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Editorial.

The State of the Public Health.

IN the Press, as always, a good one, received by Sir George Newman's Annual Report as Chief Medical Officer of the Ministry of Health, the main point to attract attention seems to have been that the expectation of life to-day is 15 years longer than 50 years ago. Few of the newspapers that commented upon it seemed to understand the inwardness of the increase. As they failed, indeed, to grasp the true inwardness of the report as a whole, being concerned almost entirely to find figures and statements capable of producing in their readers those sensations the journalist believes it is his duty to supply. Regarded as a source of thrills merely, the report may be counted as falling short of the journalistic ideal. It is quite possible, of course, that the view of the newspaper man of the view of the newspaper reader may be quite wrong, and

that he has a mind to learn something about the state of the public health : what is being done to secure and maintain it, and the effect of various procedures adopted to these ends. In these days it is conceivable he may want to know something of the cost of the things done, whether the return was worth the money spent, and if it would be possible and right to cut down the expenditure on health works. The reports of Sir George Newman are designed to provide information on all these points, and, as usual, that for 1931 does it well and clearly and convincingly. In general terms it may be said the report shows 1931 to have been a good year so far as the health of the people was concerned. The mortality and morbidity rates were not such as to give rise to alarm or to call for special mention or warning. In many cases, indeed, the comment that is made is that improvement has begun to show or is being maintained. In,

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regard to infantile mortality this latter is the case, the work done in 1931 being no less effective and the progress made no less satisfactory than in other years. The money expended is well spent, and though perhaps more might be done in certain directions, in relation to mental hygiene for example, or for children of particular ages, the so-called "toddler" for instance, there is not much reason for complaint. In the matter of maternal mortality the case is not quite the same. The rate has not and does not come down as it is desirable it should, and as the money and the effort expended give every right to expect it should. There are, of course, areas in which the rate is excessive and in which it is felt that failure to incur expenditure and to make effort along the recognised lines may be responsible. For the investigations made in such areas by Dame Janet Campbell, Dr. Cameron and Dr. Dilys Jones, Sir George has deservedly high praise to offer, as he has also for the work of the Maternal Mortality Committee. The recommendations of this body, if fully adopted and acted upon, may very well result in a bringing down of the rate of mortality to below the 4 or more at which it has stood for so long. The fact that there was no excessive prevalence of communicable disease is gratifying, several of the more important infections—smallpox, diphtheria, scarlet fever, and those involving the nervous system, particularly—showing a markedly lower figure both as regards cases and deaths. Unfortunately, it is not possible for Sir George to give any information with regard to the prevalence of other diseases, and in many cases the only way of judging is from the number of deaths or, in some cases where special provision for treatment is made, from the numbers taking advantage of the facilities available. From the sums expended in medical benefit on behalf of insured persons—£9,497,816—it is clear that the amount of sickness was considerable. This, however, it appears, was largely of a minor character, and though effort was made to control certification it seems possible that some part of the expenditure was due to a lack of care and strictness in this regard. Cancer deaths showed the usual tendency to increase, but this, it is explained, is to be expected because of the natural increase in the population at the higher ages and to increasing ability to recognise the disease. That there has been a reduction in the mortality from acute

rheumatism is pleasing to note. The increase in the death-rate from heart disease appears contradictory in face of the fall in acute rheumatism deaths: it is the opinion of the Registrar-General, however, that this is largely fictitious and due to the increasing age of the population, and change in the practice of death certification which makes much more frequent record of degenerative changes in the heart muscle than was customary a few years ago. Of work done in relation to other matters than disease, disease investigation, treatment and so on, a great deal is done at and by the Ministry and the health authorities, all of it with the object of benefiting the public health. In his report, Sir George Newman provides record of much of this. The operation of the Local Government Act, for example, has meant more work and expenditure also, all of which has been worth while, even though it has only gone in carrying out a sort of stocktaking of effort and surveying the public health services in various areas. In due course this will lead to economies, as will also the work done under the Act in relation to hospitals. From the records presented, the care and attention given to the food supply and nutrition of the people are very close and thorough, and obviously very much worth while. In the case of milk, the increase in the production of designated milks is interesting, as is also the steady growth in the effort to secure and maintain herds of tubercle-free cows. The fact that the number of adulterated samples is less than in previous years, and that the percentage (4.6) is the lowest recorded, suggests not only increased vigilance on the part of the authorities but that the work that has been going on during all these years is having a marked effect. Food poisoning cases, it may be noted, seemed as numerous as usual, though in the absence of a uniform system of notification it is certain that only a small proportion of the cases come to knowledge. In the Ministry, apart from research and investigation in the field, much is done also in the laboratory, and reference is made to investigations into various bacteriological problems, in relation to outbreaks of food poisoning and so on. Certain enquiries into the causation of miners' nystagmus, the treatment of malaria, and such matters as the health of the pre-school child are also referred to.

These references sketchy as they are serve to show how wide a field covered by the

medical branch of the Ministry of Health. Also they may serve to give some idea of the results obtained and even of the good done. Perhaps they may justify the formation of an impression that what was done was essential and was worth doing. Sir George Newman himself is very definite in his belief that the work is needful and worth while, and that none of the effort and none of the expenditure was wasted. Even though the total cost of the public health services ran up to nearly 60 million pounds (£57,370,000), in his view it was worth it. Study the facts set out in my report, says Sir George, and then reflect upon the economic value to the individual and the nation of physical health and capacity obtained for the money, and no matter how strongly it may have been felt that this, that or the other expenditure might be allowed to drop, doubt is sure to crop up and recognition of the wisdom and necessity for each and all of the expenditures to follow. Even in times of financial stress, perhaps even more in such times than in others, it is the duty of the State to provide and maintain services for the preservation, protection and maintenance of the health of the people. It is uneconomic and dangerous to do otherwise. The Government of this country appears to have recognised this and to have determined to carry on the essential services unimpaired. Whether this decision was reached on account of the gifted pen and the crystal clarity of the reasoning of Sir George Newman, or just because it was obviously the right thing, neither the Government nor anybody else has yet said. It is open, therefore, to each to form his own opinion. Everybody who studies "The State of the Public Health" for 1931* will admit that it is a wonderful record and an excellent and most extraordinarily convincing report.

The Hæmolytic Streptococci.

THERE is something rather pathetic about the report on the grouping of the hæmolytic streptococci by agglutination,† for not only was the writing of it the last task performed by Sir Frederick Andrewes, who, with Mrs. Christie, was responsible for it, but the attempt at grouping and classifying of the streptococci was work to which he gave the

* H.M. Stationery Office. Price 4s. net.

† Medical Research Council Special Report Series, No. 169. H.M. Stationery Office, 1932. pp. 73. Price 1s. 3d. net.

last working years of his life. It was the opinion of Sir Frederick Andrewes, as it is of many others, that the hæmolytic streptococci are among the most numerous and deadly of all the living enemies of man. They cause diseases as various as scarlet fever, erysipelas, pneumonia, heart disease, puerperal fever after childbirth, and sepsis after accident or surgical operation. As secondary invaders, moreover, after infections of other kinds, these organisms kill multitudes by giving a fatal end to temporary weakness.

This being so, it was clearly necessary to group and classify the streptococci for the guidance and help of the clinician who is confronted by their various, and apparently distinct, manifestations in disease. The attempt of Sir Frederick Andrewes to provide assistance for the clinician occupied no less a period than seven years, and of the results in the end what he had to say was that they might seem somewhat meagre but "they represent the survey of a very large field and it is hoped that they may at least spare others a similar labour." As a fact, painstaking and prolonged as the investigation was, the principal objective held in view at its beginning was not attained. The reason for this was the inherent powers possessed by the hæmolytic streptococci to adapt themselves to their chemical environment, so that it appears impossible, for the present at least, to find any firm foundation for a permanent systematic classification. The very methods used for discrimination between forms of different origin may themselves bring change to the characters of the organisms under observation. As the report shows, a worker may find himself at first identifying an apparently distinctive type of streptococcus as being associated with a certain form of disease, and later discover by more critical work that it was his own methods that produced the type characters on which he first depended.

In spite of this it may be claimed that the work described in the report has produced a body of trustworthy and valuable results. It clears up many past confusions that arose from want of correlation between the results of numerous earlier workers using different methods. It reveals also the many pitfalls that exist in work of this kind; and although these serological studies, made by methods more accurate and quantitative than most workers have hitherto used, have failed of their main object, their chief interest and

value may be found actually to lie in having shown that success is probably unattainable in this direction.

The menacing and protean dangers of the hæmolytic streptococcus to human life appear to arise from the very instability of its physico-chemical behaviour which is revealed so clearly in this report. The organism as an invading parasite appears to have special facility in adapting the refinements of its living chemistry to the particular host environment in which it finds itself. Studies of different "types" in terms of formal definition become fruitless or meaningless if each type is a passing chemical phase quickly assumed and readily abandoned. Progress will seem to lie in gaining deeper knowledge of the exact chemical events which are involved in this interplay between the parasitic organism and the environment of the invaded host. Sir Frederick Andrewes's work, taken as a whole, would seem to show that serological methods, however refined, are not likely to do more than state the problems of which other methods must bring the solution.

The report is one that calls for serious study by bacteriologists, and this it deserves because of its value and because it forms no mean coping-stone to the works performed by Sir Frederick Andrewes, so worthily regarded throughout the years that he worked as one of the most practical and helpful researchers in the field of bacteriology.

"British Rainfall, 1931."

