0·000005 grams of nitrogen, which in a sample of enamel weighing 0·4 gram gives a sensitivity of 1 per 80,000, or a percentage of 0·00125 of nitrogen. The maximum amount of protein present, calculated from the highest amount of the nitrogen content, was 0·15 per cent., the minimum was 0·14 per cent. The findings in 16 samples are recorded."

It will probably be remembered that in 1896, Sir Charles Tomes published the results of his research on this subject, and Messrs. Sprawson and Bury refer to it as follows:—"Tomes, after making allowance for the presence of water in combination, came to the conclusion that there was no organic matter, 'or not enough to amount to a weighable quantity,' and confirmed this by a control, in which he used lime phosphate and carbonate in the proportions in which they exist in enamel, with the addition of 0·25 per cent. of dry collagen. In this mixture 'the presence of the proteid was established with the utmost plainness,' so he concluded that there was less than 0·25 per cent. of organic matter in enamel. Tomes did, however, find that enamel, powdered and digested in weak baryta water for 24 hours, became cloudy on acidifying with acetic acid, which cloudiness, after being allowed to settle, was found to be too small in amount to weigh, and so demonstrated a trace of organic matter by qualitative means. He used the enamels of man, horses and elephants, and found that they showed no differences."*

It will be observed that Messrs. Sprawson and Bury have, with the most modern and exact methods available, confirmed the findings of Tomes, but have carried exactitude even further and given a quantitative estimation of the trace of organic matter. The nature of the organic matter and the presence of nitrogen in it was noted by Professor W. E. Geis some few years ago, and its similarity, if not its identity in nature to Nasmyth's membrane, was indicated.

Leon Williams referred to the subject from the microscopical point of view and showed that Nasmyth's membrane does not lie simply as an applied sheet over the enamel but that, "passing from Nasmyth's membrane and attached to it are seen longitudinal sections of the sheath of the enamel rod," when the enamel is partially decalcified with lactic acid and Nasmyth's membrane is forced away from the surface of the enamel. It would appear then that there is a continuity of the keratinous (lifeless) Nasmyth's membrane with the remnant of such organic matter as remains between the enamel prisms. I think here we might almost compliment Nature on the thoroughness with which she has got rid of the organic matter which at one time existed where the enamel later becomes formed. Further, we might note that it is no doubt necessary that the membrane covering the enamel should, as it were, be controlled in some way so that the form of the crown and the cusps may have a definite pattern. The fine films or threads of organic matter in the enamel prism sheaths may possibly, before they are almost wholly squeezed out of existence by the totally inorganic enamel prisms, have a controlling effect on Nasmyth's membrane and the form of the tooth.

Leon Williams suggests that the organic matter may give some elasticity to the enamel. Possibly it may; perhaps it makes it more tenacious or stronger in some way, but that it is reduced to such a small amount indicates rather that the all-important quality of the enamel, that is to say, its extreme hardness, is all that is wanted and results from physical properties of an inorganic nature.

Commenting on Messrs. Sprawson and Bury's paper, PUBLIC HEALTH writes:—"These findings must cause much thought to those who write of the 'vital resistance' of enamel; of the occasional abstraction of calcium salts from it to make up calcium deficiency in other parts of the body, and of the redeposition of calcium salts in enamel in periods of calcium plenty. They would seem to indicate that enamel once formed is almost, if not quite, a fixed substance; that no accessory food factor can produce an 'immunity' to dental caries or that the metabolism can have any effect upon it; that it is, in fact, practically an inert substance. Indeed, these findings can only serve to emphasise the belief already held by the vast majority of thinking dental surgeons, that dental caries arises from causes external to the tooth altogether, these causes being the retention of foodstuffs in contact with the teeth owing to the character of the foods as used in present-day civilised communities. Dental caries is, it is known, more or less a disease of civilisation; it is also known that carbohydrate is the only food which civilised man takes in forms essentially different from those taken by savages and wild animals; that as civilised man takes it, it is the only food which can lodge in the natural pits and crevices of the teeth and produce an acid (lactic) fermentation in the mouth. That enamel can fairly readily be decalcified and that the first stage of dental caries is one of decalcification, is known too; it is therefore only logical to conclude that lactic acid, formed in contact with the teeth, decalcifies the enamel and so starts the carious process."*

Looking back a little over thirty years to the time when Black and Tomes published the result of their investigations, we find that the only important addition to our knowledge regarding the chemical constitution of the teeth has been the quantitative estimation of the organic content of the enamel, that is to say, thirty years ago it was known that the enamel contained a trace of organic matter; now it is known that this trace of organic matter amounts to from 0·14 to 0·15 per cent.

The next investigation to which I would refer is on "The Incidence of Dental Disease in Children." This is a report on the dental inspection of 4,000 children in public elementary schools in England, and the general conclusions are very much what we all knew quite well. There is one point in the report, however, to which I should like to refer. In the incidence of caries in the permanent molars, it is noted that the first and second permanent molars are highly susceptible to decay immediately after eruption; to be exact, 28·2 per cent. of the second lower molars become carious between the age of twelve and thirteen, and at the age of seven, 23·5 per cent. of the first lower molars become carious. Now, if we refer back eighty years to an investigation by Sir John Tomes on "The Relative Frequency of Dental Disease,"* we notice from the accompanying

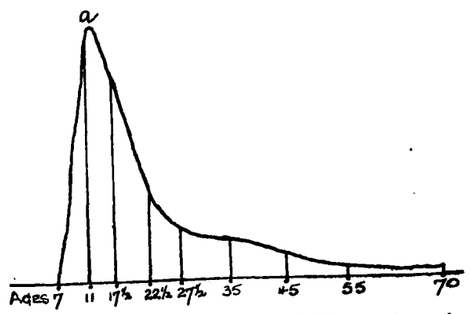


Diagram illustrating the relative liability to loss of the first lower molar at different ages. The elevation *a* is occasioned by caries. (After Sir John Tomes.)

diagram that there is a marked decreased predisposition to caries of the first molar after the age of eleven, and although the point may not have been referred to in his investigation, it is, I think, common knowledge that when the third molar comes into position, it is this tooth which is specially liable to become carious.

* Proceedings of the Royal Society, B. Vol. 102, pp. 419-426.

* *Ibid*, p. 419.

* PUBLIC HEALTH, August, 1928, p. 334.

* Dental Physiology and Surgery. Lecture vii.

The special liability of the wisdom tooth to decay seems to have been generally noted, as is indicated by the saying that the wisdom tooth is the last to come and the first to go. The saying is not strictly correct, of course, nowadays at least; nevertheless we know it is true that after the third molar erupts it is specially liable to decay, although in general it may be said that all the other teeth have become less susceptible to decay than they were in childhood and adolescence.

Now, here we have a very interesting phenomenon. We have at certain ages decreased susceptibility of some teeth together with a very marked predisposition of other teeth to caries in the same individual and in the same mouth, with the same foods, and all influenced in the same way by sunlight, health, vitamins, environment, etc. For those of us who know that caries is the result of local conditions and who recognise that the tongue is useful in clearing away carbohydrates from the teeth except in such awkward positions as the hindmost tooth in the mouth presents, it is easy enough to explain, since the molars, unlike the front teeth, are particularly liable to lodge carbohydrates during the period of their eruption. But how the advocates of the theory that "immunity" and "resistance" to caries is brought about constitutionally by the foods after absorption, or by vitamins, or by sunlight, account for the fact that there is an increase in " immunity " or " resistance " in enamel in some teeth while others are left particularly susceptible, I have not the faintest idea.

Similarly, I might dilate on the problem as to why arrested decay in one tooth may be associated with progressive decay in another, or as to why caries may even be progressing in one side of a tooth, while on the other side it may from changed external relationships to a neighbouring tooth, *e.g.*, by an extraction, become arrested, but in this paper I am only directing attention to a few more or less fresh points for the internalists, whether they are vital reactionaries or deficient food faddists.

While on this subject of the susceptibility to caries of the different molar teeth we may refer to another problem for our friends who still maintain that caries results from constitutional causes, or that the original sin in the tooth is the " poor " dentine and " poor " enamel. Rickets is a disease occurring in early childhood, though it seldom comes on before the age of six months. Between this age and two years it is at its maximum frequency—roughly it may be said about the same time that the crowns of the permanent incisors, canines and first molar teeth are being formed. If rickets is so very frequent about this age as to account for the prevalence of caries in the first molar, why are the lower incisors and canines relatively so very " immune " to decay? Why also is the second molar, the crown of which begins to be formed towards the end of the *fifth* year, so very liable to become carious? And again, why is the wisdom tooth, the crown of which is formed long years after the rachitic period of childhood is past, so very susceptible to decay immediately after it erupts?

Here I think we may reasonably ask: Why has there been so much talk in recent years about the supposed intimate relationship between the calcification and structure of the teeth and dental caries? Perhaps we may trace it to lack of knowledge of the well-established facts to which I have on previous occasions referred, or to suppositions that vitamins might account for the popular delusion that there was a lack of calcification and general degeneracy of structure of the teeth in civilized communities. No doubt research work has been conducted which to those but faintly acquainted with the subject, might seem to favour the popular idea. You will remember that in this country an investigation on the calcification of the teeth of puppies was made,* and it was recorded that under different dietetic conditions, the calcification of the enamel was " poor " or " good," and the dentine " poor " or " good," while the weight of a tooth selected for special examination varied also with these different methods of feeding. The ages of the puppies at death which showed these differences were the same. Incidentally it was noted what was generally recognised, that the dates of eruption of the teeth varied. It was, indeed, noted that the amount of calcification of the carnassial tooth was greater in some cases than in others. As far as the recorded experimental data would appear to show, all the variations in the calcification of the teeth were obviously to be attributed to the fact that some teeth, at the time of the death of the puppies, were further advanced in their calcification than others, and that variations in the amount of

* Mellanby M. Effect of Certain Dietetic Factors on the Development of Teeth and Jaws. The Gateway of Health, pp. 200-210.

calcification in teeth which were forming at a given age, may accompany, or result from, certain laboratory methods of feeding. The development of the tooth may no doubt be retarded by one type of diet and accelerated by another, but to speak about the amount of calcification which has taken place in a developing tooth at a given age and to indicate that this represents the degree of calcification or the relative proportion of lime salts to the total weight of the tooth, when completely formed, is grossly misleading. Moreover, the idea that variations such as occur in human dietaries should alter the chemical composition of the enamel and dentine is negatived by the direct, definite and exact chemical analyses which have been made. The chemical composition of mature tissues in general is remarkably constant, and the direct chemical analysis of dentine and enamel show that they are not exceptional in this respect. Even the slight difference of about 2 per cent., which was noted in the calcium content of molar teeth and incisor teeth, is constant. It is recognised that with age, some tissues do change in chemical composition to some slight extent. Dentine becomes slightly more fully calcified, but enamel once finally formed remains constant in composition, as one might expect from its method of formation, and as has been proved by the delicate chemical analysis conducted by Messrs. Sprawson and Bury. It is notable, too, that the chemical composition of the enamel of the teeth of the horse, the elephant and man is practically identical. It is curious that so few should have observed what is no doubt a biological principle, that when an animal is deprived of a sufficiency of any essential element in its diet, whether it be calcium, phosphorus, animal fat, protein or even water, retardation of development takes place. Similarly, no doubt, interference with metabolism as the result of disease, or undue and prolonged exposure to cold, may have the same effect.

Now let me direct attention to the most recent work of Professor Russell W. Bunting and his collaborators. He comes to certain conclusions, two of which I will give verbatim:—(1) " In a survey of 1,335 children it was found that the presence or absence of bacillus acidophilus in the mouth is directly related to the activity of dental caries." (2) " It was noted that the degree of activity of bacillus acidophilus and dental caries in the mouth was distinctly related to the type of diet and the form of dental attention which was afforded."* Dr. Bunting, in closing the discussion, said in answer to the question as to what sorts of sugar could be allowed: " I have asked physicians and dietitians and those qualified to give an opinion, one of them being Dr. McCollum. I said, ' How far can I cut cane sugar out of children's diet without harm to the children? ' He said, ' Cut it all out.' " This is different from the inference which might be made from the statement that "glucose added daily to an already soft, pappy diet over long periods (three years) has not resulted in the development of caries in puppies."†

Particularly might an inference from this be harmful if we let it influence the dietetic régime in the bringing up of children. As I have previously indicated, inference from experiments on animals may be most misleading.

I think you will observe in Professor Bunting's investigation a considerable and satisfactory approximation to the views which we in this country have held for many years. Nevertheless, we may say that certain recent investigations, conducted in this country, seem to show that there are other bacteria which thrive, multiply and produce acid in a sugary medium. Over and above this there are other bacteria besides B. acidophilus which proliferate on lactose, maltose, glucose, etc., and it may not be the same bacteria that reduce the disaccharide cane sugar into monosaccharides as reduce the monosaccharides into lactic acid. Moreover, other bacteria may give rise to a mannitic or gummy fermentation which may have an indirect influence on the progress of caries. The main point to note, however, is that the activity of the saccharolytic bacteria is, as we might expect, distinctly related to the type of diet or rather to the food which remains in the retention areas of the teeth, and it is only from foods that the carbohydrates required for the development of saccharolytic bacteria can be got in the mouth.

* The Relation of Bacillus Acidophilus to Dental Caries, by Russell W. Bunting, Gail Nickerson, Dorothy G. Hard, and Mary Crowley. *Journal of the American Dental Association*, July, 1928, pp. 1232 and 1233.

† Mellanby, May. The Chief Dietetic and Environmental Factors Responsible for the High Incidence of Dental Caries. Correlation between Animal and Human Investigations. *British Dental Journal*, July 16th, 1928. p. 770.

Furthermore, we may note that however much vitamin enthusiasts in America have diverted attention to developmental defects in the pulp and dentine of animals and, without the slightest justification, made inferences therefrom about the prevalence of dental caries (which is initiated by conditions outside the enamel), there are others, as I have just indicated, who are hot on the track of truth.

The next point to which I would make reference is one to which some practitioners, generally of long experience, have from time to time referred. It may be said that we in civilised countries are all more or less liable to dental caries and that the predisposition to the disease is different at different age periods. It is generally recognised, for example, that caries is more prevalent or active from early childhood to the end of school age than it is, say, from twenty-five years onwards. It never having been my belief that we could properly speak of "immunity" in the enamel, the explanation I made of this was that during childhood and school age the amount of sweets, jam, milk, etc., which children consumed, was greater than in later life.

There are other factors to which it is unnecessary to refer here, as it is not so much the age incidence of caries as the periods of so-called "susceptibility" and "immunity" to caries in the same individual to which I would refer. I think we may all have seen children or adults who at one period or another have caries going on fairly rapidly, while in these same individuals at different periods fresh cases of caries may be relatively rare. I have found that a little careful investigation in such cases almost invariably reveals the fact that those who have become relatively "immune" have made certain alterations in their dietetic habits, or to be more explicit, have given up eating so much chocolate, golden syrup, marmalade, etc., or have come to appreciate the value of finishing a meal with foods which help to get rid of such sugars as encourage the proliferation of saccharolytic micro-organisms in the retention areas of the teeth. On the other hand, when boys are sent to a public school which provides all the foods necessary for the destruction of the teeth, together with a pernicious tuck shop, then a so-called period of "susceptibility" comes along with something like mathematical certainty.

Of course, other things than alterations in diet may give rise to conditions which favour the onset and progress of caries. To take an extreme case, a prolonged fever may prejudicially affect the salivary secretion and the self-cleansing processes of the mouth generally. This has long been presumed, and it can hardly be denied that certain states of health, not associated with fever, might also affect the self-cleansing processes. From the experience I have had, however, such cases must be rather unusual. Incidentally, it should be noted that disease not affecting the self-cleansing processes may give rise to a period of so-called immunity: thus, for example, in diabetes, for which disease patients are compelled to give up sugar and carbohydrates generally, caries becomes arrested.

As is well known, another common period of susceptibility frequently comes on later in life, owing to recession of the gum, except when pyorrhœa supervenes or protein stasis provides pabulum for the proteolytic bacteria which oust the acid-forming bacteria and give rise to an alkaline reaction. But whether the caries is likely to be pronounced in these cases depends largely on dietetic habits, such as finishing the breakfast with bread and marmalade.

Notable freedom from caries for a time may often be observed after filling several crown cavities in the molar teeth, especially if the patients are instructed with regard to such dietetic and artificial prophylactic procedures as are known to reduce the amount of carbohydrates in the retention areas.

In conclusion, let me refer to this common practice among dentists of filling a tooth which has revealed the predisposition to become carious at some particular part, that is, a retention area. If the caries were caused by a defective resistance in the tooth itself, would a filling render the remaining part of the tooth more resistant? On the constitutional hypothesis, should we not rather expect that the tooth would go on decaying? Heaven help the dentist who relies on chocolate tablets of "vitamin D," or the vital resistance of secondary dentine, rather than the lifeless gold, or filling material resistant to acid, which he has placed in the area liable to lodge fermentable carbohydrates and acid-forming bacteria. He had better go on filling teeth as all dentists have done in the past, even though he is perfectly well aware that by doing so he will not make the remaining enamel or dentine one whit more resistant or "immune" to caries than it was before he filled the hole.* Further, if he has done his work well and given reasonable instructions as to the local dietetic and artificial procedures for the prevention of caries, well known to all of us, he need never fear the theft of enamel salts by hypothetical lymphatics in the enamel.

MR. EVELYN SPRAWSON, after thanking Dr. Sim Wallace for his intensely interesting paper and for his kindly references to the work published by himself and Mr. Bury, said that with reference to Sir Charles Tomes's paper in 1896 he always felt very sorry that Sir Charles had used the words "I find none" with reference to the organic content of enamel, because after the interposition of a comma he (Sir Charles) immediately proceeded to say that he did find some, but that it was not enough to amount to a weighable quantity. The words "I find none," however, had, divorced from their context, been frequently used by people as a basis in support of argument.

People frequently asked him, in view of his and Mr. Bury's findings, whether he regarded enamel as being a live tissue, and he thought the fairest answer to give was to say that it was as live as one's hair or nails when one had them cut, and that until there was available a clearer definition of what life was, one was unable to answer otherwise.

He thought that our knowledge of the influence of saliva on the oral cavity and possibly on teeth was at the moment almost negligible, and that when it was considered that no less than three pairs of glands existed for the secretion of saliva besides many mucous glands, and that the innervation of each pair of these salivary glands was more than ordinarily intricate, one realised that the investigation of the secretion of saliva, its possible variations in composition and their import, was probably one of the most difficult of physiological problems and called for an extraordinarily wide and deep knowledge in whoever undertook the investigation of such a problem, if the work was to have any real value.

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* I should mention that for this argument I am indebted to the late Dr. James Wheatley. On the evening after he had delivered his Presidential Address before the Society of Medical Officers of Health, we dined together. Among the various topics touched upon he referred to this subject, and said he could not see how the internalists could meet the argument. The only time I saw him again was when undergoing treatment for his last illness. On this occasion he introduced me to a young lady of twenty who had been brought up under the dietetic régime of which he was such an ardent advocate. He asked me to examine her teeth. This I did, and was pleased to note that there was no caries and no teeth filled, while the jaw was as well formed as anyone could wish for. I had also long known that the deciduous teeth had all been free from caries. I may here put on record another similar case; that of a niece of mine. She is twenty-three years of age, and when I examined her teeth about a year ago, she had not, neither had she ever had, a carious tooth. She, too, was intentionally brought up on the same dietetic régime from her earliest years. Such cases as these, with many others recorded, give the most practical and gratifying proof of the theory I am advocating, and I would commend the régime to all who want to see their children's jaws well formed, their teeth regular and free from caries. It is approved of in a very practical way by the Council of the Society of Medical Officers of Health, so you need not be afraid of it. Rather should you be afraid of adopting any other régime. If you have children under your care, get a book on the subject and try it. I have never heard of anyone who regretted trying it—I have known many who regretted they did not.

HEALTH concerts in Kensington are proving an interesting and promising form of the propaganda campaign carried out in the Royal Borough. Three concerts of the kind have already taken place, and audiences numbering up to 800 have been secured. This in itself is a satisfactory feature in view of the difficulty, in London, at any rate, of obtaining an audience for health educational meetings. A concert recently held at the Town Hall was organised by the staff of the public health department in conjunction with one of the Fathers' Councils in the Borough, and the programme included choir singing by mothers and fathers connected with an infant welfare centre; a pageant illustrating health laws, written and produced by the mistress of a local school and acted by her pupils; and a play, entitled "The Sins of the Mothers," written by the chief clerk of the Woolwich health department (Mr. Amyas Britter) and performed by a local amateur dramatic society. This last held the close attention of the audience and, amusing throughout, drove home many valuable lessons.

The Society.

Reports, Proceedings and Announcements.

COUNCIL MEETING.

A meeting of the Council was held at the Sedbury Park Hotel, Chepstow, on Saturday, June 29th, 1929. Dr. J. Howard-Jones (President), was in the chair, and there were present Dr. E. H. Snell, Dr. James Fenton, Dr. R. M. F. Picken, Dr. P. H. Stirk, Dr. K. E. Tapper, Dr. H. Gibbons Ward, Dr. R. H. H. Jolly and Lt.-Col. G. S. Parkinson.

The Minutes of the last meeting having been approved and signed, apologies for absence were received from Dr. J. J. Buchan, Mr. A. E. Baker, Dr. T. P. Puddicombe, Dr. G. H. Pearce, Dr. W. A. Muir, Professor W. W. Jameson, Dr. J. Cates, Dr. Eustace Hill, Dr. F. T. H. Wood, Professor H. Kerr, Dr. Stella Churchill, Dr. A. A. Mussen and Dr. G. F. Buchan.

Representation of the Society.—The Executive Secretary reported that the President, Dr. J. J. Buchan and Professor H. R. Kenwood had been nominated to represent the Society at the annual congress of the Royal Sanitary Institute, and that Professor Kenwood with Professor Bostock Hill would represent the Society at the Fourth Imperial Social Hygiene Congress.