THIS is the title of the seventy-first annual volume of the British Rainfall Organisation, giving a detailed account of the distribution of rain in space and time over the British Isles during the year 1931, as recorded by over five thousand observers in Great Britain and Ireland. It includes maps, tables and descriptive matter showing the distribution of rainfall each month and for the whole year, and its relation to the average; studies of heavy falls on individual days of particular interest; discussions of heavy falls of rain in short periods, of the number of days with rain and of spells of dry or wet weather during the year. For the British Isles as a whole the rainfall of 1931 was 109 per cent. of the average. 1931 was the ninth successive year with a general fall exceeding the average. Over the country as a whole the rainfall of 1931 was less than that of 1930 but exceeded

that of 1929. The total rainfall for 1931 was less than the average at stations in the south-east of England and the north-west of Scotland, while more than 130 per cent. occurred over large areas between North Wales and the east coast from Boston to Middlesbrough. This wet area across the southern Pennines reflects the unusual prevalence of cyclonic rains, especially during the summer, while the small percentages in the north-west of Scotland are accounted for by the dry late summer, and the relatively small percentages in the south-east of England are due mainly to the dry October and December. Intense falls of rain were unusually frequent during 1931, and mention may be made of the thunderstorm rains of May 27th to 28th, which gave as much as 4.18 inches at Cardiff (Penylan) of which 3.6 inches fell in 3½ hours; the widespread intense rains of June 14th, the day of the Birmingham tornado, and the series of intense rains during August. A large number of stations recorded as much as 4 inches or more for one day. The bulk of these heavy falls occurred on November 3rd, when as much as 7.25 inches was recorded at Trecastle (Blaenauhydyfer), to the north of the Black Mountains. The volume includes four special articles which discuss some of the long rainfall records which have been accumulated, and deal with questions relating to the effects of unsuitable siting of rain-gauges and evaporation tanks. Containing some three hundred pages, this extremely interesting publication is issued under the authority of the Meteorological Office (Air Ministry), and may be purchased from H.M. Stationery Office, price 15s. net., postage 5d.

Tuberculosis Among Native Mine Labourers on the Witwatersrand.

THE serious problem of tuberculosis among the South African natives working as labourers on the Witwatersrand induced the Gold Producers' Committee in April, 1925, to approach the Director of the South African Institute for Medical Research for advice and guidance on methods of dealing with it. Following discussions there was formed a Medical Committee on Tuberculosis, out of which there grew a body known as the Tuberculosis Research Committee. The aims of the Committee were twofold: (1) the extension of knowledge, and (2) the diminution of mortality, and for their furtherance a sum of

£6,000 a year was expended in each of three successive years. Some of the results obtained are described in a rather large volume* which, containing a wealth of information, is an outstanding contribution to the international anti-tuberculosis campaign. Much of the work done, indeed, is of the utmost importance, some of it and the conclusions based upon it almost tempting to the belief that they must open the way to profoundly valuable epidemiological discoveries in the domain of tuberculosis.

The amount of clinical material to be considered was very large, for there are 200,000 natives employed, 4 per cent. of whom are admitted to hospital on arrival, and the personnel may be regarded as changing completely once every year. Half the natives come from British South Africa and half from Portuguese East Africa.

Extensive clinical, radiographic, and *post-mortem* examinations were undertaken, some 90,000 tuberculin tests were carried out among the workers, as well as 6,500 in various districts and institutions, while much information was also obtained as to the mode of life, dietary, and kindred matters affecting the native.

The very extensive tuberculin investigation yielded interesting results. The test used was the Mantoux intradermal test, and 1 c.c. of a 1 in 5,000 solution of old tuberculin was the reagent employed. All solutions had to be used within 14 days of dilution. Answers to the following questions were sought:—

(1) What proportion of natives arriving at the mines is already infected with tuberculosis?

The proportion was found to be 72 per cent.

(2) Is the positive reactor more or less likely to develop tuberculosis than the negative?

Unexpectedly, to some, the positive reactor was found, with considerable constancy, twice as likely to become clinically tuberculous, and the more positive the test the more likely was the subject to develop tuberculosis. In some of the home tests with much smaller numbers this finding was reversed.

*TUBERCULOSIS IN SOUTH AFRICAN NATIVES WITH SPECIAL REFERENCE TO THE DISEASE AMONGST THE MINE LABOURERS ON THE WITWATERSRAND. (Being the Report of the Tuberculosis Research Committee, originally established by the Transvaal Chamber of Mines and later expanded into a Joint Committee by incorporation of representatives of the Union Government.) No. xxx (Vol. v). March, 1932. Published by the South African Institute for Medical Research, P.O. Box 1038, Johannesburg.

(3) Will the positive reactor display more resistance to the disease when contracted?

Both classes, positive and negative, usually show an acute type of disease, and 70 per cent. died within 18 months of the onset. There was a slight tendency to a more chronic type of disease among the positives, but usually in that event there was concomitant silicosis. Local glandular tuberculosis also is slightly more common in subjects giving a strong positive reaction. Variations in strength of the tuberculin were tried and again gave results worth study. Rather more positives were found with a 1 in 10,000 dilution of tuberculin—72.5 per cent. as against 65; with 1 in 100,000 tuberculin, 55 per cent. were positive; with 1 in 1,000,000, 51 per cent.; while with 1 in 10,000,000, 48 per cent. were still positive.

The incidence of tuberculosis among natives is double that prevailing among the Europeans, and the native mortality is also much higher, although the report does not deal with a virgin population, but with one that has been widely tuberculised. The tuberculosis incidence (the notification incidence) of the native miners is 6.8 per thousand, while in England it is only 1.45 per thousand of the population, but the statement here quoted from Professor S. Lyle Cummins, that the same careful clinical observation of English males would result in an incidence rate approximating to that of the Rand, will not find ready acceptance.

Concerning the reason for the high tuberculosis incidence, it is thought that about half is due to re-infection, but that resistance is lowered by 10 to 11 hours spent underground, during eight of which the miner is continuously at work without a meal, and to a dietary deficient in vitamins A and D. Silica dust is also a disposing factor, and the wet methods of preventing dust worsen the conditions of work, prevent evaporation from the skin, and make more possible infections with fresh bacilli.

South Africa is fortunate in having very little bovine tuberculosis—under .5 per cent. in various areas investigated—and although no tuberculosis service exists for the natives and the spread of disease from cases returning to their homes occurs from time to time, there is no evidence of any considerable spread from these foci of infection.

The report provides weighty food for thought to all members of the public health service.

The Modern Isolation Hospital.

By W. H. HOBDAV, F.R.I.B.A.

When Mr. Hobday read his paper at a meeting of the Fever Hospital Medical Service Group, he illustrated his extremely useful and practical communication with a number of lantern slides. It is unfortunate that the plans and drawings thus shown cannot be reproduced here, but even their absence cannot detract from the value of the information given by Mr. Hobday, or lessen the gratitude due to him for this abstract of his paper not only by the Fever Hospital Medical Service Group but by all readers of the journal.

NOTIFIABLE diseases at the present day are very numerous, and in large hospitals provision is made for all or most of them. The great majority of cases admitted, however, come under the headings of scarlet fever and diphtheria, except when epidemics of enteric fever or cerebro-spinal meningitis occur, when a scarlet fever or diphtheria ward is used.

None of the notifiable diseases calls for specialised accommodation except diphtheria, which requires steam rooms and a theatre for operative work in laryngeal cases, and puerperal fever. For the latter, accommodation is best provided by a suite of small wards or cubicles with provision for operative treatment, and, a very necessary item, a nursery.

As regards measles and whooping cough, accommodation is generally made for these in the ordinary ward units by restricting scarlet fever admissions. For really successful treatment the wards used for these diseases should be exceptionally well ventilated, and have special provision for sunlight and open air treatment by balconies or wards of the type in which practically the whole of one side can be opened.

In large communities increasing use is being made of the isolation hospital for the treatment of acute pneumonia and here, again, it is very desirable that the abundance of fresh air and sunlight mentioned in connection with measles and whooping cough should be made available.

While scarlet fever, diphtheria and occasionally typhoid fever will cover the great majority of admissions into the small hospital, in the case of the large hospital it would be wise to envisage it as being required for any or all of the infectious diseases and to plan accordingly.

With regard to smallpox and tuberculosis, as neither comes within the scope of the ordinary infectious diseases hospital, I must exclude these from this paper.

I have selected four hospitals for our special consideration, namely, those erected by the—
Borough of Southport ... for 70 beds.
Hendon U.D.C. ... „ 86 „
Borough of Coventry ... „ 232 „

The fourth example consists of additions to the North Western Hospital at Hampstead. This is of a different character and will, I think, have points of interest.

A modern infectious diseases hospital, irrespective of its size, usually consists of a number of one-storey isolated ward units each complete in itself and allocated to one disease. Unlike a general hospital, which is planned as compactly as possible under one roof, the units must necessarily be scattered over a comparatively wide area. Common sense indicates that the isolated blocks should be connected with covered ways to give protection to the staff in bad weather. Unfortunately, this is an additional expense both in capital cost and maintenance, and in all recent hospitals they are omitted, mainly for these reasons. If they are provided they should be completely open at the sides and at least 6 ft. wide. It is impossible to give complete protection from driving rain, but partial protection may be obtained by growing a thick and high hedge on the side from which the prevailing winds blow.

Turning now to our first example for examination, the New Hall Isolation Hospital at Southport, in Lancashire. This was opened in October, 1927, and contains 70 beds in the isolation section. It serves a population of 79,000, according to last year's census, which is one bed to every 1,128 persons.

The whole site is 12 acres in area and, as is sometimes the case, really contains two hospitals, one for general infectious diseases and another for tuberculosis. The area occupied by the former is about 9½ acres and when fully developed will accommodate from 90 to 100 patients; this is a little over 10 patients to the acre.

The infectious hospital consists of three ward units; one of 22 beds and two of 20 beds, with space for a fourth block at some future date. In addition there is an observation or cubicle block for eight beds.

The grouping of the blocks is on very simple lines and is frequently met with. The axes of the blocks are north-east and south-west, approximating to the recognised ideal of due north and south.

The main connecting road runs along the south-west extremities of the blocks with a subsidiary approach road to each. The blocks are spaced some 50 ft. apart, and thus the area of playground for children is sufficient, but not generous.

In the study of this plan you can see clearly the several elements that go to make up the complete hospital. First, there are the headquarters in the administration block, then the main kitchen, stores and nurses' and maids' homes, then the group of ward blocks, and finally the boiler house and laundry. In addition, there are trimmings like the entrance lodge, mortuary and ambulance garage, and possibly a small discharge block. In older hospitals it was the practice to provide a receiving block, but in recent plans this is omitted, new admissions being sent direct to the wards. There is a tendency also to dispense with the discharge block and to discharge direct from the ward units.

The cost of the whole scheme at Southport, exclusive of site and equipment, amounted to £81,000. In the combined tuberculosis and infectious diseases sections as erected, provision is made for 102 patients, which works out at £794 per patient bed, which appears rather high.

The next lay-out plan we shall examine is that of the isolation hospital erected in 1927 by the Hendon Urban District Council, a contemporary of the one at Southport. Originally designed with 60 beds, the recent addition of another ward block has increased the accommodation to 86 beds. These serve a population of 115,680 according to last year's census; this is one bed to every 1,344 persons.

The site is a good one with a gentle slope towards the south-east. Its area is 10 acres and gives 8.6 beds to the acre at present.

Here we have four ward blocks, one of 12, two of 20 and one of 26 beds. In addition there is a cubicle block of 12 beds.

The axes of the ward blocks are the same as at Southport, north-east and south-west. But in this plan the main buildings have been drawn together into a compact group, thus shortening communications.

Another point to note is the ring road serving all the ward blocks. The block plan gives the impression that the units are placed too closely together, but a visit to the actual hospital corrects this. The two lines of ward blocks have a clear 50 ft. between them and laterally the blocks vary from 40 to 45 ft. apart. The total cost of this hospital, exclusive of the site, laying out of the ground and equipment, was £62,227, about £723 per bed.

Our next plan is that of a new isolation hospital for the Borough of Coventry, upon which work has just been started.

The hospital is designed for 148 beds in the first instance, with provision for future extension to 232 beds. The population of Coventry at the last census was 167,000; the present provision therefore is about one bed to every 1,100 persons.

The area of the whole site, including that set aside for future extension, is 18½ acres, and taking the final development at 232 beds this gives approximately 13 beds to the acre.

The site has a good aspect, but there is a fall of some 50 ft. from north-east to south-west, which is more than an architect likes to meet with.

You will note that this hospital is for 232 beds, considerably larger than those at Southport and Hendon, which were for 70 and 86 beds respectively. As a consequence, the administrative buildings are larger and bulk more prominently in the plan.

The general lay-out is an attractive one, and although at first sight it has a distinct resemblance to the lay-out at Hendon, it has one important development. Whereas Hendon has two parallel roads giving access to the ward blocks, this has only one, with a considerable saving in road construction.

As in all institutions of this character, only one main entrance is provided in order that in and out traffic may be effectually controlled by one gate-keeper. In addition, there is a subsidiary entrance to the mortuary which

enables a hearse to enter and leave the hospital without being seen from the main buildings.

The axes of the ward units run north-west and south-east. This is not quite so good as north-east and south-west, but in this particular case the contours of the ground are the governing factor and no other aspect was practicable. The two lines of ward blocks have a clear 65 ft. between them—at Hendon it was 50 ft.—and the blocks in the upper line are 50 ft. apart—at Hendon they were 40 to 45 ft.

There are to be six nursing ward units eventually, and in addition two convalescent blocks. These latter have verandahs and a large day room on the first floor of each.

In planning for day rooms the question arises as to the number of patients likely to use them. This will vary according to the disease. In scarlet fever you may have from one-third to one-half the cases ambulant; with diphtheria much less, say one-sixth. But as the ward units should be interchangeable it is wise to provide for the greater number.

Then you have a cubicle block, planned in a central position, and at the north-west end of this block a small operating suite. I shall have more to say about this later. The administrative offices, main kitchen and stores and nurses' and maids' homes are all combined in one large block in the centre. Personally, I do not like the idea of the sisters and nurses being mixed up with the kitchen and maids, and should much prefer to see them in a separate building where they can get away from the hospital and their work as much as possible and create a new atmosphere for themselves. This is a point I do not think the call for economy should be allowed to override.

The estimated cost of the first section for 148 beds is £113,500 or £767 per bed. The extension of the hospital by 84 beds is estimated to cost £30,000. Thus the estimated cost of the completed scheme for 232 beds will be £144,000, or £621 per bed.

Now let us consider the detailed planning of a ward unit. It is an accepted principle that where land is available the one-storey pavilion is the most suitable type. Exceptions are when a day room is introduced in a second storey, or in a large city where the site is restricted.

The axis of the block should run as near as possible north and south, the object being to catch as much sun as possible on both sides

of the building. The advantages of the sun are so great from the point of view of health, that they should outweigh a small amount of possible discomfort on a few days of the year, and a proper arrangement of blinds will obviate this difficulty very largely.

The size of a ward unit may vary from 12 to 26 beds. Usually there are two large wards, one for males and the other for females, and two single bed wards which can be used for either sex.

The large ward for females generally contains a few more beds than the corresponding one for males, so that both women and small children can be accommodated in it. The air space in these wards should be not less than 1,872 cubic feet, and the bed space not less than 12 ft. centre to centre. Thus we arrive at a minimum width for the ward of 24 ft. and a height of 12 ft.

There is a type of ward that is being advocated at the present time, known as the alcove or verandah ward. The beds are arranged in groups of four and placed parallel to the walls, which consist of wide sliding windows divided by narrow piers; practically all the wall area is glass, allowing of the utmost access of light and air. The groups of beds are divided by permanent screens about 7 ft. high, the upper parts of which are plate glass.

It is claimed that this arrangement of beds in small groups facilitates classification, is more sociable and gives some degree of privacy to the patient, does away with the necessity for verandahs and balconies, and that the reduction in the width of the ward from 24 to 20 ft. effects a considerable saving in construction. It is an interesting problem to the hospital designer, but personally I feel that while calling for serious consideration for the general hospital, the difficulty of supervision renders it unsuitable for adoption in infectious hospitals where such a large proportion of the patients are children.

In addition to the large wards it is important that each unit should contain two single bed wards. These are provided for the purpose of separating a patient for various reasons, and being placed centrally, both are available for one sex, if necessary. The minimum size of these wards is 12 ft. by 10 ft. with a height of 10 ft.

In each of the plans we are examining you will find these small wards, and each provides for direct supervision from the ward kitchen.

The sanitary accommodation and the working of bedpans always presents some little perplexity in planning these single wards.

At Southport each ward has a separate lavatory and water closet, thus solving part of the problem, but a nurse with a bedpan has a long and exposed journey in the open air to the sink room at the end of the large ward. At Hendon, no lavatory or water closet is provided, and the bedpan has the same long exposed journey as at Southport.

At Hendon a new block has recently been erected and here there is an advance, for while the lavatory and water closet are still missing, the sink room is brought very much nearer.

In the plans so far the small wards have all been in the same relative positions. At Coventry, a different arrangement is adopted. The small wards are now on the opposite side of the building and are separated from the ward kitchen by the corridor. Supervision is, however, maintained across the corridor by means of windows in the partitions. Here we have rather elaborate sanitary arrangements; not only has each single ward its own lavatory and water closet, but in this compartment it is intended to provide a slop sink for bedpans, etc. Also each ward has a separate bathroom. Presumably these little units will be available for paying patients, otherwise the provision of a separate bathroom, though very desirable, is open to question on the grounds of economy.

The same argument applies to a limited extent to the lavatory and water closet, but I think these more easily justify themselves. There can be no question, however, as to the desirability of some separate provision being made for dealing with bedpans. In my opinion, this will be found of the greatest convenience.

Weighing up this question of sanitary provision for single wards, I suggest that except for paying patients the separate bathrooms may be considered unnecessary, that a separate lavatory and water closet are desirable, and that a small slop sink for dealing with bedpans is essential.

The sanitary annexe is a vitally important item and calls for a great deal of thought in its design. It is unfortunately a rare occurrence to come across a sink room that shows evidence of study and imagination on the part of its designer, and the nurses suffer accordingly.

First, as to its position in relation to the ward. In the case of the small ward, say up

to eight beds, it can be planned at the end. The distance nurses have to travel is not very great, and it frees the side walls, which are not very long, for windows and cross ventilation. The disadvantage is that it blocks the south end of one ward from the sun. An instance of this can be seen at Southport. There you have an eight-bed ward on the left and it makes quite a reasonable plan. On the right, however, you have a twelve-bed ward and at once the disadvantage of length of travel by a nurse is apparent, the ward being 72 ft. long.

In the old blocks at Hendon we have a similar arrangement, but in the plan of a new block at the same hospital, the sanitary annexe is placed in the centre of one side wall of the ward. Each of these wards is 72 ft. long, and this arrangement is called for if undue fatigue to nurses is to be avoided.

Besides the sink room, the annexe can contain a bathroom, lavatory and water closets for patients. This combination tends to make the annexe rather large, and I am inclined to favour the placing of the bathroom and lavatory within the centre part of the main building. This has the advantage of reducing the size of the annexe and leaving it for the use of nurses only.

The ideal sanitary annexe may be described as follows:—

On entering the annexe you would come into what may be called a clinic for want of a better term. In this would be a urine testing cabinet with a small sink, an instrument steriliser, space for a wheeled trolley for use in the ward, and a small compartment for drying blankets after blanket baths, cloths and dressings of all kinds.

In the sink room, in addition to the emptying of bedpans, the nurse has other duties to perform, including the sterilising and storage of bedpans, the washing and drying of macintosh sheets, hot-water bottle heating, storage of specimen stools, and the disposal of soiled linen, all of which should be provided for, and all give scope for thought and ingenuity on the part of the designer.