Local Government Act, 1929.—The special committee appointed to advise on the operation of the Local Government Act, 1929, reported that they had held a third meeting on June 8th. The report continued :—

The Executive Secretary notified the committee that in accordance with your instructions a letter had been forwarded to the Ministry of Health submitting that in every area the medical officer of health should be appointed chief adviser of the committee responsible for the medical services transferred from Poor Law authorities, and asking the Ministry to advise local authorities to that effect. Your committee wish to emphasise the urgent importance of securing due recognition for the medical officer of health in this connection.

After consideration of detailed suggestions forwarded by Dr. J. J. Buchan and Dr. Picken, and further deliberation, your committee desire :—

(1) To repeat their former recommendation in reference to preliminary schemes, viz., that medical officers of health should advise their local authorities to be cautious in making declarations unless the necessary accommodation is available for the persons in any particular category (Memorandum L.G.A. 1, Sec. 11).

(2) To advise that in the preparation of schemes attention should be given to the possibilities of "appropriation" under Section 53 (2) of the Act, as explained and amplified in L.G.A. Circular III (11), which applies equally to counties and county boroughs.

It will be seen that appropriation can be effected without declaration. Your committee believe that by this procedure any appropriate institution can be removed from the general supervision and control of the public assistance committee, thus contributing towards the desired break-up of the poor law.

(3) To point out in reference to the discharge of duties, that, under Section 6 (3) of the Act, public assistance committees can refer to public health or similar committees the control of medical services.

It should be noted that "subject to the general control of the public assistance committee" does not imply control of institutions or medical services included in the reference, but might be interpreted as meaning the right of the public assistance committee to refer to the public health or similar committee the need for further medical services as revealed to the public assistance committee in the discharge of their other functions, *e.g.*, relief.

In reference to the first paragraph quoted above the Executive Secretary read the following letter :—

MINISTRY OF HEALTH,
WHITEHALL,
S.W.1.
June 25th, 1929.

SIR,

In reply to your letter of the 7th instant, I am directed by the Minister of Health to state that the authorities to which poor law functions are to be transferred by the Local Government Act, 1929, are the county councils and county borough councils. The medical officers of health are the chief medical advisers to these authorities, and as such would be responsible for the medical services transferred to the authority, although clearly they could not be expected to undertake the execution of the detailed work in connection with those services.

I am, Sir,
Your obedient servant,
L. N. URE.

G. S. ELLISTON, Esq., M.C., M.A.,
Executive Secretary of the Society of Medical Officers of Health,
1, Upper Montague Street,
Russell Square,
W.C.1.

While generally approving the report, the Council had difficulty in finding authority for the Committee's interpretation of Section 6 (3).

It was agreed to send a copy of the letter from the Ministry to all medical officers of health of counties and county boroughs, and in this connection the Council agreed "That the most effective means of bringing about the unification of the health services, which is an essential part of the break-up of the poor law, will be the appointment of the medical officers of health of counties and county boroughs as medical officers to the public assistance committees for the medical branches of the work of such committees."

The Council then adjourned.

ANNUAL PROVINCIAL MEETING.

The annual provincial meeting of the Society was held at the Sedbury Park Hotel, Chepstow, on Saturday, June 29th, 1929. Dr. J. Howard-Jones (President) was in the chair and there were present :—

Mrs. Howard-Jones, the Misses Howard-Jones; Dr. D. A. Hughes (Carmarthen); Dr. and Mrs. E. J. Cross (St. Neots); Dr. and Mrs. P. H. Stirk (Exeter); Surg.-Capt. O. W. Andrews, C.B.E., R.N., Mrs. and Miss Andrews (St. Briavels); Dr. and Mrs. R. H. H. Jolly (Wolverhampton); Dr. K. E. Tapper, O.B.E. and Mrs. Tapper (Bromley); Dr. and Mrs. E. H. Snell (Coventry); Dr. and Mrs. Gibbons Ward (Leamington); Dr. R. A. Askins and Asst. Medical Officers of Health (Bristol); Dr. J. E. Spence (Eccles); Dr. Hugh Paul (Smethwick); Dr. James F. Blackett (Bath); Dr. and Mrs. James Fenton (Kensington); Lt.-Col. G. S. Parkinson, D.S.O., R.A.M.C. (London School of Hygiene); Dr. and Mrs. E. Colston Williams (Glamorgan); Dr. Dunstan Brewer (Swindon); Dr. R. M. F. Picken (Cardiff); Major and Miss Jackson.

Apologies for absence were received from members of Council (*see* Council proceedings) and from Dr. A. H. Wilson, Dr. Lockhart Stephens, Dr. George Adkins, Surgeon Rear-Admiral R. S. Bond, R.N., Dr. W. Horton Date, Dr. J. C. Heaven, Dr. J. Middleton Martin and Dr. Basil Adams.

The minutes of the Meeting having been approved and signed, the following candidates were elected to the Society :—

As Fellows :—

Chesney, George, M.B., B.Ch., B.A.O. Belf., D.P.H.; Gilchrist, Thomas Blackadder, M.D., C.M., F.R.F.P.S. Glas., D.P.H., D.T.M. & H.; Iredale, John Leonard Graham, M.B., Ch.B. Leeds, D.P.H.; Lindsay, James Craig, M.B., Ch.B. Glas., D.P.H.; Lloyd, Evan Thomas, M.R.C.S., L.R.C.P., D.P.H.; Nisbet, Bryce Ramsay, M.D., Ch.B. Edin., D.P.H.; Ogg, Archibald, M.A., M.B., Ch.B. Glas., D.P.H.; Patrick, Norman Colum, B.A. Camb., M.R.C.S., L.R.C.P., D.P.H.; Russell, Matthew John, F.R.C.S., I., D.P.H.; Symon, Margaret, M.B., Ch.B. Aberd., D.P.H.

As Associate :—

Cooke, Bernard, L.D.S., Vict. Univ., Manch.

There followed a discussion on "The Medical Aspects of the Local Government Act, 1929," opened by Dr. E. Colston Williams and Dr. R. M. F. Picken, which is reported at length in this issue.

At the luncheon following the meeting Dr. Snell expressed the thanks of the members for the admirable arrangements made by the President to ensure the success of the meeting. Later the party motored through the beautiful Wye Valley to a garden party at Llanover Park, where they were most hospitably entertained by Lord Treowen, Lord Lieutenant of Monmouthshire.

THE METROPOLITAN BRANCH.

President : Dr. J. B. Howell, M.O.H., Hammersmith.
Hon. Secretary : Dr. James Fenton, M.O.H., Kensington.

The annual meeting of the Council of this Branch was held at the house of the Society on June 21st, 1929, the President occupying the chair. Nine other members of the Council were present.

The President, on behalf of the Council, congratulated Dr. V. Borland upon his appointment to the post of Medical Officer of Health for Bethnal Green. Dr. Borland was unanimously elected to membership of the Branch Council.

Dr. E. G. Annis reported that he and Dr. A. M. Hewat had examined the accounts of the Branch for the year ending May 31st, 1929, and had found them correct.

The Council had before them a request from the Council of the Society to be supplied with the views of the Branch upon the question of the general practitioner in relation to preventive medicine. Directions were given for the Council of the Society to be informed of the opinion of the Branch Council that greater efficiency is generally obtained when the school medical, maternity and child welfare, tuberculosis and venereal disease services are carried out by medical officers engaged in a whole-time capacity, although the Branch Council recognise that, in large centres of population, advantages are to be obtained by the employment of part-time specialists for consultant work.

Consideration was given to the question of the transfer of duties in connection with vaccination and the registration of births, deaths and marriages. It was resolved to

inform the metropolitan borough councils of the opinion of the Branch Council that:—

1. (*a*) On and after April 1st, 1930, the work of vaccination should be performed by the public vaccinators at present employed by boards of guardians who should be regarded as members of the staff of the public health department in regard to their vaccination work.

(*b*) The vaccination officer should be transferred to the staff of the public health department, or the duties of the office should be performed by the staff of the public health department, as soon after April 1st, 1930, as is found to be convenient.

2. On April 1st, 1930, the work in connection with the registration of births and deaths should be carried out in the public health department.

The following statement, prepared by Dr. A. G. G. Thompson, was submitted and noted by the members of the Council:—

Comparison of cost of coal fires and gas-lit coke fires for the six months of the past two winters, including the gas burnt for various cooking and heating purposes in each case.

COAL.

Six Months: 1.10.27 to 31.3.28.

	£	s.	d.
Five tons coal	11	10	0
Gas	11	11	11
Firewood	1	16	0
Sweep	0	7	6
	£25	5	5

GAS-LIT COKE.

Six Months: 1.10.28 to 31.3.29.

	£	s.	d.
Five tons coke	8	6	8
Gas	12	4	11
Firewood		—	
Sweep		—	
	£20	11	7

Following the meeting of the Council, the annual meeting of the Branch was held, there being present fifteen members.

The annual report of the Council of the Branch for the session 1928-1929 was submitted and approved, and the Hon. Secretary was requested to circulate it with the agenda for the next meeting of the Branch.

The officers of the Branch and the representatives upon the Council of the Society for the ensuing session were appointed as follow:—

President: Dr. J. B. Howell.

Vice-Presidents: Dr. F. E. Scrase and Dr. G. Quin Lennane.

Hon. Treasurer: Dr. F. L. Keith.

Hon. Secretary: Dr. James Fenton.

Representatives on Council of the Society: Dr. E. G. Annis and Dr. James Fenton.

Mrs. C. Neville Rolfe, Secretary-General of the British Social Hygiene Council, addressed the Branch upon the work of that Council and invited the views of the Branch upon certain proposals for securing closer co-operation with the metropolitan borough councils in the matter of public health propaganda. The President thanked Mrs. Rolfe for her interesting address and requested her to put into writing the proposals she had made in order that they might receive full consideration at an early meeting of the Branch Council.

Owing to the lateness of the hour, other items of business upon the agenda were referred to the next meeting of the Branch Council.

The first meeting of the Council of the Branch for the session 1929-1930 was held at the house of the Society on July 11th, 1929, eleven members being present. The President occupied the chair.

Attention was given to a resolution of the Metropolitan Tuberculosis Sub-Group in which it was suggested that the register of notifications of cases of tuberculosis and all other work in connection with tuberculosis should be carried out in the tuberculosis dispensaries. The attention of the Branch Council was directed to the fact that several metropolitan boroughs are served by two or more tuberculosis dispensaries and that in these boroughs difficulty would arise in giving effect to the resolution of the sub-group. In view of this fact, and having regard to the Public Health (Tuberculosis) Regulations, 1912, it was agreed that the sub-group be informed of the opinion of the Branch Council that records in connection with the notification of tuberculosis should be kept in the public health department, but that tuberculosis officers should have access to such records.

Agreement was expressed with the resolution of the North-Western Branch that it be a recommendation to the Council of the Society that all Branches should be invited to submit, at least one month before that Council considers the matter, nominations for representatives at the Annual Representative Meeting of the British Medical Association.

The Branch Council also had before them a resolution of the North-Western Branch regarding the election of officers and members

of the Council of the Society under Article 19 (*a*), (*b*) and (*d*) of the Society's Articles of Association. It was agreed that the Council of the Society be informed of the opinion of the Branch Council that it is advisable that all members of the Council of the Society elected under the sub-divisions of the Article referred to should be Fellows who hold public health appointments or are actively engaged in public health work.

The Branch Council appointed a special Sub-Committee to represent the views of the Branch before bodies who will be taking into consideration during the vacation the question of duties under the Local Government Act, 1929.

Irradiated Milk Demonstration.—After the meeting the members proceeded by motor coach to Manor Farm, Compton, Berks., where they were entertained at lunch by the proprietor, Mr. Alfred Barclay, at whose invitation the visit was made. Afterwards the party, who were joined by several members of the Home Counties Branch, proceeded on a tour of the model dairies where certified milk from some four hundred cows (Fresians, Guernseys, Shorthorns and Ayrshires) is produced. A feature of special interest was the application of ultra-violet rays to a portion of the supply by the cold tube process (E. O. Scheidt's patent), said to possess advantages as a corrective agent in suitable cases of rickets and other nutritional conditions.

Dr. D. Chalmers Watson referred to a three-months' study of the subject in a series of selected cases of rickets found to be refractory to other methods of treatment. The observations had been carried out in his own wards in the Royal Infirmary, Edinburgh, in co-operation with Dr. William Robertson, Medical Officer of Health, Edinburgh, and Professor Leonard Findlay, and as a result there appeared to be little doubt that the claims of German investigators as to the therapeutic value of irradiated milk were well founded. The method also was an exceedingly economical one. Dr. Chalmers Watson pointed out, however, that such milk, used under certain conditions, might be productive of harm, and added that in the cases mentioned it had been given to the children only in quantities amounting to from 30 to 50 per cent. of the ordinary milk supply.

Dr. Marjorie I. Outram, Medical Officer (Maternity and Child Welfare), Edmonton, read a short paper on "The Use of Sun-Ray Milk for Nursing Mothers," and exhibited an interesting collection of X-ray photographs taken in connection with the work she was carrying out in London.

Dr. J. B. Howell, President of the Branch, conveyed the thanks of the members to Dr. Chalmers Watson and Dr. Outram and to Mr. Barclay for the information they had given, and paid a tribute to research of that nature and its value to the work of the public health service.

Dr. James Fenton seconded the vote of thanks, and added that they were particularly indebted to Dr. Chalmers Watson who, while pointing out the advantages to be obtained from the use of irradiated milk in certain nutritional diseases, had indicated its limitations. Through the courtesy of Mr. Barclay the members had had an opportunity of seeing what was being done under his direction, and had been provided with material which would merit further consideration.

Mr. Barclay expressed his appreciation to the party for making the visit. As a farmer he could only speak of the method in relation to animal life on his farm, and was able to claim that ailing calves had benefited greatly by its use. His chief desire was to secure the co-operation of the medical profession in seeing that irradiated milk had a fair trial.

After tea the members motored back to town.

THE YORKSHIRE BRANCH.

President: Dr. Cyril Banks, M.O.H., Nottingham.
Hon. Secretary: Dr. G. H. Pearce, M.O.H., Batley.

The annual meeting of this Branch was held at the Education Offices, Leeds, on June 28th, 1929, the President occupying the chair. Seventeen members were present.

The Hon. Secretary read a letter from Dr. Francis, resigning his membership of the Branch. It was reported that Dr. Francis had also resigned his position as Medical Officer of Health for the County Borough of Barnsley on account of ill-health. Regret was expressed at this news, and the Hon. Secretary was requested to write to Dr. Francis in appropriate terms.

A letter from Dr. J. R. Kaye was also read, expressing to the Branch deep-felt thanks for the kindness shown to him during the long period of thirty-three years. The Hon. Secretary was requested to convey to Dr. Kaye the

good wishes of the Branch and the hope that he would be able to enjoy his retirement for many years to come.

Consideration was given to a communication from the North-Western Branch expressing the following views :—

(*a*) That it be a recommendation to the Council of the Society that all the Branches be invited to submit nominations for representatives at the Annual Representative Meeting of the British Medical Association at least one month before the Council considers the matter.

(*b*) That in the opinion of the North-Western Branch it is advisable that all members of the Council elected under article 19 (*a*), (*b*) and (*d*) should be Fellows who hold appointments and are actively engaged in the public health service and that the attention of the Branches be drawn to this.

On the proposition of Dr. Mair, seconded by Dr. Jervis (*a*) was approved. On the proposition of Dr. Daley, seconded by Dr. Gibson, it was decided no action be taken with regard to (*b*).

Consideration was given to a letter from Dr. Lillias Hardie, Assistant Medical Officer, Hull, which had been forwarded for observation by the Executive Secretary of the Society. The lady, in resigning her membership, had enclosed a cheque for subscription and arrears amounting to £6 6s., and stated: "The Society may be of some use to London members but its value to provincial members is absolutely nil . . . . We are not encouraged to ask for time off to attend meetings . . . . I may say that all my colleagues who are members of the Society feel as I do about it —waste of good money and a source of irritation. We advise new juniors to refrain from joining."

The following is an extract from the Executive Secretary's letter :—

"It is not possible in this reply to your letter to state at any length the services we believe the Society is rendering to our members, but I feel justified in reminding you of one fact you appear to have forgotten. When you qualified in 1918 the salary for such posts as you hold to-day was between £300 and £400 in England, and lower still in Scotland. To-day we have the minimum commencing salary of £600, or £500 for probationary appointments. The result was brought about in co-operation with the British Medical Association, solely and entirely by the initiative and persistence of this Society, and if we have done nothing else we think that justifies our annual subscription. More than that, we have not only raised the minimum salary, but we have achieved the far harder task in most areas of enforcing loyalty amongst candidates who are willing to accept less. To-day, except in the case of young Scottish women graduates who are accustomed to the low salaries paid in Scotland, very few medical graduates are willing to accept irregular appointments."

The Hon. Secretary was instructed to send a suitable reply to the lady.

A letter was read from the Salaries Committee respecting the appointment of an Assistant Medical Officer of Health at Plymouth. It was agreed that, in the opinion of the Branch, sufficient publicity had been given to the inadvisability of Fellows of the Society giving testimonials for irregular appointments.

Sympathy was expressed with Dr. H. T. Bates, Medical Officer of Health, Ilkley, on the loss he had sustained through the death of his father, who had practised medicine in Ilkley for many years.

Congratulations were offered to Dr. J. J. Buchan, Medical Officer of Health, Bradford, on having attained the position of President-Elect of the Society of Medical Officers of Health for the Session 1929-30.

The Hon. Secretary and Treasurer presented (1) the annual report of the Branch, which was approved and (2) the financial statement showing the position of the Branch at the date of the annual meeting, which was also approved subject to audit.

The Officers of the Branch for the Session 1929-30 were elected as follows :—

President: Professor J. Johnstone Jervis.

Vice-Presidents: Drs. Banks and Mair.

Hon. Secretary and Treasurer: Dr. G. H. Pearce.

Members of Council: Drs. Bates, Channon, Gibson, W. E. Hill, Massey, Pickering-Pick, Pickup, Thornley and Wear.

Representatives on the Council of the Society: Professor J. J. Jervis and Dr. G. H. Pearce.

Auditors: Drs. Bates and Pickering-Pick.

Representatives on the Yorkshire Branch Council of the British Medical Association: Drs. W. B. Hill, J. J. Jervis, J. Mair, and G. H. Pearce.

A discussion on the Local Government Act, 1929, adjourned from last meeting, was continued. Dr. W. A. Daley described the scheme which was being prepared for the Hull City Council, and this was discussed by Dr. J. J. Jervis, who outlined the Leeds proposals. Dr. McNaught described the scheme for York, and Dr. Gibson also took part in the discussion.

At a meeting of the Council, held prior to that of the Branch, it was pointed out that when the Council recently advocated re-modelling the Branch Byelaws, the object was to give wider facilities to enable every Fellow of the Branch to take a personal part in its government. It was expected that this departure would be welcomed, and it was hoped the new Council would include a number of junior colleagues who might obtain the majority of seats in the election by ballot. The following facts were therefore interesting :—(1) Although the Branch consisted of more than 150 persons, nominations were received only from three Fellows; (2) every nomination was made by a medical officer of health and none was received from those holding posts otherwise designated; (3) no nomination having been received from assistant medical officers of health, the nominations of Drs. Hilda Channon and Massey were made by medical officers of health with the object that these assistant colleagues might, if elected, represent such officers of both sexes.

THE SOUTHERN BRANCH.

President: Dr. Percy Moxey, Chief Clinical T.O., Southampton.

Hon. Secretary: Dr. H. D. Kelf, Assist. M.O.H., Hants. County Council

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A meeting of this Branch was held at Park Prewett Mental Hospital, near Basingstoke, Hants (by kind invitation of the Medical Superintendent) on May 3rd, 1929. In the absence of the President, Dr. J. Lockhart Livingston took the chair, and was supported by seven members and three visitors. Apologies for absence were received from the President and Drs. R. A. Lyster, A. G. Druitt and W. A. Bruce Young.

It was unanimously resolved that the nomination of Dr. J. J. Buchan for the Presidency of the Society for the session 1929-30 be supported by the Branch.

A letter was read from the Executive Secretary asking for consideration by the Branch of the following matters: (*a*) Rural Water Supplies Report; (*b*) the General Practitioner and Preventive Medicine; (*c*) B.M.A. Elections of Public Health Members; (*d*) Procedure of Council; and (*e*) the Annual Provincial Meeting of the Society. Dr. Wilshaw briefly discussed the various paragraphs in this communication and replied to several questions.

Dr. V. Lindley Connolly, M.C., the Medical Superintendent, gave a very lucid and interesting description of the lay-out of the modern mental hospital as illustrated by the present building at Park Prewett. After a brief history of the building and its use as a war hospital, he referred to the various plans and maps, describing in detail the administrative main building, the villa system, admission block, private patients' block, water supply, sewerage disposal system, etc. Many questions were asked.

Dr. J. J. O'Reilly, a member of the staff of the Hospital, read a paper on "The Rôle of Out-Patient Clinics in Psychiatry," dealing with this subject as a branch of preventive medicine and to stimulate a demand for the general establishment of out-patient clinics attached to general hospitals. He showed the necessity for early diagnosis and treatment of mental disease, especially before reaching the certifiable stage, and outlined the scope, routine and personnel of the suggested clinics. It is hoped to publish Dr. O'Reilly's paper in PUBLIC HEALTH in due course.

A heary vote of thanks was accorded to both Drs. Connolly and O'Reilly for their interesting contributions to the success of the meeting.

After tea, the Medical Superintendent conducted the members round the various buildings.

A further meeting of the Branch was held at the Town Hall, Bournemouth, on June 7th, 1929, the President occupying the chair. Ten members were present. Apologies for absence were received from Drs. R. A. Lyster, J. G. McNaught and A. B. Shed.

After reading a letter from Dr. E. Ward it was resolved that Drs. Percy Moxey and W. J. Hart continue as representatives of the Branch on the Tuberculosis Group Committee.