As to the ward kitchen, in all modern plans you will find this in the centre of the block with direct observation over the large ward on either side, and frequently over the two single bed wards as well. Its equipment would include the usual wash-up sink and draining boards, small gas cooker with pot rack over and dresser, preferably on wheels. A built-in

metal-lined bread cupboard is a useful thing to provide, together with lock-up drawers in which the night nurse can keep her cutlery, etc.

There is a movement towards the omission of the larder food cupboard, its place being taken by an electric refrigerator. The amount of perishable food to be kept in the kitchen is comparatively small, mainly milk and butter, and a refrigerator cabinet gives far more efficient and suitable storage than the old type of larder.

With regard to the sterilisation of crockery and cutlery, the need for this in ordinary wards appears to be a matter of opinion. The belief that the provision of a steam jet in the ordinary wash-up sink will be effective seems to be fallacious. From tests made, the water showed 210° in the vicinity of the nozzle and 208° at the sides, while the water was in violent ebullition. Ebullition is not therefore a proof that the water has reached 212° Fahr. The fact must be faced that this method is of very doubtful efficacy, and if sterilisation is to be efficiently done a receptacle of the type of an ordinary bowl steriliser must be provided, or another type of apparatus mentioned later in connection with the cubicle block.

The arrangement of the equipment I have mentioned should be fully thought out and embodied in the architect's detail drawings to get the best results.

One fairly recent addition to the ward unit plan is a sisters' duty room. It originated in the general hospital ward and is now being adopted in infectious hospitals. The sister in charge of a ward has a certain amount of administrative and clerical work to do, and a common practice is to provide her with a desk in one of the large wards. But she much prefers a quiet corner of her own, and it is not an uncommon thing to find that she has created a little sanctum in the linen room. To meet this need a special room is now provided for her. It need not be large, say 10 ft. by 8 ft. It should be easily accessible with observation over one of the large wards, say that allocated to women and children.

Now we come to the observation or cubicle block. This is a very important unit and consists of a number of cubicles or cells opening off an open service verandah. Opinion varies as to the proportion the number of cubicle beds should bear to the total number of beds in the hospital.

At Hendon the percentage of cubicle beds is 10.75, at Southport 11.25, at Coventry 19.66, and at Romford 20.00. After investigation the late Metropolitan Asylums Board decided that the number of cubicle beds should be one-third of the total, and their successors, the London County Council, have, I believe, accepted this figure. The usual size for these cubicles is 12 ft. by 10 ft. with a height of 10 ft. The use of the cubicle is for single cases of infectious diseases other than those for which the ward units have been allocated, mixed infection and doubtful diagnosis.

The principle on which a cubicle block is generally designed consists of a ward kitchen in the centre and on either side a series of cubicles divided by glazed partitions. These are approached from an open verandah, and the general arrangements are such that one nurse may, with rigid precautions, attend to more than one case although of different diseases.

The new block at Coventry contains 12 cubicles with a group of sanitary offices at each end of the block, an arrangement that strikes one as being sane and practical. The verandah contains one lavatory basin between every two cubicles, a common practice. A better plan is to provide a lavatory basin inside each cubicle.

Although cubicle blocks are generally of one storey, cases may arise in which one is compelled to make them of two, as in a block of mine recently designed for the North Western Hospital. This was due to the confined nature of the site and the necessity for providing a comparatively large number of beds. In this plan each cubicle has its own lavatory basin. The only other fitting would be three wall hooks for overalls, one for the medical officer, one for the nurse and one for the ward maid.

In a cubicle block it is essential that all crockery and cutlery should be very effectively sterilised. There are several ways of doing this. An ordinary bowl steriliser with special wire crates to lift in and out will answer the purpose, or it can be done in a steam chest with direct steam. Either method gives good results.

There is another useful apparatus on the market, designed on the principle of a small dressing steriliser. The cylinder is horizontal, carried on wall brackets with a door in front. Complete sterilisation is effected in 20 minutes by direct steam at 20 lbs. pressure,

and if a supply is not available a small gas boiler is provided.

In modern practice a small operating theatre is a necessity, and it is usual to find a side ward in one of the blocks fitted up as such. Although small, this seems to answer the purpose, but it is evident that a properly designed theatre must be introduced into all future hospitals.

There is a tendency to plan this in the cubicle block, but I am not at all sure that this is the most suitable place for it. One very serious drawback is that there is no covered connection with any of the wards, and after the operation the patient must pass into the open air. In very cold weather this seems to be a grave risk. One solution would be to provide a small but complete unit consisting of a theatre with a few single bed wards all under one roof with some method of barrier nursing.

I recently designed three two-storey blocks for the North Western Hospital at Hampstead, in conjunction with Dr. Joe, the Medical Superintendent. The large ward of each unit contains 16 beds and has a lavatory basin in a recess in the south wall, a fireplace in the centre of the ward, and a sanitary annexe containing sink room and patients' lavatories in the centre of the north wall. Built-in medicine and store cupboards are provided near the entrance, and the sisters' room overlooks the ward. In addition to the large ward there are two four-bed wards on each floor, those on the ground floor having steam jets by the beds and being separated by a small operating theatre. The purpose of these two small steam rooms with the operating theatre adjacent is for the treatment of laryngeal diphtheria. Dr. Joe's experience of this form of diphtheria led him to believe that this was sufficient accommodation for these cases, and he was of the opinion that the operative treatment of diphtheria would be very much facilitated by being performed under proper conditions. The idea is not original, a similar arrangement having been in use for many years in the City Hospital, Edinburgh.

The administration buildings equally require vision and clear thinking in their lay-out and details. In connection with the nurses' and maids' homes one important point is the disposal of sanitary towels. You have probably all met the nuisance of blocked drains that constantly occurs where no proper provision is made. The most effective remedy I have

come across is a little gas destructor. It can be fitted in the cleaners' room, and in a large home there should be one on each floor.

With regard to heating, you are all familiar with the usual methods. Avoid steam heating if you can; the radiators and pipes give off a dry unpleasant heat and are so hot that wire guards must be fixed wherever contact with them is possible. These guards, besides being very unsightly, form dust traps and give additional trouble in cleaning.

Panel heating consists of pipes buried in the plaster or fabric of the building. While it has the advantage of concealing all pipes, it involves special construction and its great drawback is the fact that the pipes are actually buried in concrete or brickwork and in case of failure the expense and inconvenience of a remedy would be very serious.

The latest type of heating is by what are termed "Rayrads," used with either steam or hot water, preferably the latter. They consist of a type of flat radiator and can be incorporated in a new building without much difficulty, either in the ceilings of rooms or as a dado round the walls, and are almost unnoticeable. They depend for their heating value entirely on radiant heat, the rays warming the objects which they strike and not, as in the case with convected heat, warming the air. "Rayrads" occupy none of the floor space in a room as they are fitted flush with walls and ceilings, and there is a considerable saving of fuel as compared with an installation of "sectional radiators."

A word on acoustics. The deadening of sound in hospitals is receiving a good deal of attention at the present time, and so far without any great amount of success. For floors, tiles of compressed cork are very effective in absorbing and lessening sound. It is when it comes to walls and ceilings that the difficulties arise. The great drawback at present is that there is no material available which has both acoustic and hygienic properties as we have been taught to understand them. Acoustic plaster, for instance, although it gives a very high efficiency curve, is very rough, unwashable and any applied decorative material destroys its acoustic value. It is a gypsum product and has been used to a considerable extent in America and Canada, where it is cleaned with a vacuum cleaner. There is, however, no chance of its being washed and decorated, and even if thought sufficiently hygienic for certain purposes in a general

hospital, it would appear to be unsuitable for infectious hospitals.

The subject of artificial lighting is one which should receive very careful attention to obtain the best results for both patient and nursing staff and low maintenance charges.

In a large ward provision must be made for general lighting, and in addition a wall bracket should be placed over each bed.

General lighting is usually effected by pendants down the centre of the ceiling. Some of the modern designs for fittings close up to the ceiling should prove equally efficient and more attractive.

With regard to the wall brackets over the beds, there is a good type now available which combines the bracket with its switch, plugs for a handlamp and wireless headphones, and a bell-push.

Now a plea for more thought with regard to the colours adopted for internal decorations. So often when the time comes round for re-decorating a ward there is no one on the spot with taste or imagination, and the painter perpetuates the violent green wall with its purple-brown dado that has depressed past generations of patients and staff, perhaps without their being aware of the cause. There is not the slightest reason why this should happen nowadays. A spirit of understanding and appreciation of colour for its own sake is abroad, and the beneficial effects of cheerful and beautiful surroundings upon patients is a truism. Go for "sunshine" colours every time in such a climate as ours. A primrose yellow of the palest tint on the ceiling and upper part of the walls, shading down to a cowslip yellow near the floor is a suggestion for you to start with, but there are dozens of other beautiful combinations.

Beware of choosing colours from samples, a common source of disappointment. Colour seen in the mass is a very different thing from the same colour in a sample book. Do not forget the beautiful effects to be gained by broken colour, textures obtained by stippling or scumbling, and the value of black used in small quantities.

A very useful process of internal decoration has been made available recently, namely, paint spraying by compressed air. Cellulose paint is a material that has, I think, a big future before it. It is hard and durable, as we know from experience with motor-cars, and is very quick drying. If sprayed on, a large ward can be entirely redecorated in 48

hours, a great saving in time over old-fashioned practice.

Now I must draw to a close. I feel very conscious of the inadequacy of my effort, but it is something if I have brought before you some of the many problems that beset the designer of a hospital. It is in the solution of these problems that advance is to be made, and it is with the medical man and the architect working in close alliance that success lies.

PROFESSOR H. D. KAY, O.B.E., D.Sc., Professor of Biochemistry in the University of Toronto, has been appointed Director of the National Institute for Research in Dairying (University of Reading), in succession to the late Professor Stenhouse Williams.

THE Fifth Annual Health Education Conference, organised by the Central Council for Health Education, will be held on Thursday, November 17th, 1932, in the Lecture Theatre of the London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C.1. The Conference will open at 11 a.m., will continue until 12.45 p.m., and resume at 2.30 p.m. The President of the Conference (Sir E. Hilton Young, Minister of Health) will deliver an address at the morning session, followed by a discussion on "The Churches and the People's Health," to be opened by Dean Inge. The afternoon session will include an introductory address by Professor A. Bostock Hill (Chairman of the Central Council), and a discussion on "The Positive in Health Campaigns," in which Mrs. C. Neville Rolfe (British Social Hygiene Council), Sir Henry Brackenbury (British Medical Association), and Dr. Harley Williams (National Association for the Prevention of Tuberculosis) will take part. Local authorities are earnestly requested to appoint representatives (to include the medical officer of health wherever possible) to this important annual meeting. The names and addresses of delegates should be forwarded as early as possible, and not later than November 12th, to Mr. G. L. C. Elliston, M.A., General Secretary, Central Council for Health Education, 1, Upper Montague Street, Russell Square, London, W.C.1, who will gladly furnish any further information with regard to the Conference.

Planning a Fever Hospital

By G. V. T. McMICHAEL, M.B., CH.B., D.P.H., Medical Officer of Health, Paisley.

This paper was a contribution to a discussion on "The Modern Fever Hospital" held, at a meeting of the Scottish Branch, more or less coincidentally with, but independently of, that arranged by the Fever Hospital Medical Service Group. In it Dr. McMichael describes the proposals for the new fever hospital for Paisley, the construction of which is shortly to be put in hand. It is interesting and useful to have it side by side with the paper of Mr. Hobday since it deals with a particular structure, and there is offered the opportunity of having the views of an architect in addition to those of an officer who may have to use and administer the building after it has been erected.

PAISLEY is an industrial town with a population of 87,000, and we propose that our new hospital should have 150 beds, which gives 1.7 beds per 1,000 population; two beds per 1,000 would be nearer the ideal, but in these hard times we must rest content with less than the ideal. Our present hospital has 108 beds, and, in recent years, our admissions have averaged nearly 1,000 per year.

Site of Hospital.—A good, though not ideal, site of 20 acres has been secured on Hawkhead Estate which is just outside the Paisley boundary—site gives between seven and eight patients per acre.

The site has the following advantages:—

1. It is very open, and not exposed to atmospheric pollution.
2. It is economical for building development.
3. Facilities for water supply, sewage disposal, and lighting are readily available.
4. It is conveniently accessible, being within two miles from the centre of the town, and well served by trams and two bus routes to within five minutes' walk.
5. Building developments in the neighbourhood are practically impossible.
6. Most important of all, perhaps, there is no trouble about ground being available for future extensions, as the site forms part of an estate of 280 acres acquired by the late Paisley District Board of Control and now transferred to the joint ownership of Paisley, County of Renfrew, and Glasgow, Paisley luckily owning 70 per cent. Future extensions, therefore, will present no problems, and it was really that fact which determined the final choice, as it is the present intention of

the Council to concentrate all future hospital building on this site. We have at present a small tuberculosis hospital of 30 beds, which will within the next few years certainly be transferred there, and I am hopeful that within the next 10 years we will get a new and larger maternity hospital built there. Any new mental hospital building developments will also certainly take place there.

Allocation of Accommodation.—Total, 150 beds.

In allocating accommodation, it must be remembered that our conceptions of the functions of a fever hospital have radically altered in the last 20 years. Formerly, the main function was simply isolation of the patient, treatment being a very secondary consideration. Nowadays, it is agreed that the reduction of mortality and morbidity by modern, scientific methods of treatment and nursing ranks of equal, if not higher, importance with the factor of isolation. A modern hospital, therefore, should always be large enough to justify a resident medical officer, and to enable the hospital to be recognised as a training school for nurses.

Formerly, practically the only diseases treated in fever hospitals were scarlet fever, diphtheria, enteric and typhus fevers; nowadays, to these four we must add a long list of other diseases—acute pneumonia, measles, whooping cough, puerperal fever and pyrexia, erysipelas, cerebro-spinal fever, ophthalmia neonatorum, together with odd cases of dysentery, malaria, acute poliomyelitis, and encephalitis lethargica, making the formidable total of 15 diseases, for which admission and treatment may be claimed.

Before giving the proposed allocation of beds in the new hospital, I would summarise modern ideas about hospital treatment of infectious diseases as follows :—

Scarlet Fever.—The number of beds to be allocated for this disease depends chiefly on social and economic factors. In my opinion, especially since the advent of scarlet fever antitoxin, home isolation is preferable to hospital isolation, always provided that the patient can have a separate room and that economic circumstances permit of adequate medical supervision. But I find it extremely difficult to persuade people in Paisley to keep cases at home. We have still, of course, fully 60 per cent. of one and two apartment houses; ours is an industrial town, and some large employers of labour, notably the textile mills, suspend their employees if an infectious disease such as scarlet fever is being treated in the home; again, if there are several school children in the house, parents object to a wholesale exclusion from school.

We propose to allocate 30 of our 150 beds for scarlet fever. (Over the last 10 years our average admissions for this disease have been fully 300 per year.)

Diphtheria.—I think it will be agreed that all cases of clinical diphtheria should be treated in hospital unless the home circumstances permit not only of proper isolation, but, still more important, of trained nursing as well as medical supervision.

In our new hospital, we propose to allocate 20 beds for diphtheria. Over the last ten years our average admissions have been about 150 per year.

Acute Pneumonia.—The treatment of this disease in fever hospitals is essentially a post-war problem, and, especially in industrial areas, a really acute one. Most, if not all, of us will agree that such cases should be treated in hospital unless adequate medical and nursing assistance can be provided at home. In Paisley, taking the last 10 years, the average number of notifications has been fully 500 per year; during the same period nearly 70 per cent. of these cases have been treated in the various local hospitals, fully 45 per cent. of them in the fever hospital. The voluntary hospitals, nowadays, owing to pressure on their accommodation, are unwilling to admit such cases if they can avoid doing so, and I think treatment in a special ward of a fever hospital is preferable to treatment in a mixed

medical ward of a municipal general hospital. At least 90 per cent. of the treatment of acute pneumonia is skilled nursing, and that can best be secured in a special ward of a fever hospital.

It is proposed, therefore, to allocate 30 beds in our new hospital for this disease, and I am confident they will be all required. In recent years, our average admissions have been fully 300, and many cases have had to be refused.

Measles and Whooping Cough.—Particularly in industrial areas, the hospital treatment of complicated cases of these diseases has become an acute problem in post-war years. I think it will be agreed that most cases of these diseases, complicated by pneumonia, are best treated in hospital with the primary object of trying to reduce the present high mortality rates.

We propose, therefore, in our new hospital, to have two reserve pavilions, each of 20 beds, which will be used primarily for these diseases, certainly at least in the absence of epidemic prevalence of such diseases as diphtheria and scarlet fever.

Other Infectious Diseases, Observation Cases, Cases of Double Diseases, etc.—It will be agreed, I think, that, except in the very large areas, all other diseases, observation cases, and cases of double disease, can be treated effectively and certainly most economically in one ward, and, in our new hospital, we propose to have a thirty-bed cubicle block for that purpose.

In that block in addition to observation cases, we propose to treat cases of enteric and typhus fever, puerperal fever and pyrexia, cerebro-spinal fever, erysipelas, ophthalmia neonatorum, and odd cases of acute poliomyelitis, encephalitis lethargica, dysentery and malaria. I anticipate that this cubicle block of 30 beds will be the most useful and quite possibly the busiest of all our wards.

Summary of Allocation of Accommodation.
Total : 150 beds.

Acute pneumonia : 30 beds.
Scarlet fever : 30 beds.
Cubicle block : 30 beds.
Diphtheria : 20 beds.

Reserve pavilion: 20 beds. } Primarily for
Reserve pavilion: 20 beds. } measles and
 } whooping
 } cough.

BRIEF DESCRIPTION OF THE VARIOUS WARDS.

With the exception of the cubicle ward, the various wards will be single-storey pavilions, and all will have verandahs.

Cubicle Ward : 30 beds.

This ward will be of two storeys; 30 cubicle beds are too many for a single-storey pavilion.

It is proposed to divide these 30 beds as follows :—

- (1) Twenty one-bed cubicles.
- (2) Three two-bed cubicles; for cases of erysipelas, cerebro-spinal fever, etc.
- (3) One four-bed cubicle; this will serve for sporadic cases of measles and whooping cough, and will save opening one of the reserve pavilions, except, of course, during an epidemic.

This ward will have an operating theatre which will serve for all operations, excepting tracheotomies. Steam for laryngeal cases of diphtheria, who for some reason require to be cubicled, will be laid on to two cubicles.

Scarlet Fever Ward: 30 beds.

This ward will be divided into male and female wards, each of 14 beds, together with two beds in private rooms for staff or special patients.

It is proposed that six beds in each 14-bedded ward should be cubicked by means of glass partitions between the beds; these glass screens may either be fixed or, as in some special hospitals in Germany, may be movable on castors. In those cubicles, the acute cases will be barrier nursed, and it is hoped that the prevention of spray cross-infection of simple cases by septic cases will thereby be made easier. No doubt the ideal method would be to cubicle every case of scarlet fever right throughout treatment, but such a procedure would, I think, be rather cruel for convalescent patients. We can only afford one ward for both acute and convalescent patients, hence our proposed compromise of 12 cubicles for cases in the acute stage.

Diphtheria Ward : 21 beds.

This ward will be divided into male and female wards, each of ten beds, together with one bed in a private room; a small side room will be fitted out for tracheotomy operations. It is proposed that two beds in each ten-bedded ward should be cubicled by means of glass partitions. Steam for laryngeal cases will be laid on to two beds in each ward.

Pneumonia Ward : 30 beds.

This ward will be divided into male and female wards, each of 14 beds, together with two beds in private rooms, for staff or special patients. Further, it may be decided to subdivide each of the 14-bedded wards, so as to separate to some extent the adults from the children, who will probably form the majority of the patients; the only disadvantage of this further sub-division is, of course, the increased difficulty of supervision with a limited nursing staff.