Dr. H. Gordon Smith gave very interesting notes on a fatal case of scarlet fever which terminated in a generalised septicæmia, and one of wound diphtheria, and discussed the question of surgical cases being transferred from general to the infectious diseases hospital.

A paper on "Health Education," by Dr. Gordon Smith dealt generally with the present efforts of education in public health matters as illustrated by health weeks, lectures, cinema films, womens' institutes, newspaper articles, etc. He thought that health weeks did not repay the time and energy spent on them, and did not reach the right people. Even the free distribution of *Better Health* did not get to that section of the public which would be most benefited by the advice given.

A great deal more could be done by the example of public health authorities in the covering of dust carts, insistence of wrapped bread, less exposure of meat and fruit, bottled milk direct from the farm, etc. Dr. Smith also suggested an article on health subjects daily in the morning or evening newspapers.

An interesting discussion followed, with various suggestions and experiences of the members present. Dr. Kelf stated that a five or ten minutes' talk to the children in the schools after medical inspection was invariably keenly listened to and productive of good results.

THE NORTH-WESTERN BRANCH.

President: Dr. F. T. H. Wood, O.B.E., M.O.H., Bootle.
Hon. Secretary: Dr. G. W. N. Joseph, M.O.H., Warrington.

The annual meeting of the Branch was held at Biddulph Grange Orthopædic Hospital, Staffordshire, on June 7th, 1929, the President occupying the chair. Twenty-eight members were present.

The Hon. Treasurer (Dr. H. H. I. Hitchon), in reporting on the financial position of the Branch as the result of the work of the session, mentioned that members of the Branch had subscribed £61 14s. 0d. to the Wheatley Memorial Fund.

The Hon. Secreary reported that the present membership of the Branch was 260. A summary of the proceedings of the session would be printed as usual and circulated to all members.

The report of the Special Sub-Committee appointed to consider the question of the Constitution of the Council and of all Committees and Representatives thereof was submitted, and it was resolved:—

(1) That it be a recommendation to the Council of the Society that all Branches be invited to submit nominations for representatives at the Annual Representative Meeting of the British Medical Association at least one month before the Council considers the matter.

(2) That in the opinion of the North-Western Branch it is advisable that all members of the Council elected under Article 19 (a), (b) and (d) should be Fellows who hold appointments and are actively engaged in the Public Health Service, and that the attention of the Council and all Branches be drawn to this.

The following officers were elected for session 1929-30:—

President: Dr. F. A. Sharpe.
Hon. Treasurer: Dr. H. H. I. Hitchon.
Hon. Secretary: Dr. G. W. N. Joseph.
Council Representatives: Dr. F. A. Sharpe, Dr. F. T. H. Wood, O.B.E., Dr. G. W. N. Joseph.
Committee: Vice-Presidents and Officers together with the following four members elected from six nominations, viz.:—Drs. C. O. Stallybrass, J. E. Spence, H. Whitehead and N. Gebbie.

After the business, members visited the gymnasium and wards where an excellent demonstration of the work was given by Mr. Platt, the Orthopædic Surgeon. At the conclusion of the meeting, tea was kindly provided for those present.

A hearty vote of thanks was accorded to the Lancashire County Council, through Drs. Butterworth and Fisher, for their invitation and to Mr. Platt and the Resident Staff for their attention during the afternoon.

Before leaving, many of the members took advantage of the opportunity to inspect the wonderful grounds surrounding the Institution.

THE EASTERN BRANCH.

President: Dr. A. N. Stevens, M.O.H., Gt. Yarmouth.
Hon. Secretary: Dr. A. M. N. Pringle, M.O.H., Ipswich.

The annual meeting of this Branch was held at the Guildhall, Norwich, on May 29th, 1929. Present: Drs. Stevens (President), Pringle (Secretary), Ruddock-West, Colin-Smith, Gibson, Soothill, Agnew, Back, Appleton and Shepheard.

The Branch did not consider that it would be possible to make any practical pronouncement in connection with the report on rural water supplies.

The recommendation with regard to the training of the general practitioner in preventive medicine was considered, and the Branch was in favour of the amendment as proposed by Dr. Brackenbury.

The Branch considered further the question of the compulsory notification and treatment of venereal diseases, and was quite definitely of opinion that the time was not ripe for compulsion in either direction.

Consideration was given to the place at which the next annual provincial meeting of the Society should be held. The Branch expressed a wish that it should take place in some town within the area of the Branch, and

the Secretary was instructed to request the Council to give this matter serious consideration.

Officers as under were elected for the session 1929-30:—

President: Dr. A. N. Stevens.

Hon. Secretary, Hon. Treasurer and Representative of the Branch on the Council of the Society: Dr. A. M. N. Pringle.

The financial position of the Branch at May 31st was as under:—

Balance at Bank—

	£	s.	d.
Deposit account	20	7	2
Current account	8	13	10
Cash in hand	0	3	7
	£29	4	7

Dr. V. F. Soothill, Medical Officer of Health, Norwich, gave a very interesting address upon "The Case of a Midwife."

THE NORTHERN BRANCH.

President: Dr. J. Bannerman, M.O.H., Weardale R.D.
Hon. Secretary: Prof. Harold Kerr, O.B.E., M.O.H., Newcastle-upon-Tyne.

The annual summer meeting of this Branch was held at the Tyneside Golf Club, Ryton-on-Tyne, on June 14th, 1929. The President and twenty-one members were present.

The President referred to the death of Dr. A. M. Masters, District Tuberculosis Medical Officer, Durham County Council, and expressed the sorrow of his colleagues. The Hon. Secretary was instructed to convey to the widow the deep sympathy of the members of the Branch.

The Hon. Secretary reported the receipt of a letter from Mrs. F. E. Arnott, expressing thanks to the Branch for the message of sympathy in the loss of her husband.

A letter from the British Social Hygiene Council was read asking for an opportunity of meeting medical officers of health of county boroughs and county councils, and the Hon. Secretary was instructed to arrange for this at an early date.

A letter from the North-Western Branch was read containing certain suggestions regarding the mode of nomination of candidates for election as the whole-time public health representatives at the annual representative meeting of the British Medical Association. It was decided to take no action.

The Hon. Secretary gave a brief résumé of the case of Dr. Fordham, previously referred to. It would appear that it was hopeless to expect any compassionate action from the Gateshead Borough Council, since the final letter from Dr. Alfred Cox, Medical Secretary of the British Medical Association, had merely been received and not read. It was notable, however, that the same meeting of the Council had adopted the Local Government and Other Officers' Superannuation Act, 1922, which on a previous occasion failed to obtain the necessary two-thirds majority. The members of the Branch regretted greatly the want of generosity shown by the Gateshead Council to their late Tuberculosis Officer, disabled in their service.

A letter was received from Dr. A. S. Hebblethwaite, Medical Officer of Health, Sunderland, conveying an invitation from Dr. I. G. Modlin, Mayor of that County Borough, to visit Grindon Hall Sanatorium on a date to be fixed in September. It was decided to accept the invitation, and to thank Dr. Modlin very cordially for his kindness. The Hon. Secretary suggested that as the usual summer meeting of the Branch is largely devoted to golf, which apparently does not attract the women members, the visit should be devoted more particularly to them. Dr. Hebblethwaite strongly approved of the idea, saying that tennis and boating would be available in the pleasant grounds of the Sanatorium.

A communication was considered from the Executive Secretary of the Society as to the Advisory Committee's Report on Rural Water Supplies, and it was decided to make this a subject for discussion at the next ordinary general meeting of the Branch.

The following Fellows of the Society were duly elected members of the Branch:—

Grahame Patton, Medical Officer of Health, Hexham R.D.C. and Assistant Medical Officer of Health, Northumberland.

Phyllis Mary Walker, Assistant Medical Officer, Jarrow.

For the forthcoming session Dr. G. C. M. M'Gonigle, Medical Officer of Health, Stockton-on-Tees, Vice-President of the Branch, was unanimously elected President, and Dr. Charles Franks, J.P., Deputy Medical Officer of Health, Durham County Council, was elected Vice-President.

Dr. Kerr was re-elected Hon. Secretary and Treasurer, and also the Representative of the Branch on the Council of the Society.

Drs. H. G. Donald and A. S. Hebblethwaite were nominated for election on the Council of the North of England Branch of the British Medical Association, and Drs. J. A. Charles and Mary E. Howie on the Executive Committee of the Newcastle-upon-Tyne Division of the British Medical Association.

The Hon. Secretary was instructed to invite the Council of the North of England Branch of the British Medical Association to elect a general practitioner representative on the Council of the Branch, warm appreciation being expressed of the services of Dr. James Hudson during the past five years.

The members then adjourned to the dining-room where they were entertained at lunch by Dr. Andrew Smith, Medical Officer of Health, Ryton Urban District Council, whose father had made a practice of this hospitality until his lamented death last year.

At lunch the President expressed gratefully the thanks of those present for this kindness, and Dr. Smith responded.

Thereafter seven couples joined in a bogey competition on the golf course, which was won by Mr. E. Manners (13) who was four up on bogey; Dr. G. Lilico (14) was second with one up, and Dr. H. G. Donald (11) was third all square.

As always the occasion was an extremely enjoyable one.

THE SCOTTISH BRANCH.

President: Dr. Thomas Adam, County Medical Officer of Health, Stirling.

Hon. Secretary: Dr. G. V. T. McMichael, Medical Officer of Health, Paisley.

The annual meeting of this Branch was held in the City Chambers, Glasgow, on June 22nd, 1929, the President occupying the chair. Fifteen members were present. Apologies for absence were intimated from Professor Matthew Hay, Drs. Pratt Yule, Buchanan, and Watt.

A letter from the Executive Secretary to Branches, dated April 24th, 1929, was considered, and it was remitted to Dr. A. K. Chalmers, Branch Representative on the Council of the Society, to consider the question of the present procedure of the Council, and to submit any suggestions he might think fit to the Special Committee of the Council which had been appointed to report on the question.

After consideration of a letter from Dr. Drever, Scottish Medical Secretary of the British Medical Association, it was agreed that it would be inadvisable at the present time to press for the issue of the circular-letter from the Department of Health for Scotland to local authorities regarding the modified salary scale for public health officers in Scotland.

A general discussion took place on the Local Government (Scotland) Act, 1929. Ultimately, it was agreed to delay further consideration meantime, and the Hon. Secretary was instructed to call a special meeting of the Branch at Edinburgh in September, at which Dr. J. Parlane Kinloch, Chief Medical Officer of the Department of Health for Scotland, should be invited to attend and advise members, more especially regarding the preparation of administrative schemes under Section 14 of the Act.

The Hon. Secretary and Treasurer's Report for the session 1928-1929 was submitted as follows:—

(*a*) *Secretary's Report.* Four meetings of the Branch have been held during the year; two in Edinburgh and two in Glasgow. The Council met on two occasions. The business dealt with at these meetings included such subjects as the proposed modified salary scale for Scotland; the question of encroachments of the public health services on private practice; and notification and control of venereal diseases. One of the meetings in Edinburgh was held at the Usher Institute of Public Health, where Professor P. S. Lelean kindly showed the members round the Museum. On February 23rd, 1929, the Branch, in conjunction with the Association of School Medical Officers of Scotland, entertained Sir Leslie and Lady Mackenzie to luncheon in Edinburgh, and presented Sir Leslie with his portrait in recognition of the great services rendered by him to the public health services in Scotland; a suitable gift was also presented to Lady Mackenzie. The luncheon was attended by thirty-four members of the public health service, and sixteen members of the Association of School Medical Officers, together with five guests. During the year, the President and Hon. Secretary represented the Branch at a conference called by the Scottish Board of Health regarding encephalitis lethargica, and also at a conference with the Scottish Committee of the British Medical Association and representatives of the Medical Women's Federation on the question of "equal pay for equal work" of medical men and women.

(*b*) *Treasurer's Report.* At the beginning of the year, the amount standing to the credit of the Branch was £51 12s. 9d., to which was added the amount refunded from the headquarters of the Society at the rate of 2s. 6d. per member—£11 5s.

The expenditure was heavier than usual during the year, the main items being expenses in connection with the luncheon and presentations to Sir Leslie and Lady Mackenzie, £20 19s.; grant for clerical assistance, £5; stationery, postages, etc., £5 10s. 9½d.; cost of presidential badge, £4 7s. 6d. The balance on hand at the end of the year is £27 0s. 5½d.

Election of Officers for Session 1929-30. Dr. Thomas Adam was unanimously elected President, the Vice-Presidents being Dr. A. K. Chalmers and Professor Matthew Hay. Dr. G. V. T. McMichael was elected Hon. Secretary and Treasurer. The following members were elected to the Council of the Branch:—Drs. Bignold, Arbuckle Brown, Buchanan, Burgess, Finlator, Hamilton, Macgregor, McWhan, Hume Patterson, Lauder Thomson, and Pratt Yule. Dr. A. K. Chalmers was elected Branch Representative on the Council of the Society.

Dr. Macgregor introduced the question of the proposed notification of puerperal pyrexia, and a general discussion followed, taken part in by most of the members present.

Dr. A. K. Chalmers gave an interesting résumé of the replies sent in by the Branches to the questions of the Council of the Society regarding notification and control of venereal diseases.

The Hon. Secretary was instructed to resume the practice of sending reports of meetings of the Branch and of the Council to the Editor of PUBLIC HEALTH.

THE MIDLAND BRANCH.

President: Dr. R. H. H. Jolly, M.O.H., Wolverhampton.

Hon. Secretary: Dr. B. C. Haller, Asst. M.O.H., Wolverhampton.

The annual meeting of this Branch was held at the Town Hall, Wolverhampton, on July 11th, 1929, the President occupying the chair. Nineteen members were present. Apologies for unavoidable absence were received from twenty-one members.

A letter was read from the North-Western Branch with reference to:—(1) Nomination of Representatives at the Annual Representative Meeting of the British Medical Association; (2) election of Members of the Council under Article 19 (*a*), (*b*) and (*d*). It was resolved to debate these matters at the next meeting.

The election of Officers and Council for the session 1929-30 took place as follows:—

President: Dr. W. D. Carruthers.

President-Elect: Dr. P. S. Blaker.

Vice-Presidents: Dr. W. L. M. Goldie, Dr. Bostock Hill, Sir John Robertson, Dr. E. H. Snell.

Elected Members of Council: Dr. G. N. Anderson, Dr. A. Auden, Dr. J. M. Cowie, Dr. B. C. Haller, Dr. H. P. Newsholme, Dr. Gibbons Ward, Dr. Hamilton Wood.

Hon. Treasurer: Dr. E. H. Snell.

Branch Correspondent: Dr. G. N. Anderson.

Hon. Secretary: Dr. R. H. H. Jolly.

Hon. Auditor: Dr. W. M. Clendinnen.

Representatives on the Council of the Society: Dr. R. H. H. Jolly, Dr. Gibbons Ward.

After the meeting the members and the ladies accompanying them were conveyed by motors to the Sunbeam Motor Works, where they were shown the various processes of manufacture and assembly of Sunbeam cars as well as the provisions made for the welfare of the employees. Tea was served at the conclusion of the tour of inspection.

The President, supported by Sir John Robertson, thanked the Directors and Managers for their hospitality, and Mr. Deansley replied on behalf of the firm.

THE SCHOOL MEDICAL SERVICE GROUP.

President: Dr. T. P. Puddicombe, D.S.O., Asst. M.O.H., Essex County Council.

Hon. Secretary: Dr. W. J. M. Slowan, O.B.E., Asst. M.O., London County Council.

The annual meeting of the above group was held at the house of the Society on Friday, July 12th, 1929. In the absence of the Group President the chair was taken by Dr. H. R. Kidner. The following officers were elected for the Session 1929-30:—

President: Dr. W. J. M. Slowan, O.B.E.

Hon. Secretary and Treasurer: Dr. Louisa C. Adam.

Representative on Council of Society: Dr. T. P. Puddicombe, D.S.O.

Following a proposal made by Dr. Gurney, President of the Metropolitan and Home Counties Sub-Group, it was unanimously agreed that this sub-group should be discontinued as a separate entity and should be merged with the parent group. The chief reason for the decision was the fact that the active members of both groups are practically identical, and it was hoped that better attendances at the group meetings would result from the union.

There was no paper read as the meeting was purely a business one.

The Literature of Preventive Medicine.

ELEMENTARY HYGIENE FOR NURSES. By H. C. RUTHERFORD DARLING, M.D., M.S., F.R.C.S., F.R.F.P.S., Surgeon, Coast Hospital and Lidcombe State Hospital, Sydney, N.S.W. London: J. & A. Churchill, 1929. pp. 292, illustrated. Price 5s. net.

The fact that it has reached a fourth edition in a comparatively short space of time suggests that this book is an established favourite with those for whom it was intended. Based upon the syllabus laid down for the final examination of the Australian Trained Nurses' Association, obviously its appeal must be primarily to those working in the Commonwealth; inasmuch, however, as a great part of the contents have a world-wide application, it will be, and no doubt has been, found useful in other lands. Careful revision has been carried out for the purposes of this edition and much new matter has been added, thus greatly increasing the value and usefulness of the book.

THE SANITATION OF BUILDINGS. By E. THOMAS SWINSON, Member and Silver Medallist, Royal Sanitary Institute, etc. London: Humphrey Milford, Oxford University Press, 1928. pp. 465. Price 30s. net.

It is not surprising that the author of this book found, as he frankly confesses, his title a little too ambitious. For this reason, he decided to leave out consideration of water supply, lighting, warming and ventilation, though—since the sanitation of buildings is the subject—it is a little difficult to understand why the last-named, at any rate, was dropped in favour of sewage disposal, to which three chapters are devoted.

To say this, however, is in no way to disparage the book for which there can be nothing but commendation.

The manner of approach and of treatment of the subjects dealt with will commend itself particularly to public health officials, and to students in all health subjects it will prove invaluable, the author having summarised not only the principles which govern modern practice, but the numerous enactments which give the subject such importance from the administrative as well as executive point of view.

The author achieves his object, not by over-description, but by profuse illustration—a method peculiarly appropriate to so technical a subject, and one that might well be emulated by other writers. By this means much wearisome descriptive detail is eliminated, whilst as a text-book it gains immeasurably.

This fact, and its admirable get-up, justifies the price which at first sight may appear a little high.

DR. A. S. M. MACGREGOR, O.B.E., Medical Officer of Health, Glasgow, has accepted the Presidency of the Section of Preventive Medicine at the 1930 meeting of the British Medical Association, to be held in Winnipeg, Canada.

CONGRATULATIONS are offered to Sir Allan Powell, who has been appointed, at a salary of £3,000 a year, head of the Public Assistance Department of the London County Council, under the Local Government Act, 1929. As is well known, Sir Allan Powell has for many years been Clerk to the Metropolitan Asylums Board, a body which will cease to exist in April next. He is also Chairman of the Food Council, and it may be hoped that, in spite of the heavy work which will fall to him in his new office, he will still continue to render the valuable service which he has given to the nation as a member of the Council since it was first established.

DR. J. A. H. BRINCKER, a Principal Assistant Medical Officer of the London County Council; Dr. W. Allen Daley, Medical Officer of Health, Hull, and Dr. William Brander, Medical Superintendent, Hackney Hospital, have been appointed, as from October 1st, 1929, Principal Medical Officers in the Public Health Department of the London County Council. The duties attaching to the positions will be mainly concerned with general public health work, school medical service, infectious diseases, tuberculosis, children's diseases, administration of hospitals, especially poor law hospitals, and district medical work. Each of the officers named will be placed in charge of a division of the department dealing with branches of the work and will be responsible to the County Medical Officer of Health. The commencing salary in each case will be £2,000 a year, rising by £100 yearly to £2,500 a year.

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Editorial.

The Report of the Ministry of Health.

IN a recent issue, congratulations were offered to Mr. Arthur Greenwood on his appointment as Minister of Health. A study of the report of the work of his department for the year 1928-29* suggests that sympathy rather than congratulations would be more fitting. Almost it seems impossible that any one individual could dare to make himself responsible for such a variety of matters and such a field of operations, and unlikely that, in any country but this, one minister would be charged with activities so numerous and diverse as are given to the individual upon whom the title of Minister of Health has been conferred by the British Parliament. To foreigners the system of health administration existing in this country, it is notorious, appears almost incomprehensible, and for any member of the service to attempt to explain it is almost hopeless. As a help in the making of an explanation the report of the Ministry of Health is practically useless, since though a number of the matters dealt with are obviously such as are appropriate for treatment in a department charged with the care of the health of a nation, there are so many others that are omitted that the supervision cannot possibly be complete and so many included that are without obvious relation and that, if properly attended to, must interfere with the giving of adequate attention to duties specific of health. That some sort of feeling of this kind is developing at the Ministry itself is shown by

* H.M. Stationery Office, 1929. Cmd. 3362. pp. 288. Price 6s. net.

the fact that this year the reports by the general inspectors on the administration of the poor law have been omitted and are to be published separately together with a reprint of the section in the report on administration of the poor law. Probably in time other sections will be published separately also, and the report will come to contain only such portions as treat of health matters or at least such health matters as the Ministry of Health is permitted to deal with and can, in fact, be expected to deal with, having regard to the vast amount of outside business with which they are charged. Such an arrangement would ensure not only the inclusion but possibly the warrantable extension of section I—Public Health, with its references to general health questions (lunacy and mental deficiency, nurses registration, etc.); sanitary administration (water supply, and even public cleansing and smoke abatement), food inspection and supervision; infectious diseases (which might have more than seventeen pages devoted to it); maternity and child welfare (which deserves more than eight pages), and housing and town planning. It would ensure the exclusion of Section II—Local Government and Local Finance, or at any rate the references to secret commissions, which have no apropos whatever so far as the public health service is concerned and little enough so far as regards any other branch of the local government service. Largely on account of the prominence given to the subject in the report, it would be difficult to obtain credence for any statement such as this as to the integrity of public servants, a large section of the public affecting to be convinced and by its attitude seeking to convey the belief that in official circles bribery and corruption are rife and that there is no officer who has not his price and who does not receive it. In the expurgated Ministry of Health Report there would be no objection to the inclusion of Section IV, dealing with national health insurance and contributory pensions, though it is little enough the health service has to do with the important works to which consideration is given in connection with it.

Possibly for the reason that it deals with a period for which the Government at the time of its publication had no responsibility, the report gives no indication as to whether the year under review was a good one or a bad one from the point of view of the Ministry. It is a record merely of the more important business transacted by the department during the year and does not cover matters of routine or detail. As a record it will prove extremely useful for purposes of reference to those who know something of British methods of administration. To others such as envisage a Ministry of Health as a department with a particular and exclusive interest in matters affecting or threatening the health of a nation and concerned with the safeguarding of that nation's health, it may appear a little puzzling.

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Mental Deficiency in the Adult.

THE section of the Report of the Mental Deficiency Committee which deals with the adult defective was withheld in April last when the rest of the report was published. There was valid reason for this course. The Local Government Bill was still under discussion in the House of Commons, upon which hung the question of the continuance of the poor law guardians whose statutory duties included the supervision of so many adult defectives, and the publication of this section would have led to useless discussion and delay. This risk is now past and accordingly Part III has been issued.* The passage of the Local Government Act has facilitated the removal of many of the defects of administration and the divided responsibility which has hitherto limited the usefulness of the Mental Deficiency Acts. The publication of an exposition of the problem of the adult defective, primarily for the enlightenment of the general public, is therefore opportune. The problem is, indeed, a complex one but it is rendered more obscure by the loose thinking which so often clouds the consideration of present-day social problems. The "social conscience," so-called, is but an expression of the group mind and as such tends to be swayed, if not completely governed, by emotions and sentiment. Yet as Roosevelt once told us in another connection: "Sentiment is the weakest reed that righteousness can lean on."

The first essential, therefore, is to understand what is the real connotation of the term "mental deficiency." Is the condition a unity *sui generis*, a definite result which follows the operation of a definite cause, just as hydrophobia follows as the result of the inoculation

* Report of the Mental Deficiency Committee, being a Joint Committee of the Board of Education and Board of Control. Part III—The Adult Defective. H.M. Stationery Office, 1929. pp. 102. Price 1s. 6d. net.

of rabetic virus? Or is it not possible, indeed probable, that within the term we are including a multiplicity of conditions, the only relationship of which is that they are all characterised by one common phenomenon, *viz.*, a reduction of general intelligence? An analogy will explain our meaning. Until within the last eighty years many types of infections, characterised by a continuous rise of temperature, were grouped together under the term "continued fever." As the causative agents of these have been successively discovered they have become recognised as distinct forms of febrile condition, the one common factor between them being the phenomenon of long duration of the fever. This analogy is but another illustration of the truth of the dictum of Aristotle that we have knowledge only when we know the cause. Until this fundamental question is solved and we have a clear understanding of the factors involved in the causation of mental deficiency we cannot hope to attack the problem of prevention with any certainty of aim. Our present ignorance of the biological factors involved is a fundamental objection to the practical application of eugenic measures such as sterilisation. But a further question presents itself, to which the Report draws attention. Whatever may be the genetic or biological factors in the production of mental deficiency, the actual criteria by which it is gauged to-day are social. Each one of us is judged by his capacity to maintain himself and to conform to the demands made upon him by his social environment. But the nature of these demands depends upon the nature of the social structure, and under the stern pressure of modern social conditions the capacity for adaptation has been outstripped by the ever-increasing complexity of modern life. Looked at from this point of view we have to admit that the presence of the mental deficient in our midst is the price we must pay for our civilisation.

The Report states that there are more than 175,000 defectives in need of care and supervision, and offers a detailed presentation of a complete scheme for their welfare—colonies, hostels, subsidiary homes, schools, technical instruction, guardianship, boarding out, and finally the possibility of financial aid towards maintenance. The Committee has made no attempt to estimate the cost of a comprehensive scheme of this character, nor to what degree the beneficiaries are likely to be able to contribute towards the reduction of the financial burden, but even if mental deficiency was a clear-cut, well-defined condition, devoid of any social disability, the expenditure of such vast sums as would be necessary would be fraught with menace. Moreover, the crippled, the blind, the deaf, the tuberculous, the aged infirm, and hosts of others of the less effective members of the community might with perfect logic demand equal financial assistance. Organised society as at present constituted must inevitably shoulder a heavy burden. There are, however, limits to the demands which can be made upon the sound and efficient towards the support of their less efficient fellows, and these limits are already reached. The danger is real that additional burdens may cause the whole structure of our civilisation to crumple and totter to its fall. It is characteristic of many social problems that attempts at their solution bring in their wake new problems to be solved and the remedy may, in fact, ultimately prove worse than the disease which it has attempted to cure. Social legislation must justify itself.

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The Health of London in 1928.

THE reports of Dr. F. N. Kay Menzies on the public health of London are always documents of extreme importance and value, and that for 1928* is no exception in these respects. The report contains several very interesting features, and probably the most striking are those dealing with the fertility of married women in relation to social conditions and the review of the statistics relating to maternal mortality. Dr. Menzies finds that the conspicuous decrease in maternal mortality in the period 1901-1910 was associated with improved midwifery, but with the complete displacement of the untrained midwife as from the latter year, the scope of further decrease necessarily became more limited. Mortality in childbirth is shown to vary with the general death-rate, but the rapid fall in the birth-rate has disclosed that fertility is the specific factor in maternal mortality. Economic conditions are shown to be a governing factor in the variations of fertility and of maternal mortality which are noted in different districts. Birth control, encouraged by economic stress, is of

* Annual Report of the London County Council, 1928. Vol. III, PUBLIC HEALTH. No. 2657. London: P. S. King and Son, Ltd., 14, Great Smith Street, S.W.1. pp. 195. Price, 2s. 6d.

definite importance in connection with maternal mortality, for it interferes with the normal rhythm of conception at the ages of higher fertility. This normal rhythm may be said to be about two years, and any reduction or increase in this interval may be attended with increased risk to the mother; a shorter interval gives less opportunity of recuperation, while a longer interval brings conditions physiologically more approximating to primiparity. The result of prolonging the normal interval is to increase the maternal risk per thousand births.

In a report on maternal mortality in Aberdeen it is stated that the higher incidence of puerperal sepsis in the practice of doctors as contrasted with that of midwives is dependent in considerable part on a streptococcal carrier condition in doctors. Dr. Menzies has examined this question in London in detail, and in his statistics there is nothing to support the hypothesis that the doctor is a carrier of puerperal infection. Indeed, in the boroughs where the greater portion of births have been delivered by general practitioners, puerperal fever mortality is lower than in those boroughs where midwives' cases are in the majority.

Turning to the subject of free lavatory accommodation for women, Dr. Menzies very properly calls attention to the marked inadequacy in London in this connection, and it is to be hoped that the authorities will take steps to meet the demand which has been created in recent years by the great daily influx of women into the central areas of the Metropolis. Apart from this inadequacy, there is no doubt that the standard of excellence of public conveniences in London has nowhere been surpassed.

Several years ago the County Council made arrangements for an experimental scheme to be put into operation which would enable metropolitan borough councils to utilise as part of the tuberculosis dispensary scheme the facilites for artificial light treatment at certain hospitals in London. The experimental scheme was continued throughout the year 1928, but from reports obtained from the tuberculosis officers in nineteen boroughs in which the arrangements for artificial light treatment had been approved, it appears that very little use has been made of the County Council's scheme, and the reports of these officers disclose practically no evidence of benefit having been derived by patients from artificial light treatment. The experience gained during the year confirmed the view expressed previously that the best results are obtained when light treatment is given as an additional method of treatment in residential institutions in the country where all methods of treatment are available in addition to fresh air, good food and a regular régime.

It is interesting to note that there are approximately 5,000 certified midwives with London addresses, but that only 854 of these gave notice of intention to practise within the county during the year. Here is evidence of justification for the decision of Parliament that the Central Midwives Board might publish the Roll of Midwives in two volumes—one to be issued annually and to contain the names of all those in actual practice; the other, containing the names of all other persons who are entitled to be on the Roll, to be published at such intervals, not exceeding five years, as the Minister of Health may approve.

In his report on the medical inspection of school children, Dr. Menzies calls attention to the result of the continuous and unrelenting campaign in the schools against conditions of uncleanliness. The great success which has attended this campaign is to be attributed entirely to the patient and devoted work of the school nurses, who have, in the teeth of opposition, sometimes very fierce, been supported by all departments of the Council's service. The standard set in London is a very high one, and the parents are notified by the school nurse of the slightest lapse from a rigid standard, even if the lapse amounts to the presence of only one or two nits. The index which is taken for comparison is the condition of the hair of the 12-year-old girls. In 1913, only 67·2 per cent. of the older girls were completely free from signs of verminous infestation of the hair, compared with 87·3 per cent. of the boys. In 1916 and 1917, the percentage had risen in the girls to 70, in 1920 to 75, in 1923 to 80, and in 1926 to 88·1. In 1927, the percentage of 12-year-old girls found completely free was 89·5, and in 1928 for the first time the 12-year-old girls passed the 90 mark, the percentage being actually 91·5. When it is considered how bad the conditions were formerly in elementary schools in this respect, and that the finding of a single nit removes the girl from the absolutely-clean classification, this result entitles 1928 to be marked as a red letter year. The improvement in this one respect is to be taken, of course, merely as an index of all-round improvement in personal hygiene and care. Infestation with body vermin, which before medical inspection was found in 3 to 4 per cent. of elementary school children, has now practically disappeared. Only those who had experience of conditions before the institution of the school medical service can really appreciate what this great improvement means in the comfort of those working in the schools, in the raising of the general tone, and in the added self-respect and reverence for hygienic ideals on the part of the girls themselves. At the same time the boys have greatly improved also, and 96·8 per cent. of the 12-year-old boys are now scrupulously clean in respect of the hair. The patient labour of the nurses has naturally been greatly assisted by the fashion which is now quite general for girls to have their hair cut shorter than formerly.

A very large number of London school children go with their parents to the Kent hop-fields in the summer, and much consideration has been given in the report to the conditions under which these children live during this period. It appears that in a favourable season, the hop-picking exodus provides an opportunity for an enjoyable country holiday, attended by general improvement in the health of a large number of children from the most crowded districts of London; and that while the wholesale condemnation of the conditions in the hop gardens is unwarrantable, there are many farms and areas in which the conditions for the hop-pickers are not all that they should be from the health point of view.

Looking at the sum results of school medical inspection and making comparisons of the results of the inspection of school children of different ages, there is evidence to show how much the school medical service in London is playing its part in the improvement of health and physique. The detailed figures show a great mass of disability and suffering mainly caused by environmental and nurtural conditions. It is seen that already on arrival at school the infants are, in large numbers, suffering from unhealthy conditions. During school life, however, they are under constant and intelligent supervision; the teacher, the attendance officer, the school nurse, the school doctor and the organisers dentist, the school doctor and the organisers and workers of the school care committees combine to do all in their power with the resources at command to ameliorate their condition.

In this period of supervision, there is a steady improvement which from year to year is more and more marked, and when, over the whole term of years since school medical work began, the gradual improvements of the separate years are added together, the total benefit is seen to be great. Indeed, those things have been achieved which, at the outset, no one, however hopeful, would have believed possible. The year 1928 has been an especially good one, and substantial advances are noted all along the line.

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The M.A.B. Report.

THE report of the Metropolitan Asylums Board, excellent as it is as a statistical record of the work done, the patients admitted, treated and discharged, and the money expended in connection therewith on hospitals, ships and ambulances, is always something more than that. It is a publication rich in records of research in the laboratory and at the bedside. The report for 1928-29, presumably the last but one before the work passes into the hands of the London County Council and, to the real regret of many, ceases to be carried out by the Board, is no exception to the rule. If anything, indeed, it is more definitely a publication devoted to papers descriptive of investigations carried out by members of the Board's staff, and one of which researchers in other parts cannot afford to be unaware since reference to it may save much labour or provide suggestions that may prove of the utmost value. The papers in which these are to be found are given a section of the report to themselves. This occupies over two hundred pages and constitutes practically half the volume, the contributions forming five main groups—those on infectious diseases, twenty-five in number; those on subjects relating to mental disease, of which there are four; those on tuberculosis, numbering three; and those on sick children and on dental treatment of which there are twelve in the former and one in the latter. Following each group of papers there is given a bibliographical record in which reference is made to papers published during the year by officers of the Board on subjects of the same class as those included in the group. Judging from the titles of these papers it appears probable that a certain discrimination was necessary on the part of the person responsible for choosing the articles which should be used for the report. The papers in the section relating to infectious

diseases cover a very wide field; some recording experiments in connection with the treatment of some particular disease, that on the value of alkalis in scarlet fever, for example, or rare occurrences of one sort or another. Purpura fulminans associated with scarlet fever, and a case of meningitis, mumps and smallpox may be quoted as examples. Several of the contributions are analytical, the vast store of records in the possession of the Board being sifted to settle some questions of moment, such as whether or not scarlet fever is less severe now than formerly. A paper of extreme interest and importance in this section is that descriptive of certain features of Parkinsonism and their treatment. In the mental diseases section an unusual paper, and one that makes fascinating reading, is that on æsthetics and mental deficiency. Of the papers in the tuberculosis section two have reference to artificial pneumothorax and a third discusses the question of the treatment of pulmonary tuberculosis by gold salts. In the sick children's section noteworthy papers are one on diastolisation and a series of four on acute rheumatism. All these, and others to which it is impossible to make reference, are of high quality, outstandingly practical and therefore all the more useful and important. Their presence definitely increases the value of the report of the Board and serves as proof, if such indeed were required, that, keen as that body may have been to secure proper management of the affairs and finances of the vast undertaking entrusted to them, they were not blind to the possibilities so far as medical and scientific research were concerned, and were anxious to see the material at the disposal of the staff fully used, to afford opportunity for using, and to provide facilities for recording the results of the investigations.

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Memorandum 145/M.C.W.

THE first of the Ministry publications to signalise the opening of the vacation period was the memorandum on ante-natal clinics: their conduct and scope (145/M.C.W.).* This arrived on August 1st, and though it did not, as vacation publications of this kind are so apt to do, impose new duties that should be entered upon immediately, it at any rate provided food for thought and offered a number of suggestions extremely helpful and practical. Claiming that generally the present standard of ante-natal care remains below what is required for safeguarding the mother, even within the limits of present knowledge—a claim few will deny—the memorandum states briefly the principles of ante-natal care. With these, as they are set forth, no one will quarrel, accepting that the care given should be sufficient to ensure that a difficult labour will be foreseen; that there shall be early detection and treatment of toxæmia; that there shall be measures directed against infection and to increase resistance to infection, and for the diagnosis and treatment of venereal disease. Most strongly will there be agreement with the view that there should be the closest co-operation between the clinic and all persons in whose charge the pregnant woman may be during pregnancy, labour and the puerperium, and that never should sight be lost of the fact that a well-organised clinic can exercise a profound educational effect. In discussing the principles relating to clinics the memorandum repeatedly draws attention to this and to the extreme need for co-operation between all the parties who have or may have concern with the woman. In so many words it is not said, but it is clear that the place proposed for the clinic is at the very centre of the organisation; it is to be at once the clearing-house, the meeting place and the educational establishment. It is to be these things not on account of its construction, its architecture, its furniture or its fittings, but because of its personnel. Medical or non-medical the staff of the clinic, it is insisted, must be trained, skilled and experienced in obstetrics and ante-natal work. Partly this is needed because of what is required in relation to the patients themselves; largely it is required because of the influence to be exerted *vis-à-vis* doctors and midwives who are to use the clinic for their patients and to co-operate with the staff, benefit from the knowledge existing at the clinic, share in the information obtained at and through the clinic and share with it such information as they themselves may acquire. It is because of the necessity for special skill and experience, no doubt, that the memorandum makes specific reference to the fact that though the obstetric knowledge obtained in general practice may be valuable, post-graduate training or experience in ante-natal work is essential. Much is made of the need for careful record keeping and for the proper interchange of information and reports, and there is sound reason for the recommendations with regard to the linking up with hospitals which, while serving as receiving centres from the clinics and as consulting clinics, may themselves find the clinics useful for preliminary examination purposes in the case of patients to be admitted from a distance.

Primarily concerned with the clinics, the memorandum has a great deal to say as to home visitation and the value attaching to the work that can be done in her own home for the benefit of the woman. Where home visiting is well done there will be less need for the specific following-up on account of failure to keep appointments made at the clinic. These appointments, judging from what is said under the heading "Minimum Scope of Ante-natal Examinations," may be very numerous unless arrangements can be made for some to be done at home, by the midwife engaged for the confinement, for example, whose duty it is, in fact, under the rules of the Central Midwives Board, to undertake the ante-natal care of her patients. The times suggested for examination are at the sixteenth, twenty-fourth and twenty-eighth weeks, then fortnightly till the thirty-sixth week and thereafter weekly till the confinement. The suggestion that treatment, unless of the simplest, should not be carried out at the clinic is one that will be approved, as will also that contained in the final words of the memorandum that the importance of co-operation between the clinic and the professional attendant, as well as the accurate keeping of records, cannot be over-estimated.

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The Vaccination Order, 1929.

THE new Vaccination Order, dated August 15th, 1929,* has been made by the Minister of Health to give effect to recommendations 1, 2, 3 and 4 on page 201 of the Report of the Committee on Vaccination, issued last year.†

The new Order still further weakens the position so far as compulsory vaccination is concerned, but it is difficult to see how any Minister responsible for the public health could have acted otherwise in view of the continued occurrence in this country of cases of post-vaccinal nervous disease. So far as knowledge on the subject goes, it would appear that the risk of this disease is negligible if primary vaccination is carried out in the first six months of life. The new Order instructs public vaccinators to vaccinate by means of one linear incision or scratch not more than a quarter of an inch long merely through the epidermis. It also states that vaccination may be performed in four places where the maximum protection against smallpox is desired. The object of this new rule is to reduce the dose of vaccinia, while requiring the public vaccinator to aim at producing successful vaccination with the minimum of injury to the tissues.

The whole subject of vaccination is one which is of great importance to public health administrators, and it is to be hoped that the Vaccination Committee will continue to sit in order to ascertain the effects of the new order and the extent to which re-vaccination at the ages of 5-7 years and 14-16 years is accepted. There is no doubt that the mild type of smallpox at present prevalent in this country and the occurrence of post-vaccinal nervous disease have made people most reluctant to accept vaccination, but if the modified procedure regarding vaccination set out in the new Order brings about a larger proportion of primary vaccinations and re-vaccinations, the much needed greater protection of the public against smallpox will have been achieved.

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The Central Council for Health Education: Films and Finances.

IN view of the approach of Health Week the Central Council for Health Education has prepared and is issuing a list of educational films believed to be the best available at the present time. For the reason that it will help very much to ensure the maximum use of the films, early booking of dates is recommended.

Medical officers of health are invited to remind local authorities that the work of the Council cannot be continued and extended without financial support. Amongst those who are subscribing sums of £10 and downwards are Lancaster, Darlington, Ealing, Paddington, Hackney, Birmingham, Wigan, Chatham, Salford, West Ham, Willesden, Bucks. County Council, Poplar, Stoke Newington, Newcastle-upon-Tyne, Cardiff, Todmorden, Pontypridd, Hull, Leeds, Tottenham, Stretford, and York.

* H.M. Stationery Office. Price one penny net.

* Statutory Rules and Orders, 1929, No. 640, price one penny net; accompanied by Ministry of Health Circular (1025), dated August 19th, 1929, to Sanitary Authorities; and Ministry of Health Circular (1025a), dated August 19th, 1929, to Boards of Guardians.

† H.M. Stationery Office. Cmd. 3148. Price 7s. net.

In cases in which no subscription has yet been sent the hope is expressed that officers may feel justified in bringing the work of the Central Council to the notice of their respective authorities.

The list of films referred to includes:—

Title.	Duration of showing. Minutes.	To be booked through—
*H.M. The Baby ...	30	Community Interest Films, Ltd., 160, Piccadilly, W.1.
*Bottled Health ...	14	National Milk Publicity Council, 33, Gordon Square, W.C.1.
*Delay is Dangerous	14	National Association for the Prevention of Tuberculosis, 1, Gordon Square, W.C.1.
*Food, Digestion and Air	14	Food Education Society, 29, Gordon Square, W.C.1.
Peter the Moon Man	20	Health and Cleanliness Council, 5, Tavistock Square, W.C.1.
Ten Little Dirty Boys	20	Health and Cleanliness Council, 5, Tavistock Square, W.C.1.
Danger Ahead ...	20	Health and Cleanliness Council, 5, Tavistock Square, W.C.1.
*Rat Menace	17	Ministry of Agriculture and Fisheries, 10, Whitehall Place, S.W.1.
Physical Education in the School ...	20	Central Council for Health Education, 1, Upper Montague Street, W.C.1.
The Third Payment	45	British Social Hygiene Council, Carteret Street, W.C.1.
Beware of the Demons	15	Dental Board of the United Kingdom, 44, Hallam Street, W.1.
Clara Cleans her Teeth	12	Dental Board of the United Kingdom, 44, Hallam Street, W.1.

* Passed and approved by the Central Council for Health Education.

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The Minister of Health and the Medical Profession.

ONE of the first acts of the present Minister of Health (Mr. Arthur Greenwood) has been to enlarge the very wide range of the various forms of consultation which already subsist between the Minister and the medical profession.

This extension of contact between the Government and medical opinion takes shape in the appointment, in a purely personal capacity, of Sir John Rose Bradford, Lord Moynihan of Leeds, Lord Dawson of Penn, and Dr. H. B. Brackenbury, as a small informal Committee to confer from time to time with Sir George Newman, the Chief Medical Officer of the Ministry of Health.

The object of the conferences will be to give ample opportunity for the Committee to place before the Minister their views on any current medical matters regarding which they desire him to be specially informed, and for the Minister to consult the Committee with the same ease.