Two Reserve Wards : 20 beds in each.

These wards are intended primarily for complicated cases of measles and whooping cough, but would also be reserve wards for epidemics of diphtheria, pneumonia, or scarlet fever. Each ward will be divided into two wards, each of ten beds, and it is proposed that two beds in each ten-bedded ward should be cubicled by means of glass partitions to ensure a certain degree of privacy for the few adult cases who have occasionally to be admitted, e.g., cases from general hospitals, domestic servants, etc. In one ward, to be used primarily for measles, steam will be laid on to two beds for cases with laryngitis.

NOTES ON WARD CONSTRUCTION, ETC.

The various ward pavilions, as well as the administrative buildings and offices, will almost certainly be constructed with brick and roughcast; needless to say, in these hard times, the buildings will have to be as plain as possible. Semi-permanent buildings do not appear to be favoured, the reduction of cost not compensating for their many disadvantages. Needless to say, they must be so constructed as to admit the maximum of fresh air and sunlight.

Ward Dimensions.—The old standard of 2,000 cubic feet per bed is not now insisted on; but 144 square feet of floor space per bed appears to be still regarded as essential, and for the larger wards of 20 or 30 beds probably a 12-ft. ceiling will be required, giving 1,728 cubic feet per bed; in the small cubicle wards a 10-ft. ceiling would probably be sufficient.

Sanitary Annexes.—A bathroom with basin, and a water closet will be required for each male and female ward; a bath and water closet are sufficient for 12 to 16 beds. A wash-basin for the medical and nursing staff should be provided in each male and female ward.

There should be one central sink-room serving both male and female wards; it should contain slop sink, steep sink for soiled linen, with a slab for scraping the linen, bedpan airing chamber, with rack for waterproof sheets, gas incinerator for waste, and a small ventilated balcony for soiled clothes receptacles.

The position and planning of the sanitary annexe is still a nice problem for hospital architects.

Ward Administrative Unit.—This should be placed between the male and female wards and should consist of:—

(1) Combined kitchen and duty room. The kitchen should contain a gas stove, pot-cupboard, food larder, shelves for dishes, etc., and also what may be regarded as essential nowadays, some sort of large steriliser for dishes, utensils, etc.; a small annexe to the kitchen will serve as a duty-room, where medicine and poison cupboards can be kept, and facilities for urine testing provided.

(2) Maids' pantry. This should have a sink and space for storing utensils.

(3) Linen room.

(4) Room for storing patients' clothes.

(5) Staff cloakroom and lavatory.

Verandahs should always be provided; cases of laryngeal diphtheria are probably the only cases treated in fever hospitals who would not benefit by exposure on verandahs. The question of the roofing of verandahs appears to be a difficult and still unsolved problem. They may be entirely roofed with glass; a verandah, 9 ft. or 10 ft. deep, may have a glass roof of 5 ft. or 6 ft.; there may be shades, such as are used for shop fronts, and which can be rolled up when not in use; or you may have no roof at all. There are objections to all these methods, and I should be very glad to hear the opinions of members on the subject.

MAIN ADMINISTRATIVE BUILDINGS.

At present, our ideas are somewhat as follows:—

(1) Main administrative block, which will be a two-storeyed building.

(2) Nurses' home.

The Main Administrative Block will contain waiting room for travellers, etc., matron's office, telephone exchange office, small comfortably furnished room for relatives waiting overnight in the hospital, linen stores, etc., matron's quarters, quarters for two resident medical officers, and, on the second floor,

accommodation for 25 maids. At the back of this block will be the kitchen offices, with a direct connection to dining-rooms for nurses and maids.

We intend to provide quarters for two resident medical officers, although, for most of the year, only one is required; but, in the busy winter months, we require a second officer, as most of the bacteriological work of the burgh is carried out at the hospital laboratory.

Kitchen Offices will probably consist of main kitchen, general and vegetable sculleries, still-room, stores and larders for general provisions, meat, milk, and vegetables. The dining rooms should be connected to the main kitchen by a servery, and each should have a cloakroom attached.

Nurses' Home.—If the size of the hospital permits, I think there should be a separate nurses' home; such a degree of privacy will be appreciated, and nowadays it is very necessary to try and improve the conditions of the nursing service.

We propose to provide accommodation for at least 40 nurses; with 150 beds, that will give us one nurse for just under four patients; but, as our average daily number of patients during the year seldom exceeds 80, a staff of 40 should be quite sufficient in normal times when probably only four ward blocks will be open. During epidemics, probably 50 nurses would be required. In view of the need for economy at the present time, accommodation for 45 nurses might suffice, as long as the home was so planned to allow of easy extensions. There would probably be six to nine night nurses. The standard of bedroom accommodation is somewhere about 100 square feet for maids and nurses, and 120 square feet for sisters.

In addition to bedroom accommodation, the following should be provided: Sitting rooms for sisters and for staff and probationer nurses, a library and study room which can also be used for lectures, and a visitors' room. No separate sick-rooms for nurses will be provided, as we prefer to treat them in ward side rooms. Quarters for night nurses should be provided in the quietest part of the home. An excellent idea is to have a small room equipped for nurses doing their own fine laundry work, and a small tea-pantry will always be appreciated. Linen presses, trunk-rooms and housemaids' closets must not be forgotten. The minimum standard for a sanitary annexe

appears to be as follows:—One bathroom to ten staff, one water closet to ten staff, one basin to four staff. Sisters will, of course, have a separate sanitary annexe.

ADMINISTRATIVE OFFICES.

The position and planning of the various offices is largely a question for the architects, and I will be very brief on the subject. Provision should be made for the following offices:—

(1) **Porter's Lodge.**—This will be situated at the main gate.

(2) **Waiting Room for Patients' Friends.**—This should be near the main gate and should be a fairly large room where the ward sisters can interview relatives on visiting days; it may be attached to the porter's lodge.

(3) **Dispensary and Laboratory.**—This should be placed near the main administrative block for the convenience of the resident medical officer. It is proposed to have a small waiting room attached to this block to be used for swabbing patients sent by the public health staff or by practitioners, and also for examining cases which the ambulance nurses consider should be seen by the medical officer before being admitted to the wards.

(4) **Laundry Block, etc.**—This should be placed adjacent to the boiler house and should contain laundry, disinfectant, a large store for spare beds, mattresses, etc., a sewing room, and cloakroom with lavatory for staff; it is also proposed to have in this block a small suite of rooms for the outdoor treatment of cases of scabies, verminous cases, etc., consisting of undressing room, bathroom where the cases will be cleansed and treated while their clothing and bedding are disinfected, and a clean dressing room. The hospital garage may also be attached to this block; we propose to provide accommodation for two ambulances, one light van, and also, we hope, space for a private car.

(5) **Boiler House, etc.**—This block should contain boiler house, machinery and pump room, small workshop for engineer, store for utensils, etc., and lavatory for male staff. I should like to have the opinion of members on the question of heating by oil fuel. It has many advantages, but I do not know whether it would be satisfactory for a hospital with widely separated pavilions, etc.

(6) **Mortuary Block.**—This should contain: (1) Mortuary, with space for at least six bodies. (2) Viewing room, into which bodies can be

wheeled, and where, if necessary, relatives can have a short service. (3) *Post-mortem* room.

(7) **Houses for Male Staff.**—Three or four houses will be required for the engineer, ambulance driver, handyman, etc.

Estimated Cost.—Last autumn I was rash enough to tell my Council that I thought that the cost of a new hospital of 150 beds should not, at the building rates prevailing in recent years, exceed £100,000, which works out at £666 per bed. At that cost, loan charges, on a 30 years' loan, would mean an additional 2½d. on the rates, and, even if money becomes dearer, should not exceed an additional 3d. on the rates. The cost of the loan charges would remain steady for a number of years and then gradually decrease during the remaining period of the loan.

THE next Annual Congress of the Royal Institute of Public Health will be held at Eastbourne, from May 30th to June 4th, 1933.

DR. JAMES CARVER, Medical Superintendent, St. George-in-the-East Hospital, has been appointed Medical Superintendent of St. Mary Abbots (London County Council) Hospital, Kensington, in place of the late Dr. A. Remington Hobbs.

THE Royal Institute of Public Health announces the following lectures, to be given in the Lecture Hall of the Institute, 23, Queen Square, London, W.C.1:—(a) The Harben Lectures, on October 10th, 11th, and 12th, at 4 p.m., by Geheimrat Dr. med. Max Neisser, Professor of Bacteriology and Hygiene in the University of Frankfurt am Main, on "Some New Investigations regarding Old Bacteriological Problems." (b) A course of lectures on "Preventive Medicine: The Maintenance of Health and the Avoidance of Disease," on Wednesday afternoons at 4 o'clock from October 19th to December 7th. (c) A special course of lecture-discussions on "Mental Defectiveness as a Medico-Sociological Problem," on Thursday afternoons at 4 o'clock from October 27th to December 1st. Full particulars of the courses, which are open, without fee, to all men and women interested in the subjects, may be obtained from the Hon. Secretaries of the Institute at 23, Queen Square, London, W.C.1.

Ut Ita Dicam.

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

The First M.O.H.