Mr. Greenwood hopes personally to find in this arrangement a ready means of communication between the Committee and himself as occasion arises; and that it will contribute to the close, continuous, and sympathetic association which he desires to see maintained between the medical profession and the Minister. Doubtless, also, the Minister hopes that the fact that Dr. Brackenbury has, and Lord Dawson has had, a seat upon the Council of the Society of Medical Officers of Health will ensure the continuance of an association between himself and the preventive side of medicine no less close and sympathetic than is provided for by his choice of representatives of other branches of the profession.

THE National Radium Trust have appointed Mr. P. Barter of the Ministry of Health, Whitehall, to be Secretary of the Trust and Mr. Niven F. McNicoll of the Department of Health for Scotland to be Assistant Secretary.

THE Royal Sanitary Institute announce a series of training courses for examinations for sanitary inspectors, meat and food inspectors, smoke inspectors, associateship (general hygiene and sanitation), associateship (food hygiene), and sanitary science, commencing on Monday, September 30th, 1929. Syllabuses of the lectures and examinations and all other particulars are obtainable from the Secretary of the Institute, 90, Buckingham Palace Road, London, S.W.1.

THE Building Societies Year Book for 1929, published by the National Association of Building Societies, provides in a convenient form much valuable information on the ever-increasing activities of the building society movement throughout the country. The part played by such societies in the solution of the housing problem is fully recognised, and the rapid progress made is shown by the fact that the total assets are now nearly 300 million pounds. Not the least interesting feature of this attractive publication is the reproduction of an article by Dr. Cyril Banks on "Building Societies and the Public Health" which, appearing originally in PUBLIC HEALTH for February, 1929, has been reprinted and quoted in a number of journals in this country and in America.

Mental Hygiene.

By RALPH CROWLEY, M.D., M.R.C.P., M.R.C.S., Senior Medical Officer, Board of Education; EDWARD MAPOTHER, M.D., B.S., F.R.C.P., F.R.C.S., Medical Superintendent, Maudsley Hospital, London; and LETITIA FAIRFIELD, C.B.E., M.D., D.P.H., Divisional Medical Officer, Public Health Department, London County Council.

No subject more appropriate for a symposium than this could have been chosen by the President for the December meeting, and in selecting Dr. Crowley, Dr. Mapother and Dr. Letitia Fairfield as leaders, he found the most outstanding of the few people in the country who have devoted attention to its study.

DR. CROWLEY.

Dr. Crowley said he proposed to confine his remarks in the main to organization as it affected the problem of the child, leaving the question of the adult to Dr. Mapother and the more clinical aspects affecting children to Dr. Fairfield. To him the mental hygiene movement constituted a significant new move in medicine, especially when viewed in the light of a movement in public health. It sought to apply the principles of preventive medicine to mental disease, subnormality and defect; to crime, delinquency, and neuroses of all kinds; to maladjustments showing themselves principally as disorders in behaviour. The path was sure to be uphill and difficult: it was not easy to get men to walk the narrow way that leads to physical health, but the difficulties were likely to be still greater in the case of mental health.

Only yesterday, as it were, the main concern of the public health service was with infectious diseases and with the grosser environment; latterly it had been brought with bewildering rapidity into direct touch with the individual, especially through the prevention of tuberculosis and venereal disease and through the infant welfare and school medical services. The development of mental hygiene would prove a yet further step in this direction. It was a movement with direct bearing on the health of the individual; on problems of the child at school; of the worker in the factory, workshop and store; on the problems of the court; on those of social organization generally. And accordingly it was not a question only of immediate contact with the individual but of close contact also with many other people and organizations; with the home and family, the school teacher, the church, philanthropic and social agencies, the court and probation officer.

The practice of mental hygiene illustrated well the disappearing demarcation between curative and preventive medicine. It was sometimes said that one was swallowing up the other, but this was a wrong simile. It was a case rather of the uniting of two streams to form a common stream. The great days of the practising physician were not days of the past; rather were they to come. But treatment must be in a setting of preventive medicine. The public health service must provide the framework and the necessary co-ordination. It possessed an unrivalled opportunity for the linking up of all activities, of making effective contact with allied services, of planning over a prolonged period of time, of following up, of systematic recording. All of those activities were the very breath of mental hygiene work. It was necessary to distinguish between the prevention, in the strict sense of the term, of mental disease and the prevention of serious consequences arising as its result. There was much less light on the former than on the latter, but the methods to be followed were in any case very similar. A concerted campaign would be required—a campaign of professional and lay workers. Among medical workers would be required the expert physician, the psychiatrist, the medical administrator and organizer, the family practitioner, and the medical research worker. Quoting Dr. Adolf Meyer of the Phipps Psychiatric Clinic, Baltimore, to whose wisdom, born of much experience, Dr. Crowley paid high tribute, the speaker indicated how difficult was the path of the expert, "hampered on all sides, always with half-officered hospitals, half-trained staffs, half-equipped laboratories, less than half-organized communities," and how there was need accordingly for a carefully thought out scheme. Effective work could only be done in many

cases over a long period of years during which it was necessary to keep in touch with the individual and his environment.

In childhood the main problem presented was that of the delinquent child and of children presenting all sorts and degrees of problems in behaviour. It was these behaviour problems that required the most careful study and evaluation. What are significant and what not?; at what age?; what are transient and what permanent?; what single and what accompanied?; what the forerunners of delinquency?; what of crime?; what of mental disorder?; what of insanity?

Turning to the organization required to get at these problems and their solution the speaker outlined the modern child guidance clinic which had sprung up in so many cities and places in the United States. He emphasised that such a clinic was not primarily a place but a group of expert people, both professional and lay. He emphasised, too, the diversity of setting—independently controlled as in the case of that of Dr. Healy at Boston; associated with the local board of education as at Minneapolis under Dr. Chamberlain; under the ægis of the local Mental Hygiene Association and supported mainly out of the Community Fund as at Los Angeles under Dr. Emery; attached to a psychopathic hospital as at Denver under Dr. Ebaugh; dealing with the pre-school child as at Dr. Gesell's clinic at Yale University; studying behaviour traits in normal children as at the Merrill-Palmer School at Detroit.

The type of child included, in addition to those presenting behaviour problems, those with functional neuroses, those making poor educational progress, those showing maladjustment in the home or at employment, and children boarded out. Children came to the clinic from many sources—from the school; brought by parents; sent by social agencies and institutions; through the court and probation officer. Students, too, came from the university. But, however varied the setting of the clinic, the nature of the examination and the investigations made of the case were very similar. The chief features were the thoroughness of the work, the fact that the work was team work and that staff conferences were held regularly, giving the opportunity for each case to be considered in all its bearings.

Each clinic was a centre for many lines of activity. There was first, of course, the service rendered to the child; secondly, there was propaganda work among parents, teachers and the public generally; thirdly, the clinic formed a centre for the training of other workers; and fourthly, opportunity was provided for research.

Dr. Crowley then outlined our English beginnings both in London—in the main associated with certain hospitals—and in the provinces, especially at Stoke-on-Trent, Bath and Portsmouth.

Concluding, the speaker said that it was necessary in this country to be content with humble beginnings. It was important that the mental hygiene work among children and young people should be in the closest association with the educational, infant welfare and school medical services. There was need for much development in the educational system of the work of the educational psychologist and this should grow up as part of the mental hygiene movement. The development during the next score of years of the mental hygiene service was likely to prove one of the biggest tasks which had yet been undertaken in connection with the organization of the public health.

Dr. MAPOTHER.

Mental hygiene, in a wide general sense, of course, might be held to include all measures promoting efficiency and happiness, and in a narrower one restricted to the prophylactic aspect might be held, at least, to include prevention of all social maladjustments, such as pauperism, crime, and vice, including alcoholism and prostitution.

Though I hold that these problems are essentially of the same order as others now recognised as medical—the neuroses and mental disorders—nevertheless to avoid mere vague generalisation I must restrict my subject to the prevention and early treatment of the latter as they are seen by doctors in the adult.

In dealing with mental disorder it is wise not to insist pedantically on distinction between *prophylaxis* (steps taken before the earliest departure from normal occurs) and *early treatment* (measures designed to minimise the departure). As regards organic cases of mental disturbance, *i.e.*, those in which some essential physical cause is operative, the distinction is a valid one and true prophylaxis is possible. As to functional cases—due to interaction of innate constitution, the influence of critical epochs and of mental experience—no steps are generally possible until the disorder has recognisably begun, but treatment

to avert progress and determine cure is often most effective.

In the time at disposal it is clearly impossible for me to outline measures for combating each of the immense number of factors that may be operative in the production of neuroses and psychoses—whether organic or functional. I propose, therefore, to treat the whole matter from the administrative rather than the clinical standpoint; to discuss opportunities rather than prophylactic or therapeutic detail, and to emphasize mainly three things:—

1. The importance of mental disorder of various grades.

2. The main defects in present provisions for its prevention and early treatment.

3. Feasible remedies for these defects.

As to importance, in England and Wales there are 42,000 persons who, on account of mental deficiency of congenital or early origin, are either confined to institutions or under statutory supervision. Everyone, with real knowledge, agrees that this figure is far below the number of those needing such measures.

As to mental disorder developing later, the present number of certified cases is 140,000, and fresh cases are certified at the rate of 21,000 per annum, 9,000 die, 10,000 are discharged. There is an apparent yearly increment of 2,000, but since of the 10,000 only two-thirds are recovered, the total yearly growth is perhaps more like 5,000 than 2,000.

There are no peace-time records of the prevalence of minor mental disorders. The War, however, indicated what a large part in overt or disguised form they really constitute of all chronic illness. Of disabilities for which pensions were granted, 40 per cent. were due to wounds, 60 per cent. to disease. Of the medical cases, 75,000 pensions were for recognised neuroses and 10,000 for insanity. In other words, the percentage of medical disability overtly due to neurosis was 12, or, if malaria and typhoid be included, 20. But this number of neurotics was only a fraction of the true total. Neurosis really formed the whole or greater part of the true disability in more than half of the 8,000 cases of "epilepsy," the 33,000 cases of "deafness," the 120,000 cases of "heart disease," and the 120,000 cases of protracted lung complaints other than tuberculosis (mostly ascribed to gas). The situation is the same in all civil out-patient departments. All or most of the disability in over half the cases of chronic illness is neurosis—local treatment having no conceivable effect but a suggestive one.

The obvious cost of certified insanity is eight million pounds per annum. That of mental deficiency is nowhere stated, and as to that of minor mental disorder no data whatever exist. But in reality the true cost to the community of each of these is incalculable. The War brought out very clearly the threefold cost of neurosis, consisting in (1) the loss of the patient's services; (2) the diversion to his care and maintenance of personnel and material resources that might be more profitably employed; (3) the spread of undesirable mental states from the neurotic to others, and consequent disorganisation.

Exactly analogous threefold results are apt to follow civil neuroses and, if the economic consequences of mental disorder were really known, the bill of eight million pounds for maintenance of the insane would probably be a minor item.

Consideration of mental disorder, however, entirely as an economic problem—as if the community should be guided solely by its own financial interests, without any regard to mental suffering of the patient—represents what is fundamentally wrong with the present attitude. In respect of physical disability or suffering, whatever its kind or degree it is an axiom among civilized races that everyone is entitled to such measures of relief as are known; that if the patient cannot pay for such treatment the community must. There is no pretence that any such principle holds in respect of mental disorder. This is at present no concern of the State, or of any local authority, unless the patient is a nuisance or a burden to others, or is likely to commit suicide.

If one disregards the grievances of those who can pay for treatment (which grievances are, perhaps, greater in theory than in practice), then it may be said that the two great defects in the present law relating to mental disorder are these:—

1. Denial of the opportunity of treatment without the indignity of a detention order by a magistrate even to those who desire such treatment (at the cost of seeking it in institutions which also harbour the chronic and protesting insane)—a bizarre insistence upon antiquated formalities for which less offensive and more efficient substitutes could easily be found.

2. Failure to provide any treatment at public cost for the uncertifiable cases.

Practically everyone is agreed as to the necessity of correcting those two defects, and also as to two other needs, viz., increased research into causation and treatment of mental disorder, and improved education of medical men, especially in recognition of minor forms which are abundantly seen in ordinary practice, and which can be greatly benefited if recognised early.

In my opinion, the ideal method of meeting all the requirements at once is the institution by local authorities other than the London County Council of such clinics as the Maudsley Hospital serving for the treatment on a voluntary basis of recoverable cases and for research and teaching. Such a clinic, which can provide classified accommodation for cases of the most widely varying severity, has great advantages over a mental hospital in that it will attract a class of case which will never, however the attendant formalities be altered, go to the ordinary mental hospitals, there to associate with the chronic and protesting. The clinic has advantages over wards in a general hospital in its power to deal with much more severe cases.

Such clinics are only possible in towns of considerable size; elsewhere the institution of a system of psychiatric out-patient departments and wards in general hospitals, coupled with permission of voluntary treatment at mental hospitals, is the best available. It should, however, be recognised that financial difficulties regarding the provision of clinics for treatment of recoverable mental disorders—whether of major or minor type—are much less real than apparent.

If with the wards for cases contributing less than cost there be associated other accommodation for people able to afford about six guineas a week during an illness of some months, then it will, I think, be found that there is an abundant demand for the latter type of accommodation, and that receipts from it will, to a surprising extent, cover the cost of treating the poor.

Dr. FAIRFIELD.

Dr. Fairfield, dealing with mental hygiene in children, said that the idea in this country was a new one in public health, and that America had gone ahead of us. In the United States an endeavour was made to cover the whole range of mental life with the thoroughness with which the physical side was covered in this country, and what had been realized as essential was the close contact between the school and the public health service in relation to mental hygiene in children. In America, "habit clinics" had been established, where the psychiatrist and the social worker co-operated in the training of character, and where all kinds of help from outside sources were enlisted. Every factor, such as home life, school, personal associations and conduct was investigated, and the standard of intelligence determined. In this country there seemed to be little provision for dealing with the very difficult child, and even such conditions as enuresis were allowed to go on, mainly because the technique of dealing with them had not been properly worked out. It was very important to lay the foundation of mental hygiene by increasing the psychological and character-training side, which had already been started in connection with child welfare. In large towns at least it might be well to devote one afternoon a week to consultations with a trained psychiatrist, the bulk of the work coming through the school medical service. The beginnings of crime often were to be found in emotional and environmental defects in early life which had been allowed to pass untreated. If such cases were dealt with at school age, measures could have been taken before the defects had hardened into habits and before the child felt that he had a definite grudge against society because of some punishment received. It was surprising to find how much an emotional interference could keep a child back in school work. The temperamental type of child was very important from the point of view of the early development of neuroses, and Dr. Fairfield gave a number of instances of the perpetuation of the condition into adult life, with consequent lessening of quality in work and continual conflicts with associates. It was commonly held that insanity would be stopped if only an interview with the doctor were secured early enough; this gave rise to disturbed views and increased the expectations of the people to an unreasonable extent. Hope lay in making provision for nervous and mental disorders on a similar scale and on the same principles as those already existing for physical disabilities. Apparently simple cases, which seemed to need only common sense, really called for expert handling, and too much emphasis could not be laid on the importance of regarding the matter as one for experts.

DISCUSSION.

Dr. C. Leonard Williams (Medical Officer of Health, Barking) referred to a point made by Dr. Mapother that all or most of the disability in over half the cases of chronic illness in the large hospitals was due to some nervous disorder, and said that one was led to assume that the nervous disability was the cause and the physical disability the result. The fact was they were unrelated. Both formed part of a vicious cycle, and their work as administrators was to endeavour to attack that vicious cycle not necessarily at its weakest point. Physical defect was a link in the chain that could most readily be attacked, and if this side of the problem, together with that of environment in the school and at home, were dealt with, success would be likely to follow.

Dr. R. H. Vercoe (Medical Officer of Health, Chelmsford) believed it was a recognised fact that many neurotic conditions were due to diminished blood pressure, and that when blood pressure became normal the condition improved. One could not fail to observe the hopeless outlook of those unfortunate people who suffered from nervous exhaustion, and it would be interesting to know if the cure had really been permanent in those cases which Dr. Fairfield had mentioned, or if there had been any relapse. In talking to psycho-analysts the position seemed so hopeless when it was said that something like thirty sessions of an hour each were not sufficient to get to the basis of the trauma, whatever it might be. It therefore sounded too optimistic to refer to the "cure" of such cases.

Dr. C. T. Maitland (Ministry of Health) failed to see in Dr. Fairfield's statements any consistency with those which were made by the two leading speakers. It was necessary to be impressed by the wholeness of personal and communal life. Those who worked in connection with maternity and child welfare schemes would realise that the parents who constituted the environment of the child were themselves once children and could be successfully treated by those measures.

The President (Dr. J. Howard-Jones), in thanking the openers for their interesting and stimulating contributions, referred to the question of staffing, and the difficulty experienced in obtaining trained workers. It was first of all necessary to induce the medical schools to take the matter up, because specialists in the subject were not at present being turned out, and the experts required were not to be secured easily. As regards the child, the maternity and infant welfare schemes no doubt could help in that direction. In Newport, for example, toddlers were always encouraged to come to the clinic, and a great deal could be done in training in proper habits. Even after children had spent a few weeks in hospital, the improvement in discipline and habits was most striking and might well have a permanent effect.

Dr. Mapother, dealing with points raised, agreed with Dr. Leonard Williams that no sort of treatment was complete which did not embrace the physical side, though he was doubtful that anything would be found in the majority of neurotic cases that could be treated physically. The blood pressure theory he regretted he could not agree with. Speaking generally, Dr. Mapother said that enough was not known of the problem of the mentally unfit to enable decisions upon it to be made in any final way.

Dr. Fairfield, replying to Dr. Vercoe, said that a cure had been effected in all those cases with obvious nervous disability to which reference had been made. The school medical service, by its ordinary work, dealt with physical disabilities in children; and as regards psycho-analysis, this was only one form—and a very limited and highly specialised form—of psycho-therapy, and was used only in very rare cases.

"On the Arch of the Rainbow"—a Fairy Tale by Miss Mary Tyreman, M.I.H., teaches children in an attractive way the beauties—and the pitfalls—met with on the road to health, and the skill with which the active interest of youngsters is awakened makes this a delightful and useful little book. Published by the Health and Cleanliness Council, copies may be obtained from their offices at 5, Tavistock Square, London, W.C.1.

The National Association for the Prevention of Tuberculosis have, with the approval of the Ministry of Health, adapted their Sanitorium Colony at Burrow Hill so as to render it available to all local authorities throughout England and Wales who desire to utilise it for the long-period treatment and technical education, in gardening and clerical work, of suitable youths between the ages of 14 and 19. The institution contains eighty beds, sixty of which are provided for arrested cases, and twenty in a specially designed block for patients in the earlier stages of the disease. Though primarily intended for youths suffering from pulmonary tuberculosis in whom permanent arrest of the disease is ultimately likely to be secured, and who are in need of, and temperamentally fitted for technical education, cases of glandular tuberculosis without sinuses or of tuberculous disease of bones and joints no longer requiring active orthopædic treatment, will also be eligible for admission. This experimental scheme, which is believed to be the first of its kind in this country, has been passed by an Order of the Charity Commission, provided that preference is given to the dependents of ex-service men. The cost of maintenance will be fifty shillings per week, inclusive, and applications for admission should be sent as soon as possible to the Medical Superintendent, Burrow Hill Colony, Frimley, Surrey, from whom an interesting brochure, giving full details of the arrangements, may be obtained.

The Rôle of Out-Patient Clinics in Psychiatry.

By J. J. O'REILLY, M.B., B.Ch., Assistant Medical Officer, Park Prewett Mental Hospital, Basingstoke, Hants.

The establishment of clinics of the type dealt with in this paper by Dr. O'Reilly, which was read at a meeting of the Southern Branch, is strongly recommended in many quarters as part of the preventive procedure to be adopted in relation to mental disorders. Its appearance, therefore, along with the papers read at the symposium on Mental Hygiene may be taken as apropos.

I HAVE chosen this subject for two reasons: first, because it is an aspect of psychiatry which is allied to that branch of medicine with which you are more particularly concerned, namely, prevention; secondly, because I hope it may be the means of arousing some interest and creating a demand for the establishment of an out-patient clinic in Hampshire.

I cannot, of course, claim that the preventive aspect of psychiatry is in such a robust condition as it is in the case of general medicine: our knowledge of the causative factors in mental disease is still too nebulous to allow of any definite steps towards prevention. At the same time, there is a great deal that can be done by directing the lives and activities of those children whom we know to be disposed towards mental disease, either by reason of their family history or by their peculiar reactions during early childhood and the critical period of adolescence.

When we come to the question of early treatment we are on surer ground, and here undoubtedly there is a wide field for action, and for successful action, if it is carried out soon enough. Early treatment has been very much neglected in the past and this mainly for two reasons. The first of these results from the close association of mental disease with the law. Mental disease differs from all other forms of ill-health in that it may deprive the individual of his ability to maintain a normal contact with his environment, and the treatment of his condition may involve a forcible restriction of his liberty. For this reason the law regards mental disease purely from the point of view of protection of the liberty of the subject. Its enactments on the subject of insanity are based purely on the question of urgency of behaviour and takes no account whatever of the urgency of treatment. So long as a patient's behaviour is not injurious to himself or to the public he cannot be certified and, therefore, as things stand at present, he cannot be treated.

Further than this the certification of a patient and his admission to hospital is so bound up with legal formalities, and is associated in the public mind with such a definite stigma that the patient and his relatives avoid this step until the last possible moment and thus deprive the patient of treatment at the time when it can do most good.

There is, of course, provision for the admission of a patient to certain types of mental hospitals without certification, and to that extent early treatment is obtainable, but this procedure is not available for the rate-aided class of patients and it remains true that for these patients treatment can only be obtained by certification.