Quite a number of interesting and, indeed, important things happened at the Council meeting on Friday, September 16th, but none of them appealed to me half so much as the presentation that was made of the photograph of Dr. Duncan, the first medical officer of health of Liverpool, and the first preventive medical officer to be appointed by any authority in this country. I seem always to have known about Dr. Duncan. The number of times I have heard mention made of his name by this, that or the other lecturer who had need to refer to the beginnings of public health I cannot tell. I do not know that I had given any thought at any time as to what he looked like, but somehow I was not surprised when the first glimpse of his picture gave me an impression of someone bearing quite a striking resemblance to Lord Lister—the same gentle, kindly refined look: the pleasantly sensitive mouth: the clear glance and the clean-cut features. Altogether a predecessor of whom we of the service may very well be proud. Of his work, too, we can be proud, for accompanying the picture there was the note of Dr. Hanna, the donor of the picture, telling of some of the things he had done, and the reforms he brought about on behalf both of Liverpool and the nation. Also there was an addendum by Dr. Naylor Barlow, who explained that the picture had turned up when the Liverpool Public Health Department was moving into new quarters. At the same time, certain letter-books of Dr. Duncan were unearthed, which seemed to show that not only did he write his own letters but he copied them as well, being, in addition to medical officer of health, chief clerk and all the other clerks and inspectors and the office boy. That he had humour also was shown by one of the letters found, which appeared to be a reply to a questionnaire—even in those days there were questionnaires—from the town clerk as to the staff of the department, which ran: "Dear Sir,—The staff of this department consists of Dr. W. H. Duncan. Your obedient servant, W. H. Duncan." I am glad about Dr. Duncan and think it splendid that, thanks to Dr. Hanna, we at last are in a position to hang on our walls the portrait of the ancestor of us all.

The Council Meeting.

Amongst the business done there was a good deal that was routine of the September meeting, appointing representatives on various other bodies, e.g., the British Medical Association Public Health Committee; consideration of the annual report of the Council, and so on. Members of the Council for the new session under special Articles of the Association were also elected, no change being made in the representation, which included such very useful people as Sir Henry Brackenbury, Sir Francis Fremantle, M.P., Professor Jameson and Dr. Paterson. As the result of the death of Dr. F. J. Allan, who had been for many years a trustee of the Society, it became necessary to make new appointments. Dr. G. F. Buchan and Dr. Naylor Barlow agreed to act, the latter filling the vacancy created by the death of Dr. J. C. McVail. The only other appointments made were of certain representatives to meet the Association of Municipal Corporations for the purpose of discussing the Vaccination Acts.

The General Purposes Committee.

The report of the General Purposes Committee gave rise to a certain amount of discussion, particularly as it had been left to that body to bring up a report upon that one in the Articles of Association that deals with the constitution of the Council, and to submit suggestions. This they did, and it was so far satisfactory that it was left to the Committee to make the Articles presentable; draft bye-laws for consideration, and see about getting the whole into a little booklet like one that was prepared and supplied to all Fellows of the Society—as some one or two members present (but not me, please) remembered—round about 1909. The Committee further reported what the General Medical Council had to say about the views of the Society on the place of preventive medicine in the medical curriculum. They circulated in connection therewith a copy of the replies from the licensing bodies to the General Medical Council, and for the edification of the members directed particular attention to a contribution to the symposium from one of the newer universities in which incidentally, and

in the tail, where stings come from, a view, most devastatingly unfavourable, of the public health service generally, was expressed. The fact that the General Medical Council had arranged to consider the whole question of the teaching of preventive medicine after the inspection of the final examinations in medicine had been completed, decided the Council of the Society in determining to await further communications from the General Medical Council. An extremely interesting and carefully thought out memorandum on local government areas, submitted by the General Purposes Committee was adopted, and appears elsewhere. Take it all round, though there were a number of absentees, it was a very good meeting and a great deal of business was got through.

Dr. T. H. C. Stevenson, Superintendent of Statistics.

Though he was not a Fellow of the Society, and I cannot remember to have seen him at any of our meetings, the late Dr. Stevenson, nevertheless and naturally, was known to all medical officers of health and intimately to a number. Before his appointment as Superintendent of Statistics in the office of the Registrar-General, he had held appointments in the school medical service and in this way, and also as he had taken the diploma in public health at Cambridge, had practical knowledge of public health work and health departments. Such knowledge must have served him in good stead as helping to understand the needs and difficulties of health workers. That he did so understand, and that he was always ready and willing to help, there are many who can testify. He was of a very quiet and retiring disposition and quite free from that air of conscious superiority and intellectual arrogance that persons who know all about and deal in figures always or, to me, appear always to carry. Having sat on a committee with Dr. Stevenson and having asked and heard others ask him questions that must have seemed childish and nonsensical, I can vouch for it that he never once attempted to discourage or was anything but kindly and patient. Kindliness and tolerance were characteristics and were in his bearing and accent; as was also modesty. In the last number the fact was noted that he had been awarded the Bisset Hawkins Gold Medal by the Royal College of Physicians. This was

only one of many honours conferred upon him, all of them well deserved. Dr. Stevenson only retired from the position of Superintendent of Statistics last year, and therefore had little opportunity of enjoying the rest he had so well earned.

Sir Ronald Ross.

The reports with regard to the condition of Sir Ronald Ross had been discouraging for some time and the end, when it came, was not unexpected. He was in many ways a remarkable figure, and though there were few more closely concerned in and with preventive medicine, he had little or nothing to do with the most exclusively preventive society of all. This no doubt was due to the fact that his thoughts were almost entirely upon tropical hygiene and diseases of warm climates; malaria particularly. The work which he did in relation to this disease was probably more talked of than that done by any other worker at the subject. Malaria and Ross to many, in fact, came to be almost synonymous, and certainly as a result of what he did there came a clearing up of many difficulties. Admittedly also much of what he did was done in the face of difficulties that, taken along with the lack of encouragement, would have served to dishearten a worker less determined and less blindly certain he was on the right line. Of the value of his work he himself never at any time had any doubt, and he always gave the impression that any recognition it received was definitely less than its due. In addition to being a keen tropical hygienist, he was something of a literary man and some of his writings were very highly thought of and praised. His death has removed a figure of note in his own particular field, and he will be greatly missed, more particularly in connection with the Ross Institute which he was instrumental in founding and which owed so much to his initiative, influence and energy. It is interesting to note that the fund which had been opened primarily for the benefit of Lady Ross, who, in fact, however, predeceased Sir Ronald, was closed only a day or two before his death, having reached something over £15,000.

P.

THE estate of the late Dr. E. L. Parry Edwards, County Medical Officer for Carnarvonshire, has been valued for probate at £6,616.

The Society.

Reports, Proceedings and Announcements.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on Friday, September 16th, 1932. The President (Dr. C. Killick Millard), owing to a recent slight operation to his tongue, asked to be excused the chair, which was taken by Dr. E. H. Snell. There were also present Drs. T. W. N. Barlow, G. F. Buchan, A. K. Chalmers, James Fenton, C. Herington, W. W. Jameson, J. J. Jervis, R. H. H. Jolly, G. W. N. Joseph, Jas. Mair, H. J. Milligan, E. H. T. Nash, Agnes Nicoll, R. M. F. Picken, Charles Porter, T. P. Puddicombe, P. H. Stirk, J. A. Stirling, Ernest Ward, H. Gibbons Ward, R. H. Wilshaw and F. T. H. Wood.

The minutes of the last meeting having been approved and signed, apologies for absence were received from Prof. A. Bostock Hill, Drs. Harold Kerr, G. H. Pearce, J. J. Buchan, J. B. Howell, W. A. Muir and K. E. Tapper. The Secretary was instructed to send to Dr. Kerr the Council's regrets for his continued ill-health and their best wishes for his complete recovery.

Pasteurisation of Milk.—The Hertfordshire Milk Recording Society forwarded a resolution to the effect that compulsory pasteurisation would be a retrograde step in the work of clean milk production and would tend to reduce the best production to that of the lowest grade. The Secretary was instructed to send in reply the opinion given by the Society recently to the Association of Municipal Corporations, with the reasons therefor.

Representation of the Society.—Representatives of the Society were nominated as follows for the coming year:—

British Medical Association:—

Public Health Committee: Drs. G. F. Buchan and F. T. H. Wood.

Insurance Acts Committee: Dr. J. J. Buchan.

R.S.I. and Sanitary Inspectors' Examination Joint Board: Dr. E. H. Snell (for three years).

Central Association for Mental Welfare: Dr. T. P. Puddicombe.

National Safety First Association, Home Safety Committee: Dr. Agnes Nicoll.

It was regretfully decided to refuse a request from the Model Abattoir Society to make a donation to their funds and to appoint a representative, it having been resolved by the Council on a previous occasion that it was not expedient for the Society to make contributions to any other organisation.

Annual Report of the Council.—The Annual Report of the Council for the session 1931-32 was adopted for submission to the Annual General Meeting of the Society on October 21st. (See p. 25.)

Report of the General Purposes Committee.—The following report and recommendations from the General Purposes Committee (dated July 22nd, 1932) were adopted by the Council:—

Royal Institute of Public Health.—A letter was received from the Royal Institute of Public Health inviting an informal conference with representatives of the Society as to the possibility of the Society using part of the accommodation in the Institute's new premises. The chairman pointed out that negotiations were actually in progress between the Royal Institute of Public Health and the Royal Sanitary Institute, and that it might be expedient if the Society took no steps for the time being, especially in view of the fact that the lease of No. 1, Upper Montague Street, had still some seven years to run. The Executive Secretary was instructed to reply on the above lines to the Royal Institute.

D.P.H. Course at the University of Durham.—It was reported that the Northern Branch of the Society had made representations and sent a deputation with regard to the continuance of the courses by the Durham College of Medicine for the degree of Bachelor of Hygiene and Diploma in Public Health. As a result of this, the Branch had been informed that the courses of instruction would be recommenced during 1932-33.

Preventive Medicine in the Medical Curriculum.—A letter was received from the Registrar, General Medical Council, enclosing copies of the final report presented to the Council by their General Education and Examination Board on the report by the Society in regard to the place of preventive medicine in the medical curriculum. The Joint Committee have recommended that the replies from the licensing bodies upon the Society's report should be considered in relation to the reports of the inspectors on the final examinations in medicine, surgery and midwifery, when these are presented to the Council.