As an example of the difficulty to which this position gives rise, one may instance G.P.I. I am not prepared to say that malarial inoculation will cure G.P.I., but there is no doubt that since the introduction of this form of treatment there has been a striking improvement in the discharge-rate of these cases. Prior to the introduction of this treatment, G.P.I. was regarded as a fatal disease; now many of the patients recover from it sufficiently to return to their occupations and in larger numbers than is accounted for by simple remission. Probably the recovery rate would be much higher if these patients could be treated at an earlier stage of their malady, but even if the disease is diagnosed at its earliest stage, the patient is unable to obtain treatment. At the present time it can only be obtained in a mental hospital, so far at least as the provinces are concerned, and that means certification. In effect we have to say to the patient: "Go away and get much worse and then we can do something for you." Out-patient treatment, of course, will not rectify this particular trouble. I merely put it forward as an instance of the disabilities under which we are labouring at present.

A further hindrance to the early treatment of mental disease has been the fatalistic outlook consequent on the doctrines of degeneracy and eventual dementia which for a long time held the field in psychiatry. Mental disease was regarded as having an underlying anatomical lesion in the brain and the logical outcome of this theory was therapeutic abstention. The prognosis for the general run of mental patients has received very little attention in the past, and in this connection an article by Bond of Pennsylvania is interesting. Beginning in 1914, the careers of 1,054 consecutive patients admitted to the mental department of Pennsylvania Hospital were studied for a period of 5–10 years. The majority of the patients were suffering from the more severe types of mental disease, only a small proportion being classed as psycho-neurotics; of these consecutive admissions, 30 were lost; of the 1,024 patients that could be followed over five years, 26·7 per cent. recovered and remained well.

Everything in psychiatry points to-day to the prospect of increasing the recovery percentage by getting at mental disease in an early stage. If by getting them late, cases may be expected to show a full return to health to the extent of 25 per cent., and amelioration in 20 per cent. more, we are justified in hoping to improve this percentage by early treatment.

Incidentally, all this takes no account of the large number of patients who never reach the certifiable stage or who are not regarded as mentally ill—the neurotics, the psycho-pathic inferiors, people who are a burden to themselves and a nuisance to their friends and, incidentally, to their doctors who have not and cannot be expected to have the time or knowledge to treat them.

This last group of cases is the one in which early treatment is of the utmost importance and of the greatest benefit. It includes those cases who, while they retain considerable insight into their condition, are suffering from some form of emotional conflict, which they are unable of themselves to solve. If properly treated at this stage they can be restored fully to mental health; left to themselves and compelled to work out their own salvation, they end up by being certified insane or by committing suicide. At the very least they form a burden on the community in some form or other on account of their impaired efficiency.

It was in an attempt to deal with this problem that out-patient clinics were first instituted. At the present time there are some eighteen to twenty of these clinics in the country and, with a few exceptions confined to London, they have been established by the local mental hospitals; but although established by the mental hospitals it is important for their successful functioning that the clinics should be entirely separate from such institutions.

As I have already said, many of the patients who derive most benefit from this form of treatment retain considerable insight; their great fear is that they may become insane, and the last thing they wish is to come into contact with a mental hospital or anything connected with it; the general body of the public regard a mental hospital as concerned purely with detention—a place where the entrance is much more easily negotiated than the exit.

It is important, therefore, that the clinic should be attached to a general hospital. The general hospital is traditionally associated with out-patient treatment, and the patient sees no objection to attending there for advice, especially when he waits in a hall or waiting-room where there is no embarrassing attention directed to the nature of his malady. In this connection it is important that the clinic should have a neutral title with nothing savouring of "mental" about it. Some people have carried this to the extreme of ingenuity; for example, the clinic held at the Royal Infirmary, Edinburgh, by Morningside Mental Hospital, is known as the T.T. clinic.

Incidentally, the general hospital is usually much more accessible, both for the patients and also for any medical men who are interested. A further advantage from the point of view of treatment is the ease of access to other departments of the hospital. Many of the cases will require specialised investigation and treatment, and this can readily be obtained without the duplication of expensive apparatus. In addition, the administrator of the clinic is brought into closer touch with his colleagues in other branches of medicine, to their mutual benefit. He is also, through the medium of the patient and his friends, brought into closer contact with the general public; this in time will help to dissipate the misunderstanding and prejudice which exist at present in connection with mental hospitals.

Personnel of clinic.—This consists of the

medical staff, a social worker and one or more nurses.

The medical staff (their number depending on the size of the clinic) are, as a rule, recruited from the senior officers of the local mental hospitals, and preferably one of these should be elected to the honorary staff of the hospital where the clinic is held.

Next to the medical staff the most important person is the social worker, who visits the patients in their homes, obtains a detailed history of the cases and observes the nature of their environment. We depend very largely on the social worker for the success of our treatment in many cases: it may be that there is some factor in the environment which retards the patient's return to health; the social worker is in a position to bring about the necessary alteration in the environment or even to arrange for the patient's removal to more suitable surroundings. The other special departments of the hospital will also be associated with the work of the clinic though they may not, of course, see every case.

Scope and routine of clinic.—The first essential is a thorough physical examination of the patient, paying special attention to the question of any chronic foci of infection. These and other physical conditions which appear to have a bearing on the patient's malady must then be dealt with by the appropriate department before any further treatment can be undertaken.

In any mental disorder there are a large number of inter-related factors which produce and perpetuate the condition. There is no one cause of mental disease but some predominate, and one large factor in the production of mental disorder, mild or severe, is chronic infection; there may be emotional conflicts of various kinds associated, but the eradication of the chronic foci of infection is essential before any attempts are made to deal with the pyscho-genic factors.

A difficulty arises here in the lack of beds in association with an out-patient clinic. It is one that cannot easily be remedied at present for legal reasons, as general hospitals are not permitted to receive for gain any certifiable person. However, there does not seem to be any objection to one of the consulting members of the staff admitting the patient to one of his beds for treatment for his physical condition. If, as is advisable, the director of the clinic is on the honorary staff of the hospital he is enabled to keep in touch with his patient during this period.

The next step is to obtain a minute and exhaustive life history of the patient and an enquiry into the mental and physical condition of his immediate forebears. This history, coupled with the social worker's report, will give a fairly comprehensive view of the patient's reaction to his environment and the nature of his difficulties.

It then becomes necessary to go over the whole ground with the patient, pointing out the significance of symptoms which have not previously been apparent to him, showing him where his adjustments have been faulty and, in general, carrying out a process of re-education.

In all treatment of this description there is a strong element of suggestion. In some cases, however, it may be necessary to administer it in a more concentrated form, as it were, either in the form of waking suggestion or under hypnosis. The latter method is also useful when the patient is unable or unwilling to divulge his troubles.

On account of the time available, as well as for other reasons, it is not as a rule possible to employ psycho-analysis.

The foregoing may seem a comparatively simple procedure; as a matter of fact it demands a considerable expenditure of time and energy. It is usually necessary to devote at least an hour to each new case, so that on an average one cannot deal with more than five cases in an afternoon.

The cases seen at an out-patient clinic fall roughly into four groups:—

1. Neuroses and psychoses.
2. Mentally defective, backward and difficult children.
3. Delinquents—juvenile and adults.
4. Patients either "discharged" or "on trial" from the mental hospital.

This last group illustrates an extremely useful feature of the clinic. It enables us to keep in touch with cases who have left the hospital and who are either on trial or feel the need of guidance in difficulties. Many patients have testified to the confidence it has given them to know that they can resort to the clinic for advice when they feel threatened with a return of their symptoms.

Cost of establishment and maintenance of clinic.—It is rather difficult to estimate this exactly; the procedure varies in different districts. In some areas the clinic is entirely supported by the committee of the mental hospital; in others by the general hospital.

At the Dorchester clinic, of which I have had most experience, the various boards of guardians contributed £5 per annum towards the cost of upkeep.

The maximum charge to each patient was 3s. 6d. per attendance or 10s. for three consecutive attendances, but each patient was merely asked to pay what he could afford, and many were treated free. This is a matter which would be dealt with by the social worker.

The clinic was held at the Dorset County Hospital in Dorchester, the hospital receiving £50 per annum for accommodation and half of the fees received, the latter to cover the cost of dispensing. All ordinary drugs were dispensed by the county hospital, any special drugs, such as luminal, being supplied by the mental hospital.

The average cost of upkeep of the clinic, taken over four years, was £60 per annum. The income varied between £75 and £105 per annum.

Unfortunately, I have only a detailed report for the first year of the clinic. In that year 52 new cases attended, with a total of 246 attendances; the majority of these were cases of anxiety and confusional states. One was a man sent by the justices for advice and was reported on as not insane; his subsequent fate is not recorded.

Of the remaining 51 cases, 10 recovered, 12 were relieved, 17 were not improved and 12 remained under treatment at the end of the year.

Of the 17 not improved cases, 7 were afterwards certified and admitted to the mental hospital; 3 of these were subsequently discharged recovered.

In at least six cases, treatment at the clinic saved the patient from certification and admission to the mental hospital.

From a purely economic point of view, it is worth mentioning that the average weekly cost of hospital maintenance is £1 per head, so that in these six cases the clinic more than justified its existence as a saving to the ratepayers.

There is a very flourishing clinic at the Radcliffe Infirmary, Oxford, conducted by Dr. Good, Superintendent of Littlemore Mental Hospital. This clinic was started in 1918, and after 10 years' experience Dr. Good is of opinion that it is successful not only in assisting people in the milder forms of mental disorder but also in influencing the decrease of numbers in the mental hospital.

In 1918 the number of cases attending the clinic was 53, with a total of 165 attendances. In 1927 the number attending was 179 (of these 111 were new cases) with a total of 1,085 attendances.

In connection with this clinic there is a very interesting point. The Board of Control report shows in the number of patients remaining in county and borough mental hospitals in England and Wales, an increase of 4,854 between 1911 and 1927. Littlemore during this period shows a decrease of 138 patients remaining chargeable to the county and borough, and shows a decrease of 104 in admissions. From 1911-1915 the admissions were 668, and from 1925-1927 admissions were 564. These two periods are taken because the hospital was vacated during the war and used as a war hospital.

The decrease cannot be accounted for by a fall in population, as the 1921 census showed an increase over the 1911 census, and the estimated population a further increase since 1921; nor is it accounted for by an increase in the death-rate of the hospital. There seems reasonable ground for believing that there is some connection between the early treatment at the clinic and this fall in the admission rate and in the numbers remaining chargeable, especially as it is not general throughout England and Wales for the same period.

The experience of Dr. Good and other authorities leads to the belief that in the future mental disorder may be greatly lessened if parents will seek advice and treatment for their children while they are still young, as nervous disturbances in children are common and often due to environmental difficulties, causing a failure in adjustment.

In these early stages advice and treatment will often prevent a serious breakdown in later life.

From the foregoing it will be seen that the successful functioning of an out-patient clinic is dependent on close co-operation between the mental hospital, the general hospital and the county authorities.

Under the present Lunacy Act and Poor Law Acts, it is a matter of some difficulty to obtain the necessary funds for the upkeep of these clinics, and it is to be hoped that under the new Local Government Act this question will receive sympathetic attention.

THE salary of Dr. D. C. Kirkhope, Medical Officer of Health for Tottenham, has been stabilised at £1,630 per annum.

Ut Ita Dicam.

(Being Comments, apropos and otherwise, on Sundry Matters.)

The Carbohydrate Content of Foods.

The report recently issued by the Medical Research Council on "The Carbohydrate Content of Foods" by Drs. McCance and Lawrence of King's College Hospital,* appears to me to be one of very real importance, adding, as it does most usefully, to the comparatively small amount of information that exists as to the values of carbohydrates in common foodstuffs. I do not propose to discuss the report in detail but content myself with recommending it as one of the publications of the Council deserving of the attention of health officers and with drawing particular attention to the part which has reference to whole-meal bread. This last I do because it contains just that definite and authoritative statement on the subject that will provide the clinching arguments sometimes necessary in support of the "pooh-pooh" with which so many of us, rightly as we are convinced, meet the claims made on behalf of the whole-meal article and the crimes alleged against the white. In the section in question Dr. McCance, who contributes it, discusses the two main claims that are put forward in support of the whole-meal, *viz.*, that it contains vitamin B, and that it relieves constipation and assists in the cultivation of the slim figure, pointing out, however, that in spite of the risks of beri-beri and embonpoint that attend the use of white bread, and in spite of what certain advocates, scientific and other, have to say, the public are still eating white bread. The vitamin B content of whole-meal bread is admitted, but that the chronic indigestion and constipation of civilised populations has its origin in a deficiency of this vitamin has not yet been proved.

White Bread and Brown.

Actually there is no proof that white bread is the cause of the prevalent constipation, and none that the mere addition of vitamin B or of the vitamins of whole-meal bread to the diet in any case has led to the cure of the condition. That the cell-membranes of the bran in whole-meal bread have a laxative action, like the existence of the vitamin B, is admitted but its value in this respect is no greater or less than that of any other laxative material. This being so there is no reason why those who prefer to eat white bread and use other laxatives should not do so. Certainly if the whole-meal bread is not attractive to an individual he should not eat it merely to obtain the laxative effect. Particularly it should not be forced upon children because of the belief in this, since they are very intolerant of high cellulose diets and for some, brown bread is far too irritating. This is a point for parents of the "you must take it, it will do you good" brand to bear in mind, many of whom, while avoiding the article themselves "no matter how specious the advertisement," force their children to consume it. In this connection, as in connection with all dietetics generally, it is essential to remember, as the report puts it, that "appetite is such an important factor in all digestive considerations that no one who dislikes a food of improved value should be forced to eat it if it can be avoided." The words "of improved value" provide a saving, as the lawyers say, for such articles as rice pudding and fat. The last word on the subject of whole-meal bread in the report is another thing to be remembered: "One should, therefore, be cautious in advising whole-meal bread generally, and wait until careful, unbiassed experiments have been done on a sufficient number of men, women and children. Thus only can accurate conclusions be drawn."

The Salaries Agreement.

Among the many (forgive me) interesting features of this issue there is none, probably, more interesting than the copy of the agreement with regard to salaries of whole-time medical officers in the public health services, arrived at after a series of conferences between representatives of the British Medical Association and the Society on the one side and of local authorities on the other. Anyone who endured the misery of the conferences; who suffered the agony of the discussions in the basement of the Ministry of Health, and of the meetings in the conference room where the air appeared to be frozen and nobody appeared to be capable of finding words containing sufficient of the warmth of understanding and kindliness to meet it, must pray that when the agreement is received it will be accepted and the terms considered satisfactory. Over days and hours that appeared to be interminable they had to be fought for and were granted without anyone on "the other side of the table" evincing any sign whatever that any service of the slightest value was to be given in return for the payments to be made. This affectation of a belief on the part of local authorities that those who work for the community under them as representatives of that community give nothing for what they get and are only out to get all they can for the nothing that they give is quite common. It is likely to be more marked when representatives of different local authorities get together and talk of municipal officers and employees as a body and more or less in the abstract. Under the circumstances of a conference such as those at which the agreement was reached it is certain to be well marked indeed. Possibly it was because of this that there was so completely absent any sensation of friendliness in the atmosphere; so much the feeling that it was two groups of hard-faced men who had met for the purpose of outwitting one another.

* Special Report Series, No. 135. H.M. Stationery Office, 1929. Price, 2s. net.

Health Officers and Double Firsts.

Curiously, throughout, there appeared to be an entire losing sight of the fact that it was in reality the health of the people that was being discussed. Almost at the beginning the teaching profession was dragged in and throughout it seemed impossible to destroy the attempts made to class members of the school medical service particularly with individuals on the teaching staff. Headmasters with double firsts, someone would cry, could only hope to attain to such and such a salary, so much lower than that asked for on behalf of medical officers. The tone of voice in which the words "double first" were uttered was so awe-inspiring that no one dared explain just what double first meant; that it provided merely a subject for conversation in which the holder played the leading part, and that it implied nothing even amongst the teaching staffs of local education authorities where alone it might be expected to count since there, in general, university degrees were rareties. That it might be the case that a double first was extremely lucky to secure a position on an education authority's school staff, the number of openings for persons having nothing else than this being extremely limited, was not pointed out either. Some attempt was made to show that in the case of the individual entering the health service there was nothing of a *pis aller* about it. There were lines in plenty that might be taken, and in general the choice of the service line meant not only mere abandonment of all the others but special preparation was required involving additional work and expense in order to fit the individual to follow the chosen line. That there was success in inducing the other side fully to grasp this truth is doubtful, having regard to the haggling that was necessary in order to secure the terms finally agreed upon. These the representatives of the local authorities present at the conferences quite obviously regarded as extremely generous. Generous or not, however, they were the best that could be obtained and they had to be fought. For a number of reasons it may be hoped that they will be found acceptable all round and that no further conferences will be necessary. Against them, of course, the Advisory Committee should provide an additional safeguard. If it does it may be counted one of the most important outcomes of the meetings.

Sanitary Practice in Swahili.

The most industrious person in the health service must be Dr. R. R. Scott, Medical Officer of Health of Dar-es-Salaam. He has prepared a glossary of scientific terms used in sanitary practice by Swahili-speaking Africans which, though it does not extend to many more pages than the ordinary annual report of a medical officer of health, must have given a vast amount of labour and deserves to be called a monumental work. To my own personal knowledge it has occupied Dr. Scott for several years and must have involved him in a colossal amount of research and endless discussions. Of the value of the glossary, now that it is completed, there will probably be no doubt in the mind of anyone who has charge of work in Swahili-speaking districts and who has the task of training staffs of native inspectors whose language is Swahili. To Dr. Scott such officers must be full of gratitude. We here, whose work lies in areas where English, or what passes for English, is spoken and where, when we desire to talk to an inspector about a "sample," say "sample" and not "sehemu ndogo ya kitu, kuonyesha mfano wa jumla yake," can only offer our most intense admiration of the work he has done, heartiest congratulations on having done it, and sincerest wishes that it may receive the recognition it deserves.

P.

The Milk and Dairies Order, 1926.

By D. S. RABAGLIATI, O.B.E., B.Sc., F.R.C.V.S., D.V.S.M., Chief Veterinary Officer, West Riding County Council.

Major Rabagliati requires no introduction to readers of PUBLIC HEALTH, *and this paper of his on the Milk and Dairies Order is no less practical and helpful than previous communications of his have been. It was originally read at a meeting of the Yorkshire Branch on February 22nd,* 1929.

WHEN the Milk and Dairies Order was first published it brought forth much abuse; probably no public health measure of recent years has produced more discussion and criticism in certain quarters than this. The farmers appeared to look upon it as a measure which would take away much of their freedom and more of their profits, and certain sanitary authorities received it as a bomb-shell, in that amongst other things it rendered null and void with one stroke of the pen, the carefully prepared, but perhaps less carefully carried out, bye-laws many had drawn up, and they suggested that the standard of milk production in their areas would certainly be lowered.

Strangely enough the standard of the district where I heard this view most strongly expressed was by no means anywhere near to the modest requirements of the Order, and even to-day has far from arrived at that ideal. I think that time has shown that neither view was correct, and in the West Riding I can confidently assert that the standard of milk production has not gone down in any district since its introduction, but that there has been a distinct upward trend. I think I am right in saying that where most improvements have been carried out the farmers appear to be more cheerful and prosperous than in the more retrograde districts where least has been done.

I am not here to defend the Order, which has probably more defects than virtues, nor do I intend to criticise it more than I can help, for it is now an established fact for better or for worse, and must be given a fair trial. My aim is rather to call attention to certain points met with in every-day practice in the hope of arriving at a better understanding as to what should be done. There is no doubt but that up to now the Order has done good—in some districts great good—and was, I take it, drawn up with the view of getting some uniformity of administration. However, with 150 separate local authorities responsible for carrying it out in the West Riding alone—each in its own way—this uniformity is not yet, and it is doubtful to my mind if it will ever be, achieved. Probably its most valuable asset up to now has been its publicity; it has brought the idea of clean, wholesome milk more to the public mind, and above all things it has awakened the farmer a little to a sense of his responsibilities.

Administration is easiest in the county boroughs, for control is vested in one authority only, but in the boroughs, urban and rural areas the control is dual. Dual control in principle is not satisfactory, but I have found that when once personal contact has been brought about between members of the county veterinary staff, who are deputed to carry out Part IV of the Order, and the officers of the local sanitary authorities, no insuperable difficulties have been met with; in fact, the most pleasant spirit of co-operation has in the great majority of cases existed.

I am now going to take the risk of being told that I am trespassing on ground that does not belong to me by discussing the general considerations of the Order and not confining myself to Part IV, because I do not see how the two can be separated. Moreover, I have had the unique opportunity of having visited so many areas and being able to compare the work of one with that of another. The best way is, I think, for me to run through the Articles of the Order in their sequence, commenting on those to which I would especially draw your attention.

Article 1 lays down the date from which the Order was to become operative and qualifies by a time limit the dates on which certain articles can be enforced. It is pleasing to see that some authorities have induced farmers to carry out certain improvements long before their legal time limit has expired; in fact, I think that most has been achieved in districts where fewest official notices have been served.

Article 2 deals with definitions and *Article* 3 lays down that Part IV of the Order, which concerns the purely veterinary side and pertains to the health of the cattle, should be carried out by the county councils in all districts other than in county boroughs.

Article 4 enjoins all cow-keepers to make the provisions of the Order known to their employees. This appears to be for all intents and purposes ignored, but some authorities have had printed placards distributed to farmers and hung up in every cowshed. This is an excellent idea and should be copied by all, for no one working about the farm can then say that he or she has not had a chance of seeing the main provisions of the Order.

Article 5 merely revokes certain previously existing orders and regulations.

Article 6 deals with registration of persons and premises. It is to be regretted that power is not given to refuse registration to a person or his premises if one or both are totally unsatisfactory, for as the Order stands no person and no premises can be refused. Para. 4 reads: "The sanitary authority shall immediately, after the commencement of this Order, inform the county council of the particulars of registration then in force of *cow-keepers* and their *premises*, and they shall as soon as may be inform the county council of all alterations made in the register." It has been a surprise to see how many local authorities delayed sending in their lists—in fact, many did not do so for some months and some delayed for more than a year, and then only rendered their returns after they had been written to several times. In other cases lists have been incomplete; for instance, one district stated that they had 44 registered premises, and then when inspections were made 113 farms selling milk or butter were visited. In other cases retailers who merely have shops had their names mixed up indiscriminately with cow-keepers, and until visits had been paid it was impossible to say which were which. I merely mention these facts to show the difficulties that have been encountered in making arrangements for the systematic inspection of herds; for without more or less accurate figures to go on it is most difficult to make satisfactory arrangements. In a few districts I feel sure that there are still many producers who have so far escaped registration. I take it that if producers do not come forward and ask for registration it is the duty of the sanitary authority to find out who actually is selling milk and take such measures as they think fit to ensure that the Article is enforced. I admit that in large districts it may be difficult to hear of everyone, but those regularly selling milk or butter should not be omitted, and perhaps if an example were made of some of the delinquents it would have a salutary effect.

Article 7 reads: "Before commencing to use as a cowshed, or as a place for the keeping of milk, a building not previously used for that purpose, the occupier shall give one month's notice in writing to the sanitary authority of his intention so to do." It seems to be plain sailing in the case of a new building or in one where milking cows were never kept, but supposing a farm has been used for keeping cows, but not for some years and was not so used when the Milk and Dairies Order came into force, it would, of course, not be registered. Has the farmer in such a case to give a month's notice before he again keeps cows therein?

Part IV of the Order comprises Articles 8, 9, 10 and 11, and relates to the veterinary inspection of cattle. Speaking generally, I have found that most if not all medical officers favour this provision, although perhaps a few members of public health committees fail to appreciate its benefits.

Article 8 reads: "Every county council and county borough council shall cause to be made such inspections of cattle as may be necessary and proper for the purposes of the Act and of this Order." What the Ministry considers necessary it does not vouchsafe to indicate, but, to my mind most unfortunately, it issued a circular letter, No. 757, dated January 20th, 1927, in which it says: "The Minister's view is that the minimum which could be regarded as satisfying the requirements of Article 8 of the Order would be such inspections as are necessary for the purposes of Sections 3 and 4 of the Act, and for investigating cases where some definite cause of suspicion exists, such as the discovery of tubercle bacilli in a sample of milk. It is for each county council to decide, according to the experience available in their area, what amount of further inspection is desirable. It was not considered practicable, in view of the varying circumstances of different counties, to require in the Order that county councils should undertake the regular periodic inspection of all dairy cattle. Inspection conducted on purely routine lines may not in all cases be the best means of attaining the objects of the Act. The Minister is, however, aware

that some local authorities have in the past carried out periodical inspections and have been satisfied that the results were beneficial. Where these conditions exist it is suggested that the county council should consider the advisability of continuing the established practice." Why veterinary inspection of cattle may not in some cases be the best means of carrying out Article 8, and what circumstances may arise which may render it undesirable, I fail to see. It would have been much better to make veterinary inspection compulsory, as it is in Scotland, and not leave the decision to the various county authorities. Although the Minister recommends that the county should continue inspections where these were previously in force, they are not actually demanded. To carry out only such inspections and leave the rest would be irrational, being unfair to the farmers where it was done and to the public where it was not done. At present, as far as I am aware, only seven counties in the whole of England and Wales are carrying out regular routine veterinary inspection of dairy cows. As showing the benefits which accrue, I have just prepared a report for the West Riding Milk Committee for a period of nearly a year. In that time 767 cows were slaughtered under the provisions of the Tuberculosis Order, 1925, 218 of which had tuberculosis of the udder. Routine inspection was solely responsible for bringing 185 of these to light, of which 119 had lesions in the udder.

Article 9 orders that if a veterinary officer gives notice to a farmer of his intention to inspect his cattle, no cow must be removed from the herd until such inspection has been made or until forty-eight hours have elapsed. If carried out to the letter it would mean considerable hardship to the farmer, for he might well have arranged to sell some of his cattle and by holding them up the market might be missed. As a matter of fact, it is much better to drop into a farm without previous notice, otherwise the real state of affairs cannot be ascertained so well. The only occasion where I would suggest giving notice is in the summer when the cows are usually out if a visit cannot be arranged at milking time, and in this case it is only fair to let the farmer know as nearly as possible the time when one expects to arrive so as to avoid unnecessary inconvenience. Still, the provison gives power to hold up the cows, if necessary, but the less inconvenience one gives the farmers the better the relationship between the inspector and the inspected, and the more the chance of getting improvements carried out.

Article 10 allows the veterinary surgeon to take what samples of milk he deems necessary, and calls for no special comment.

Article 11 lays down the diseases for which the veterinary surgeon can prohibit the use of the milk from any cow. Five days only are allowed as the maximum for which the milk can be stopped, but the veterinary officer can serve a second or subsequent similar notice if he likes. The period is far too short, for if milk is really dangerous it is most unlikely that it will again be fit for use in so short a time. Although in theory the veterinary officer can go back again and re-examine the cow, in practice in a large district it is almost impossible to do so without neglecting some other and perhaps more important work. I have had a form drawn up under this article which can be served on the owner of a cow coming under the provisions, and a copy given to the local medical officer or sanitary inspector. The diseases mentioned here must be added to the list named in Section 5 and in the Second Schedule of the Act. The conditions included are :—(1) Any cow giving tuberculous milk or (2) suffering from emaciation due to tuberculosis or (3) from tuberculosis of the udder. All the above conditions can be dealt with under the Tuberculosis Order, 1925, and, until diagnosis is definitely established, the milk from any such cow can be stopped under Article 10 of the above-named Order. In this case restrictions may be put on it for a period not exceeding six weeks, which gives ample time to carry out a biological test of the milk if deemed necessary. (4) Acute inflammation of the udder and (5) acute mastitis are separately mentioned, but I must confess that I cannot see the necessity of differentiating between them or why the former should be placed in Section 5 and the latter in the schedule. (6) Actinomycosis of the udder. This disease, if present, would in all probability give rise to an induration of one or more quarters, but how accurate diagnosis is to be arrived at I do not know, for it is extremely improbable that the causal organism (actinomyces bovis) could be cultivated from the milk. The presence of acid-fast filaments, especially if branching, may be significant. (7) Anthrax. Fortunately, a cow suffering from anthrax gives next to no milk and the causal organisms do not reach the milk until the animal is at the point of death.

The Anthrax Order, 1928, also prohibits the use of milk from a cow which is even suspected of suffering from this disease, but I do not think there is any case on record where human beings have contracted anthrax from cows' milk. (8) Suppuration of the udder. It is difficult to know just what is meant here, for even a small boil on the skin of the udder would theoretically be included. I take it that what really is meant is where there has been a suppurative mastitis and a quarter has burst. It is doubtful if, when only a little purulent fluid can be drawn out of a teat from a practically functionless quarter, the whole milk from the cow should be stopped, but no doubt a good deal of individual discretion is required as in many other things. (9) Any comatose condition. Presumably milk fever is the disease contemplated, but it is extremely unlikely that anyone would use the milk of a cow in such a condition. (10) Any septic condition of the uterus. This is not uncommon with a retained placenta, and there is no doubt that milk from a cow in such a state should be totally excluded from use. (11) Any infection of the udder or teats likely to convey disease. Here a good deal of discretion is also necessary, and if the veterinary officer is in any doubt as to whether he should stop the use of milk from cows suffering from any specified condition, especially if it is present in several cows on one farm, I think he should consult with the medical officer of health, describe the condition in the cows to him, give his opinion as to whether he thinks it dangerous or not, and leave the final decision to the medical officer of health. In any case, such a consultation is all for the good.

Part IV of this Order, as previously mentioned, is carried out by the county council, if it is carried out at all. In the West Riding, as you are probably aware, we have now a whole-time staff who are responsible for the performance of these duties. There is nothing laid down suggesting that the sanitary authority should be informed that an inspection is to be carried out, nor is any report on such inspection obligatory. The custom I have adopted here, before we visit any specified area, is to get into touch with the medical officer of health if possible, but owing to the distances to be travelled and the difficulties of meeting him in many cases, especially if he happens to be a busy practitioner, it has often only been possible to see the sanitary inspectors. We have always asked the latter to accompany us on our rounds, as only by working together can the full benefit of our visits be achieved, and, moreover, it is only fair when working in the area of another authority to inform the responsible officials and take them fully into one's confidence. Although it is not always easy to fit in our work to suit others, it is usually well worth some sacrifice, even sometimes some loss of time. The only areas where this has not been possible is in some of the larger rural ones where the sanitary inspector cannot always give up sufficient of his time. I have always felt that, while working in any given district, we ought to consider ourselves the local officials of that area for the time being. Having finished the district I have always sent in a short report to the medical officer of health if I happen to know him, or to the clerk of the council concerned, at the same time furnishing a copy to the sanitary inspector. Whether this is the correct procedure or not I do not know, or whether I should in all cases address my report to the medical officer of health; as I have recently been informed I ought to do, I put to you and shall be glad to hear your views. In the case of sending the report to the medical officer of health the point would then arise as to whether a copy should also be sent to the sanitary inspector who is a subordinate official in the medical officer's department. In actual practice, so much of the work connected with the Milk and Dairies Order is left to the sanitary inspector that I do not want to do anything to alienate his sympathy and goodwill by ignoring him. This is a rather delicate point in etiquette on which I would be grateful to have your views. Another important point is as to whether I ought to mention any defects we come across or make suggestions as to the better working of the Order in my reports, such as insufficient ventilation, insufficient lighting, filthy cows, lack of suitable dairy accommodation and so on. Personally, I feel that our duties are not completed unless we do so, but it must be understood that any such remarks are not made in any spirit of carping criticism or ill-will, but are only intended to further the ideal which we all ought to have in view, namely, the production of a better and of a cleaner milk supply.

Article 12 relates to lighting and ventilation. There has been a good deal done in this district in the way of putting in more windows and improving ventilation, but there still remain probably hundreds of cow-sheds with next to no light or even none at all. I fully appreciate

the difficulties met with in some districts and the almost impossibility of altering many existing sheds, but the proof of the pudding is in the eating thereof, and when one sees what has been done in some very average districts merely because the medical officer of health and his sanitary inspector are keen and active and no doubt carry their councils with them, one deplores the more the *laisser faire* attitude and inertia of others. The fact that the landlord's responsibilities are not mentioned in the Order greatly retards progress, and in the case of owners of only a small number of cows it is most difficult to insist on alterations which are costly. However, where the landlords are reasonable and willing to help—and really many are—local officials have met landlords or their agents on the farms, often along with the county veterinary officer in consultation, and arrangements for carrying out improvements on a mutual basis approved of by the sanitary authority have been come to between proprietor and tenant. May I say in this connection that the mere serving of a general notice on a farmer regarding structural alterations is of little use? I am sure it is necessary for the official concerned to meet the farmer in every case and point out what is required, indicating the best means of dealing with each individual building. I look upon cleanliness as one of the most important things to be aimed at, but without light and ventilation you cannot have cleanliness, so the introduction of suitable windows and means of ventilation really comes first. The latter part referring to artificial light is too often ignored, and a candle end is frequently the only artificial light available. In some districts many sheds are lighted with electricity, although we cannot have this in every district as yet, but failing this suitable lamps ought to be insisted on. Only in some districts do the officials seem to take much notice of artificial lighting, but perhaps it is considered better to go slowly and insist on plenty of daylight first. Still, lamps do not cost much and can easily be obtained by the average farmer, and when one considers how many milkings take place when there is no daylight they must appear the more necessary.

Article 13, relating to the water supply, is easy to carry out in some districts, but on farms where all water has to be led or pumped up, it is difficult to see how sufficient can be obtained for the proper cleansing of the sheds.

Article 14 refers to the handling of milk. In the main this is fairly well carried out with the exception that milk is often left too long in open cans in the cowshed during milking. On so many farms milk is sent away soon after milking that it is never kept at all. On others, however, where it is despatched once daily it is a common practice to leave the milk churns in the water troughs outside in the yard all night. When the cans are properly closed but little harm can result; in fact, it is better than leaving them in unsuitable buildings, although a proper milk room is certainly desirable. Under sub-section 3 it is stated that "no foul or noxious matter or no soiled bed or body clothing shall be conveyed through any part of a building used for the keeping or storage of milk." One of the commonest things is to see the family mangle kept in the house where the cans are stored or even where milk is kept, especially if there is a copper for the production of hot water. This generally means that the clothes are washed where the cans are cleansed, and I have often seen the washing being carried on close to the cooler where the milk is cooled. The danger of spreading infectious diseases must ever be present, but although the question may be looked upon as a purely medical one, I venture to suggest that more notice should be taken of this objectionable habit.

Article 15, laying down that all persons occupied in milking should keep their body clothing and persons in a cleanly condition, is too frequently ignored, and the provision of overalls is a thing but rarely seen. They cannot, of course, be insisted on.

Article 16. Coolers are gradually being moved to more suitable positions, but still many remain in the cowshed or in the open air or in only partly covered sheds. Reference to the keeping of the appliances suggests that a room or shed for the storage of milking utensils should be insisted on. How often do we find that they are kept in the kitchens, in the open near the door or porch, exposed to dust and dirt, in places where coal is stored, or merely placed upside down on the palings of some dirty fence. Even if well cleaned after use, what is their condition when next milking times comes round? Many districts are insisting on suitable accommodation, but others appear to hold that it cannot be demanded. I must say that the provision of some suitable place, even a lean-to shed with a concrete floor well sloped, appears to me not to be too much to ask for.

Articles 17, 18 and 19 refer to infectious diseases occurring amongst employees, and do not concern my department. I have, however, sometimes informed the county medical officer if I receive information that any person is suffering from any condition liable to be injurious to the milk supply, and he has notified the authority concerned.

Article 20 prohibits the keeping of swine or poultry in any cowshed or milk-store and is usually attended to. It is strange that no mention is made of other animals, and I certainly think that horses ought not to be allowed alongside cows. In certain localities they are quite commonly kept together, while in others it is a thing never seen at all.

Article 21 deals with the cleaning of milking utensils. I think the vast majority of cans are fairly well washed even if not sterilised, but the difficulty of having sufficient boiling water is often great. Water may be boiling when washing commences, but if it is poured from can to can, what is the temperature likely to be when the last can is dealt with? The production of steam is the ideal, but I fear it is too early to insist on this, though, of course, it can be encouraged. Sub-section 3 reads: "Every such vessel, lid and appliance when not in use shall be stored in a clean place and shall be protected from dust and dirt." I think this in itself gives power enough to insist on a suitable place for storage.

Article 22 deals with the cleaning of cowsheds. This is a point shockingly neglected in many districts and is only a matter of general tidiness, for it costs practically no more to have a clean shed than a dirty one. It is perhaps one of the most difficult things to obtain, but perseverance, firmness and education will achieve it in time. A point I would mention is the whitewashing of roofs and ceilings. Many are, to my mind, better left without, for they are often so constructed that the whitewash only falls down and makes more dust. However, it is a matter for individual discretion, but I do not think it should be blindly insisted on. The removal of manure is only obligatory once a day—far too little, but there are not many farms now where it is not removed at least twice and frequently much oftener. The storage of manure is a difficult question, but the common method of piling it up at the very door, in central fold yards, or scattering it about all over the yards is most reprehensible. I think a firm stand should be made against the manure hole in the wall, where all the manure is thrown out against the building. This is becoming less common, but the practice is still far too prevalent. When one sees what some authorities have achieved it shows what can be done. The ideal system is to keep an old cart at the door and fill it daily and have all the manure removed to a reasonable distance. When this is done it is surprising to see the cleanliness of the premises.

Article 23, concerning milking methods, is one of the most important and also one of the most commonly neglected. (1) Insists on a good light by day and by night. (I have already spoken of this under "light.") (2) Enjoins that the cows should be cleaned before milking. The way it is observed differs very much in different districts. In some it is now rare to see a dirty cow, but in others the reverse applies. Where grooming is done it really does not take long and where it is insisted on, the farmer soon gets used to it and carries it out quite cheerfully. I have been pulled up at times if I mention in my reports that the cows are dirty, but I ask you, am I to ignore this however badly the cows are kept in this direction? In some districts the cows are so filthy that it is really almost impossible to palpate the udders, and our examinations must thus be less efficiently carried out, for it is not humanly possible to take the same pains under such filthy conditions as exist on some farms, as is usual with cleanly kept cows. I say with all due respect to the local officials that where the cows are habitually dirty the fault lies with those who have to administer the Order, either from carelessness or inability to cope with the number of farms in any one man's district. In fact this applies to many other provisions of the Order. It is, however, pleasing to note that cows are being kept much cleaner than they were, and subsequent inspections have shown great improvement in this direction on very many farms. It appears to me that one of the greatest difficulties in the administration of the Order is that there is such a wide difference in the number of registered premises in the various districts. One area may have ten or twenty farms or even less, while another has four or even five hundred and yet there is probably only one or at the most two officials in any one district deputed to carry out the duties imposed. If some arrangement could be arrived at for giving each inspector a more or less equal and reasonable number of farms, it would go a long way towards solving the problem of uniformity of administration. (4)

The cleanliness of milking stools to my mind is a very good criterion on which to judge the type of producer; for given clean stools, the rest of the premises is usually excellent. I have noticed a distinct improvement in this direction, too, since we began our regular series of visits. (5) and (6) deal with the removal of milk after milking, and prohibit the moving of dusty matter in the cowshed before milking. They are plain directions and need no comment.

Article 24 concerns the cooling of milk and I will not dilate on it further.

Article 25. This article, dealing with the floors of cowsheds, might well be given a special paper to itself. The subject is most controversial, for everyone has his own ideas on floors, especially on the best type of manure channel. On going round, the differences are very marked, and many new floors have been laid wrongly, in that measurements are not correct. I have not time to go into this at present except to say that I think the whole stall from the manger backwards should be of concrete, brick or other impervious material, for I do not approve of clay in the fore part of the stall. This practice is certainly getting less and less common, and floors are improving but, under the terms of the Order, notices could not be served dealing with floors until April 1928, and then 18 months' notice must be given, I think one can summarise and say that floors should be impervious, the foul water must run off, drains should be outside, but if the cows and floors are kept clean, the actual type of channel and floor is a secondary matter, although the more suitable it is the easier for the farmer to keep his cattle and premises as they should be.

The rest of the Order deals with the handling of the milk and as I have already kept you too long I will not discuss it now.

Milk in Markets.—The handling of milk in markets where milking cows are sold is often carried out under the most filthy conditions. Colostrum is mixed with other milk and all is drawn without any attention being given to cleanliness. A great deal if not all is sold for human consumption, chiefly going for butter and cream making. The supervision of this rests with the sanitary authority where the market is situated, and I think it behoves each authority to see that this milk is sold only to registered persons, and that a proper milk room is provided where it can be kept prior to its being sent off. I would specially bring this to your notice for I have had numerous reports from my staff concerning such abuses, but I do not see how it can be dealt with other than by the local officials.

The carrying out of this Order requires perseverance, sympathy, tact and firmness, and only by educating the producer by all means in one's power can the general system of milk production be improved. Lectures to farmers are carried out by some authorities and although it has been found that the response is often disappointing at first, I know some districts where they are well attended. The holding of clean milk competitions is done by others and is probably the very best means of interesting farmers, for when once a man has got into the habit of carrying out cleaner methods he rarely falls back again into the state from which he emerged.

THE estate of the late Dr. Livsey Tong, for many years Medical Officer of Health for the Leigh (Lancs.) Rural District, and a Fellow of the Society of Medical Officers of Health, has been valued for probate at £46,457, with net personalty £39,190.

THE Dental Board are prepared to supply illustrated coloured plaques for free distribution as prizes to elementary school children for successful essays on oral hygiene or for evidence that they have taken special care of their teeth. A limited number are available for presentation by school dentists, on the understanding that the consent of the education authority has been obtained to their distribution, and that school dentists will make themselves responsible for their use as special marks of distinction. It will be a condition of supply that distribution should be under careful control, and that the presentation of a plaque should be only made as a reward either for special care of the teeth or for intelligent compositions on the same subject. In any request for a supply, the Board should be informed as to the proposed methods and conditions under which the plaques will be distributed. Applications for plaques, and for any further information on the subject, should be made to the Secretary for Education, Dental Board of the United Kingdom, 44, Hallam Street, London, W.1.

Salaries of Whole-time Public Health Medical Officers.

A SERIES of conferences between representatives of the British Medical Association on the one part and of local authorities on the other has been held since the beginning of the year. On the panel of the Association there were included representatives of the Society of Medical Officers of Health, whilst the panel of the local authorities, in addition to those from county, county borough, urban and rural district, London county and metropolitan borough authorities, included also representatives of the associations of education committees and of mental hospitals.

Lord Askwith accepted the unanimous invitation of the parties to act as independent chairman.

In the end the subjoined recommendations were agreed for presentation to the representative body of the British Medical Association and to the associations of the various local authorities:—

AGREEMENT.

WHOLE-TIME MEDICAL OFFICERS IN PUBLIC HEALTH SERVICES—SALARIES.

Memorandum of Recommendations agreed to at Conferences held at the Ministry of Health on the 14th February, 6th March, 22nd April, 4th June and 24th June, 1929, at which representatives of the County Councils Association, the Association of Municipal Corporations, the Urban District Councils Association, the Rural District Councils Association, the London County Council, the Association of Education Committees, the Mental Hospitals Association, the Metropolitan Boroughs Standing Joint Committee and the British Medical Association were present.

I.—RESIDENT MEDICAL OFFICERS.

(1) These are officers employed in hospitals, sanatoria, or other institutions, without the responsibility for the work of other medical officers.

(2) The minimum commencing salary of an officer in this class shall be £350, rising by annual increments of £25 to £450 per annum, with emoluments which shall include board, lodging, laundry and attendance.

(3) All officers in this class receiving less than £350 per annum at present to be raised to that salary on the appointed day, and such salary shall be regarded as the commencing salary.

(4) All officers in this class who are on the appointed day receiving £350 or more, and who have had at least two years' service without increment, shall receive their first increment as from the appointed day.

(5) After the expiry of four and not later than five years after the date on which an officer in this class reaches his maximum in the scale, the employing local authority shall consider whether in his case the salary should be increased to an amount in advance of that maximum.

Note.—Where the appointing authority limits the appointment to a term not exceeding one year and not renewable, this salary shall not apply, nor shall it apply to officers without previous professional experience.

II.—MEDICAL OFFICERS EMPLOYED IN DEPARTMENTS.

(1) These are officers without responsibility for the work of other medical officers who should have had at least three years' experience in the practice of their profession subsequent to obtaining a registrable qualification.

(2) Medical officers comprised in the above defined class shall be remunerated on a scale of salary commencing at £500 per annum, and rising by annual increments of £25 to a maximum of £700.

(3) In any case in which an officer in this class is in receipt of a salary at a rate less than that which would have been payable had the scale been in force and applied to him during the whole period of his service in this class, the salary shall be increased to an amount according with the scale.

(4) On and after the appointed day, service in this class under a local authority (whether prior to or subsequent to that date) shall be reckoned in calculating the appropriate salary of an officer transferring to another authority to fill a post in the same class.

(5) After the expiry of four years and not later than five years after the date on which an officer in this class reaches his maximum in the scale, the employing local authority shall consider whether in his case the salary should be increased to an amount in advance of that maximum.

III.—SENIOR MEDICAL OFFICERS.

(1) These are medical officers, (not being medical officers of health) in charge of services or departments (for example: port sanitation, school medical service, tuberculosis, mental deficiency, maternity and child welfare, venereal disease, or any other similar service or department or combination thereof).

Note.—It is understood that in the case of the tuberculosis and venereal disease services the present practice in some county areas is to appoint not a senior medical officer with assistants under him, but a number of assistants of equal standing whose clinical work in the areas assigned to them is not subject to supervision by any chief officer and who act in a consultant capacity in relation to medical practitioners. Such officers must be regarded as Senior Medical Officers and paid as such.

(2) *Salaries*: Minimum commencing salary, £750 to £1,100 according to responsibility and scope of department, regard being had to the relation of the officer's salary to that of the medical officer of health.

(3) All officers in this class receiving less than £750 per annum at present to be raised to that salary on the appointed day, and such salary shall be regarded as the commencing salary for the purpose of paragraph (4) below.

(4) All officers in this class shall, every two years commencing from the appointed day, receive an increment of £50 up to a maximum of 25 per cent. above their commencing salary; but no salary in this class

shall exceed £1,100 per annum, except in manner provided in paragraph (6) below.

(5) All officers in this class who are on the appointed day receiving £750 or more and who have had at least two years' service without increment, shall receive their first increment as from the appointed day.

(6) After the expiry of four and not later than five years after the date on which an officer in this class reaches his maximum in the scale, the employing local authority shall consider whether in his case the salary should be increased to an amount in advance of that maximum.

IV.—Medical Superintendents of Institutions other than Mental Hospitals.

(1) When a hospital, sanatorium or other institution with over 100 beds employs a whole-time medical officer in charge of the institution, such officer shall be considered for purposes of salary a medical superintendent.

Note.—The advisory committee referred to in Section X of these recommendations may, upon application being made to them in the manner prescribed in paragraph (2) of that section, consider the cases of medical superintendents in charge of institutions (other than mental hospitals) containing not more than 100 beds.

(2) Salaries shall be on the following scale:—

No. of Beds in Institution.	Minimum commencing salary.
	£
Not exceeding 150	750
,, ,, 151-200	800
,, ,, 201-300	850
,, ,, 301-400	900
,, ,, 401-500	950
,, ,, 501-600	1,000
,, ,, 601-750	1,050
Exceeding 750	1,100

(All salaries in this class are inclusive of the value of emoluments, *e.g.*, housing accommodation and board.)

(3) All officers in this class receiving less than £750 per annum at present to be raised to that salary on the appointed day, and such salary shall be regarded as the commencing salary for the purpose of paragraph (4) below.

(4) All officers in this class shall, every two years commencing from the appointed day, receive an increment of £50 up to a maximum of 25 per cent. above their commencing salary; but no salary in this class shall exceed £1,100 per annum, except in manner provided in paragraph (6) below.

(5) All officers in this class who are on the appointed day receiving £750 or more, and who have had at least two years' service without increment, shall receive their first increment as from the appointed day.

(6) After the expiry of four, and not later than five, years after the date on which an officer in this class reaches his maximum in the scale, the employing local authority shall consider whether in his case the salary should be increased to an amount in advance of that maximum.

V.—Deputy or Chief Assistant Medical Officers of Health.

(1) These are medical officers duly appointed as deputy or chief assistant medical officers of health in the general administration of the health department and the carrying out of the various acts, by-laws, orders, rules, regulations, etc., required to be or usually administered by the medical officer of health.

(2) The salary of such an officer shall be 60 per cent. of the appropriate minimum commencing salary of the scale for medical officers of health.

(3) On the appointed day, all deputy or chief assistant medical officers of health who are receiving less than the minimum commencing salary appropriate to their office shall receive an immediate increment of £50 and increments of £50 annually thereafter until the appropriate figure has been reached.

(4) No scale of periodic increments for deputy or chief assistant medical officers of health has been formulated, on the understanding that employing local authorities will give suitable increases for capability and length of service.

(5) Where no deputy or chief assistant medical officer of health has been appointed it is recommended that, in the absence of the medical officer of health for a prolonged period, the question of the recognition of the special services of the officer who acts in his place should be considered.

VI.—Medical Officers of Health.

(1) The minimum commencing salaries shall be on the following scale:—

Population.	County Boroughs and Metropolitan Boroughs and those Boroughs and Urban Districts which are both Education and Maternity and Child Welfare Authorities.	County Councils, Rural and Combined Districts, and those Boroughs and Urban Districts which are not both Education and Maternity and Child Welfare Authorities.
	£	£
Not exceeding 50,000	800	800
,, ,, 75,000	900	
,, ,, 100,000	1,000	900
,, ,, 150,000	1,100	1,000
,, ,, 250,000	1,200	1,100
,, ,, 500,000	1,400	1,200
,, ,, 750,000	1,600	1,400
Exceeding 750,000	1,800	1,600

(2) On the appointed day, all medical officers of health who are receiving less than the minimum commencing salary shown in the scale as appropriate to their office shall receive an immediate increment of £50 and increments of £50 annually thereafter until the appropriate figure in the scale has been reached.

(3) No scale of periodic increments for medical officers of health has been formulated, on the understanding that employing local authorities will give suitable increases for capability and length of service.

VII.—Salaries for Combined Posts.

Where an assistant medical officer under a county council acts as a district medical officer (either for a single or combined district) for a definite proportion of his time, such officer shall receive by way of total salary not less than the minimum commencing salary of a whole-time medical officer of health as indicated by the population of the district or combined district. Such officer shall not in any case receive a salary of less than £800 per annum and paragraphs (2) and (3) of Section VI shall apply to these posts.

VIII.—Assistant Medical Officers to Mental Hospitals.

(1) The minimum commencing salary of an assistant medical officer to a mental hospital shall be £350, rising by annual increments of £25 to £450 per annum, with emoluments which shall include board, lodging, laundry and attendance.

It is desirable that suitable provision should be made at or in connection with every mental hospital for the accommodation of married assistant medical officers.

(2) All officers in this class receiving less than £350 per annum at present, to be raised to that salary on the appointed day, and such salary shall be regarded as the commencing salary.

(3) All officers in this class who are on the appointed day receiving £350 or more, and who have had at least two years' service without increment, shall receive their first increment as from the appointed day.

(4) After the expiry of four, and not later than five, years after the date on which an officer in this class reaches his maximum in the scale, the employing authority shall consider whether in his case the salary should be increased to an amount in advance of that maximum.

(5) Those assistant medical officers to mental hospitals who possess a diploma in psychological medicine shall receive an additional £50 per annum, and all such officers shall be encouraged to obtain this diploma. Those assistant medical officers who, in the opinion of the superintendent of the mental hospital, do not take advantage of the opportunities offered to them to obtain the diploma, shall not receive any increment beyond the first.

(6) Temporary medical officers should not be employed on the staffs of mental hospitals for more than twelve months, except as relief during holidays, or when a member of the permanent medical staff is incapacitated through illness or has been seconded for any purpose.

(7) Clinical assistants in mental hospitals should not be appointed to undertake the responsible duties of junior assistant medical officers.

(8) Practitioners engaged in the work of continuous attendance on patients in mental hospitals should have at least four weeks' leave each year, and wherever possible they should not be obliged to take more than two weeks of this leave consecutively.

Note.—For the purposes of this section, any reference to "local authority" in Sections IX and X shall be interpreted to mean "visiting committee."

IX.—General Conditions Applying to all Appointments.

(1) Travelling expenses and other reasonable expenses properly incurred in the performance of the duties to be paid in addition to salary.

(2) The operation of the scales of salaries shall not in any circumstances result in reducing the salary of any medical officer serving at the appointed day.

(3) Where a local authority either intends to dismiss the holder of a medical appointment who marries, or desires to reserve right so to do, a specific statement should be inserted in the advertisement relating to the appointment.

(4) No differentiation of salary shall be made on account of sex.

(5) Population means population at the latest annual report of the Registrar-General.

X.—Advisory Committee.

(1) An advisory committee, constituted in accordance with paragraph (5) shall be appointed to consider, upon such application as is mentioned in paragraph (2) below:—

(*a*) the merits of any case in which a local authority proposes to employ an officer at a salary or on conditions not in accordance with this agreement; and (*b*) any difficulties which may arise in the application of this agreement; and to report its recommendations thereon to the parties concerned.

(2) Applications to the advisory committee may be made by the Ministry of Health, by the British Medical Association, by any association of local authorities which is a party to this agreement, or by any individual local authority.

(3) The advisory committee shall not be precluded from considering the cases of chief medical officers of counties and county boroughs whose duties and conditions of service may be altered materially as the result of legislation.

(4) It shall be competent to the advisory committee to invite a representative of the Board of Education or the Board of Control to attend a particular meeting, but without power to vote.

(5) The advisory committee shall consist of 17 representatives, one, who shall act as chairman, to be appointed by the Minister of Health, one each to be appointed by the County Councils Association, the Association of Municipal Corporations, the Urban District Councils Association, the Rural District Councils Association, the London County Council, the Association of Education Committees, the Mental Hospitals Association, and the Metropolitan Boroughs Standing Joint Committee, and eight by the British Medical Association.

(6) The advisory committee shall formulate its own rules of procedure, subject to the condition that, whatever arrangements may be made for the attendance of members at the hearing of applications, no case shall be considered or determined in the absence of a representative of the association representing the local authority or class of local authorities concerned.

XI.—Duration of Agreement.

This agreement shall come into force on the 1st April, 1930, hereinbefore referred to as the "appointed day"; and remain in force for five years and thereafter from year to year, subject to notice of one year from any of the bodies mentioned in paragraph (5) of Section X.

(Signed) ASKWITH,

Chairman of the Conference.
Signed on behalf of the parties to the foregoing recommendations.

(Signed) V. L. HARKNESS,
Secretary.

24th June, 1929.

The above agreement was approved by the Representative Body of the British Medical Association at Manchester on July 20th, 1929. In due course it will be considered by the bodies representing Local Authorities.

The Society.

Reports, Proceedings and Announcements.

NOTICES.

Members are requested to notify the Executive Secretary immediately of any change of address or appointment which they desire to be recorded in the Roll of Members, 1929-30, now going to press.

Those members of the Society who have not yet paid their subscription for the Session 1928-29 are urged to do so at once, before the commencement of the annual audit.

Dental Officers' Group.—The annual general meeting of this Group will be held at the house of the Society on Friday, October 11th, 1929, at 8 p.m.

Metropolitan Branch.—The report appearing in PUBLIC HEALTH, August, 1929, p. 381, in reference to Irradiated Milk should have stated that Dr. D. Chalmers Watson had been assisted in his observations by Dr. T. Y. Finlay, Director of the Child Welfare Department of Edinburgh Corporation, and Dr. J. B. King of the Radiological Department, Royal Infirmary, Edinburgh. By inadvertence these names were omitted from the report and that of Professor Leonard Findlay was incorrectly included.

COUNCIL MEETING.

A meeting of the Council was held at the Town Hall, Sheffield, on July 17th, 1929. The President (Dr. J. Howard-Jones) was in the chair, and there were present Professors Kenwood, Bostock Hill, Jameson and Kerr, Drs. Porter, Stirk, Veitch Clark, Fenton, J. J. Buchan, Tapper, Lyster, Naylor Barlow, Bertram Hill, Pearce, Linton and Wood.

The minutes of the last meeting having been approved and signed, apologies for absence were received from Dr. Stella Churchill, Dr. Eustace Hill, Mr. A. E. Baker, Dr. R. H. H. Jolly, Dr. G. F. Buchan, Dr. R. M. F. Picken, Dr. Gibbons Ward and Lt.-Col. A. J. H. Russell.

A discussion followed on arrangements which might be necessary in connection with the building schemes of London University, covering the site of the Society's house. It was *agreed* "That a Committee be appointed to make enquiries and to report on proposals in connection with the future housing of the Society."

The Committee was then constituted as follows: Dr. J. J. Buchan (President-Elect), Professor H. R. Kenwood, Dr. G. F. Buchan, Dr. Charles Porter, Dr. R. A. Lyster.

The Council then adjourned.

THE WEST OF ENGLAND BRANCH.

President: Dr. J. F. Blackett, M.O.H., Bath.
Hon. Secretary: Dr. P. H. Stirk, M.O.H., Exeter.

A meeting of this Branch was held at Winsley Sanatorium, near Bath, on June 21st, 1929, the President occupying the chair. Eight members and two visitors were present.

The Hon. Secretary reported that the communication from the Executive Secretary on the subject of venereal diseases had been circularized amongst the members previous to the meeting. Some discussion followed, but no action was taken.

The following officers were elected for the session 1929-30:—

President: Dr. E. Ward, Torquay.
Vice-President: Dr. A. H. Wilson, Salisbury.
Hon. Treasurer: Dr. J. Blackett, Bath.
Hon. Secretary: Dr. P. H. Stirk.
Journal Correspondents: Drs. Blackett and Stirk.
Representative on Council of Society: Dr. Stirk.

A CONFERENCE on Mental Health will be held in the Central Hall, Westminster, S.W.1, from October 30th to November 2nd, 1929. The programme includes discussions on sex education; the personal equation in industry; the child and the parent; and delinquency—a problem in mental hygiene. Group discussions will also be held, for magistrates and probation officers on the working of the juvenile courts; for public health nurses and social workers on the relation on their work to the mental health of the community; and for parents and teachers on the problem child at home and in school. Further particulars may be obtained from the Conference Secretaries, 51, Tavistock Square, W.C.1, or the Secretary, National Council for Mental Hygiene, 78, Chandos House, Palmer Street, S.W.1.

The Literature of Preventive Medicine.

HOW TO ABOLISH THE SLUMS. By E. D. SIMON, ex-Lord Mayor of Manchester. London: Longmans, Green & Co., 1929. pp. 146. Price 4s. 6d. net (paper covers 2s. 6d. net).

"How to Abolish the Slums" is a real effort on the part of Mr. Simon, well-known to most members of the public health service, to set out in clear language some of our present difficulties regarding housing, and to suggest certain lines of thought and possibilities of ameliorating the position.

Unfortunately, the book exhibits here and there the hand of the amateur as, for example, on page 7, where the Registrar-General's standard of overcrowding is wrongly quoted as "two or more persons per room" instead of as "more than two persons per room."

Again, the author is apt to quote as authoritative certain very limited inquiries made in Manchester; for instance, on page 9, one of his inquiries into overcrowding refers to the examination of sixty-eight houses, chosen haphazard by entering two houses in each street. The possibility of error in such a method is only too obvious.

Stress is rightly laid upon the necessity for such housing accommodation as will permit the separation of the sexes over ten years of age.

Overcrowding in London is said to be "so much worse as to be on an entirely different scale" from that in Manchester, but the author's opinion appears to be founded largely upon an examination of thirty houses in Somers Town; and subsequent figures which he quotes do not entirely bear out his contention.

With one statement on overcrowding few medical officers of health will disagree, viz.—"The facts given are sufficient to show that overcrowding is at the present time so bad in most large cities that nothing in the way of demolishing or closing down houses is practical politics."

A chapter is devoted to the subject of "re-conditioning" of houses, but the author is rather half-hearted in his advocacy of this remedy. He writes, *inter alia*: "The day for effective re-conditioning work in Manchester is gone." "... there are 26,000 houses in Manchester below a reasonable standard of fitness ..." "Can these houses be dealt with by re-conditioning?" "Broadly speaking, the answer is that they cannot ..." "But it must never be lost sight of that this is only a temporary and partial remedy."

Many interesting figures are given as to the ability of tenants to pay certain levels of rent, and particular reference is made to the number of tenants of new houses on housing estates who leave within three years of entry; in one instance, out of 140 original tenants, only 62 remained at the end of three years.

Part II of the book is devoted to "A Constructive Policy" and deals with such complicated matters as rating reform, subsidies, a children's rent allowance, etc. The real solution of the housing problem appears to be, according to the author, subsidies and still more subsidies until the low rent payer can be met.

Altogether a stimulating book and one which provides much food for thought.

THE HYGIENE OF MARRIAGE. By ISABEL EMSLIE HUTTON, M.D. London: William Heinemann (Medical Books), Ltd., 1929. pp. 125. Price 5s. net.

This book was originally written because of the belief of the author that a great deal of unhappiness, anxiety and general ill-health in married people is caused by ignorance of facts with which they ought to be acquainted before marriage. The manner in which she set forth these facts and cleared up the outstanding difficulties rightly enough met with approval in professional circles, reviewers in general offering the book a warm welcome and words of commendation. Not only so but, as it is just over four years since the first edition appeared, the book must have appealed also to those for whom it was intended, and this is a better criterion than the reviews as indicating that what was written was wanted. Since the appearance of the first edition the author's conviction as to the need has strengthened and she has learned of demands for information and help on a number of matters not dealt with previously. Chapters on menstruation and the menopause and sterility have been

included, and others on such subjects as birth control and consummation of marriage have been added. In the additional as in the old matter, the writing is done in such a way as to merit commendation. The sincerity is so obvious, and delicate subjects are treated with a delicacy that is unexceptionable. That a book of this kind was wanted may be believed, and apart altogether from the fact that it has reached a second edition—which so few books on popular hygiene succeed in doing—it may be believed also that in this Dr. Hutton has succeeded in providing the kind of book required.

ENGLISH PUBLIC HEALTH ADMINISTRATION. By B. G. BANNINGTON, Sanitary Inspector, County Borough of West Ham. London: P. S. King and Son, Ltd., 1929. pp. 325. Price 12s. 6d. net.

The first edition of this book appeared in 1915, and deservedly, since it provided a readable and interesting description of English health administration by one intimately acquainted with the workings of certain parts of the machine, was very well received.

This new edition Mr. Bannington has been constrained to produce partly on account of the success gained by the first, partly because of the developments that have occurred and that should be chronicled, and partly because the health acts have not been consolidated as he had hoped, and the prospect of such consolidation, he considers, does not "appear either close or clear."

It is interesting that the moment chosen for the appearance of the new edition should have coincided so closely with the passing of the Local Government Act, 1929, a measure which, presumably, will affect profoundly the administration throughout the country. It is that Mr. Bannington may be counted rash in publishing at the beginning of a period of uncertainty is possible. He may have felt, however, that there was apropos in his action in so doing the historian of the future there would inevitably be need of a reliable picture of conditions as they were up to the moment when re-organisation began. He may be right in so holding, and the book, which is calculated to provide enlightenment for those desiring information on this most important side of the activities of governing bodies, will become more and more useful and be more and more consulted as the years go by.

In the Annual Reports.

SHRINKING FAMILIES.—In my Annual Report for 1926 I called attention to the fact that 71·4 per cent. of the total births investigated were into families of two children and under, whilst only 6·2 per cent. were into families of more than six children. Last year (1927) the distribution was even more remarkable, 72·0 per cent. being into families of two and under two children, and 5·3 per cent. only into families of more than six children. These figures are significant as they seem to provide a complete answer to the statement one frequently hears that the majority of the births are into large families and that whilst the families of the well-to-do are shrinking those of the poor continue unchanged.—*Dr. J. Johnstone Jervis, Leeds.*

ABORTION.—There is little doubt that many abortions and miscarriages are produced artificially. This problem is a social one which seems to be almost inherent in large centres of population. All available statistics tell the same story that abortion is increasing, and in spite of drastic legislation is apparently not readily amenable to control. The relationship between economic conditions, the higher cost of living, unemployment and similar factors and the prevalence of abortion would prove an interesting consideration, but would be somewhat out of place in this report. Nevertheless, one must perforce realise that the decreasing birth-rate of recent years and the economic pressure towards small families are probably closely associated with this question of intentional interference with the course of pregnancy. Whatever the explanation may be, the fact remains that each year shows in its mortality statistics the result of this practice, not only in regard to abortions themselves, but also and especially in regard to the number of cases which each year are classified, as the result of coronial inquiry, under the heading of illegal operations.—*Dr. E. Sydney Morris, Division of Maternal and Baby Welfare, New South Wales.*

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THE new edition of the catalogue of Messrs. Lewis's Medical and Scientific Circulating Library is a well-printed and imposing volume of some 600 pages, and contains particulars of 15,000 books available to members of the library. The catalogue is in two parts; (i) authors and titles; (ii) classified index of subjects. The main part is arranged in alphabetical order of authors' names, and to those who are not familiar with the names of writers on the subjects they wish to consult, the well-arranged and exhaustive alphabetical index of subjects will be of great help.

The new catalogue (revised to the end of 1927) is published by Messrs. H. K. Lewis & Co., Ltd., 136, Gower Street, London, W.C.1, at 15s. net.