Training of Nurses.—A letter was received from the Association of Municipal Corporations referring to the resolution passed at the Public Assistance Com-

ference held in March last in regard to the question of the best methods for the training and recruitment of nurses. The Association asked the view of the Society as to the advisability of setting up a special Joint Committee with the County Councils' Association to consider the above question. The Committee instructed the Secretary to reply that the Society agreed that the above course was desirable and would be glad to offer their assistance if desired.

Medical Attendances at Out-Patients' Departments of Municipal Hospitals.—The Association of Municipal Corporations forwarded copies of recent correspondence between the Medical Officer of Health and Town Clerk of Birmingham, and the Secretary of the local Branch of the B.M.A., in regard to securing an arrangement whereby out-patients who were treated at municipal hospitals should be referred to their own private doctor for further treatment. The question was raised in the correspondence as to the legal aspects of liabilities involved if such a course were adopted. The Committee decided to reply that they could not give any opinion on the legal points, but that the practice by which private practitioners could use out-patients' departments at municipal hospitals as consultative centres was gaining ground in most areas.

Central Midwives Board.—The Association of Municipal Corporations wrote acknowledging the resolution forwarded by the Society in favour of permitting local supervising authorities to present cases direct before the Central Midwives Board. They also enclosed a report and supplementary report by Councillor W. J. Loxley, J.P., of Birmingham, and a memorandum by Sir Harry Pritchard with regard to the constitution of the Board. The Committee decided, in the absence of Dr. John Buchan, the Society's representative on the Board, to defer consideration of the above until their next meeting.

Salaries at Southampton.—The Chairman reported that he had been in communication with Dr. T. A. Seekins, whose salary on his recently being promoted Deputy M.O.H., Southampton, had been fixed at £850 per annum. As a result of a letter from the B.M.A., the Southampton Council proposes to review its medical salaries and we await the result of this review.

Rideal-Walker Co-efficient of Disinfectants.—The British Standards Institution wrote stating that a Technical Committee had been appointed to consider the draft standard technique for the determination of the Rideal-Walker Co-efficient of Disinfectants, and asked the Society to nominate a representative. The Committee decided to put forward the name of Dr. James Fenton, and this was confirmed by the Council.

Lay Administrative Officers in Health Departments.—A letter was received from the Association of Public Health Chief Clerks regarding the decision of the Council of the Society in regard to the memorandum on the above prepared by the Society. They requested that they should be given the opportunity of sending a deputation if the Society were to be consulted by the Ministry of Health in this connection. The Committee decided to recommend that the Council await any communication from the Ministry of Health.

Notification of Plague and all Forms of Pneumonia.—The Women Public Health Officers' Association forwarded a resolution passed at their Annual Con-

ference urging the desirability of the above; and, further, that convalescent treatment should be provided for those cases which are considered necessary by the doctor. They asked the Society to support their resolution. The Committee, however, recommended that no action be taken, and this was confirmed by the Council.

Attendance of School-Children for Schick Testing and Immunisation.—The Metropolitan Branch wrote asking the Society to make representations to the Board of Education in favour of the attendance of School Children at Infant Welfare centres for Schick testing and immunisation being regarded as school attendances. The Committee agreed that the above was desirable, but thought action could best be taken by the Branch, as the difficulty in this connection had arisen mainly in London.

Milk Supply.—A letter was received from Mr. R. Waley Cohen in regard to the best method of bringing about a co-operative effort towards improving the milk supply between producers, distributors and the medical profession. The Secretary was instructed to forward Mr. Waley Cohen information as to recent work in this direction by the Society.

Local Government Areas.—The Chairman reported that the Sub-Committee consisting of Prof. W. W. Jameson, Drs. H. J. Milligan, H. Gibbons Ward, and himself, had met the previous day and had modified and made additions to the former memorandum on the above subject which had been referred back to the Committee by the Council. He now submitted the revised memorandum. The Committee approved the memorandum for submission to the Council at the September meeting.

Certification of Blindness and Ascertainment of Causes of Blindness.—A letter was received from the Ministry of Health drawing attention to the report recently submitted to them by the Union of Counties' Associations for the Blind with reference to the above subject. The Ministry asked for the Society's observations on the recommendations made in this report, especially with regard to the suggested form of certificate and the desirability of including Section 3 therein, which relates to the causes of eye defects. The Committee recommend that the Council agree with the recommendations made and the desirability of including Section 3 in the suggested certificate.

Milk Designations.—It was reported that Drs. R. M. F. Picken, T. Orr and H. J. Milligan, and Major D. S. Rabagliati, F.R.C.V.S., had attended as representatives of the Society to advise the Association of Municipal Corporations in regard to the above. They had recommended the Association as follows:—(a) that some simplification of the present milk designations was desirable; (b) that the present designations, Grade A and Grade A (Pasteurised) should be dropped; (c) that the present designations, Certified, Grade A (T.T.) and Pasteurised should be retained, and (d) that the Association might consider it wise to await the results of the experiments which were likely to be carried out at Manchester and Glasgow before making active representations to the Government.

Quarantine Periods after Certain Infectious Diseases.—An enquiry was received from the Private Nurses' Committee of the College of Nursing, in regard to the necessary quarantine periods after certain infectious

diseases. The Committee considered the enquiry at some length, and instructed the Secretary to draw the College's attention to quarantine periods laid down in the Board of Education memorandum on the closure of schools, but to add that where the next patient was an adult and presumably non-susceptible to certain of these diseases, these quarantine periods might be considerably modified.

Women Public Health Officers' Association.—Miss Sayle, Miss Brown and Miss Wilson attended as representatives of the above Association, mainly to consult the Committee on points arising in their verbal evidence to be given before the Departmental Committee on Local Government Officers. It was stated that they merely wanted the views of the Medical Officers present and did not propose to state in evidence that their views had the support of the Society of Medical Officers of Health. On that understanding, a useful interchange of opinion took place between those present.

The Constitution of the Society's Council.—The Committee again considered Article 19 of the Society's constitution, and in this connection had before them suggestions by Dr. J. A. Stirling as to giving a larger representation to departmental officers. Dr. Stirling's and other suggestions were considered at some length, but it was found impossible to arrive at any scheme which would not be complicated in practice. It was pointed out that the present constitution permitted of a large majority of the Council being departmental officers, and the Committee decided once more to recommend to the Council that paragraphs (a), (b) and (c) should remain unaltered. At the same time they would urge that action to increase the representation of departmental officers should most appropriately be taken by the Branches, especially those who send more than one representative to the Council. It was decided to recommend that paragraph (d) should be altered to read, "Not more than six Fellows of the Society, who shall be in active practice," and paragraph (f) "At the discretion of the Council not more than four eminent persons interested in the advancement of public health." The Chairman also drew attention to the bye-laws made by the Council for the conduct of its business and bye-laws made by the Society for the conduct of business at general meetings. The Secretary was instructed to have copies circulated to the members of the Committee for consideration at the next meeting.

With regard to the Committee's recommendations as to the constitution of the Council, which were adopted, it was resolved that the suggested revision of the Articles of Association be brought again before the Council as a complete whole, together with any modifications of the Bye-Laws, and this was referred to the Committee.

Housing of the Society.—Arising from the paragraph of the above report referring to the Royal Institute of Public Health, it was decided to refer the whole question of the housing of the Society and new premises to the General Purposes Committee for consideration and report.

Local Government Areas.—The Council adopted the memorandum on Local Government Areas submitted after revision by the General Purposes Committee, and resolved that copies be sent to the Ministry of Health, the associations of local authorities and to the Committee on Local Government Expenditure. The council expressed thanks to all who had been responsible for the memorandum, and especially the sub-committee consisting of Drs. G. F. Buchan, Prof. W. W. Jameson, Drs. H. J. Milligan and Gibbons Ward. The memorandum appears in this issue (p. 28).

The late Dr. F. J. Allan.—The next business being the appointment of Trustees of the Society's funds in place of the late Drs. F. J. Allan and J. C. McVail, the Chairman referred to the sorrow felt by the Council by the sudden death of the former. Dr. Allan was a Past-President of the Society and had acted as Trustee for many years. It was felt that the Council would wish to pass a sincere vote of sympathy with Mrs. Allan in her loss, and this was accordingly done, the Council standing in silence.

The Trustees of the Society's Funds.—Drs. T. W. Naylor Barlow and G. F. Buchan were unanimously elected to be Trustees together with Dr. George Millson.

Elections to the Council, 1932-33.—The following were elected to vacancies on the Council under Article 19 (b) of the Articles of Association, viz., Drs. T. W. N. Barlow, J. J. Jervis, H. J. Milligan, E. H. T. Nash, R. M. F. Picken and E. H. Snell.

Under Article 19 (e) Sir Henry Brackenbury and Dr. W. Paterson were re-elected on the nomination of the British Medical Association, and under Article 19 (f) Sir Francis Fremantle, M.P., and Prof. W. W. Jameson were also elected.

The Vaccination Acts.—The Council received a letter and enclosure from the Association of Municipal Corporations referring to the Vaccination Acts. The Association asked that representatives of the Society should be appointed to confer with them, and the Council accordingly nominated Drs. C. Killick Millard, G. F. Buchan, Charles Porter and R. M. F. Picken.

Portrait of Dr. Wm. Henry Duncan.—Dr. Wm. Hanna forwarded a portrait of Dr. W. H. Duncan for presentation to the Society. The following covering letter from Dr. Hanna was read:—

"It gives me great pleasure to be in a position to offer for the acceptance of your Council, a copy of a photograph of the late Dr. William Henry Duncan, who was our first Medical Officer of Health and, indeed, the first Medical Officer of Health to be appointed in this country.

"For many years before his appointment, he fulfilled voluntarily many of the functions of a Medical Officer of Health, and from 1830 onwards he was Physician to the Liverpool Dispensaries.

"In 1840, when Parliamentary Committees were enquiring into the subject of Health in Towns, Dr. Duncan gave evidence and had his opportunity to reveal Liverpool's appalling insanitary condition under which the poorer population lived owing to lack of water, outbreaks of typhus fever and other plagues, and also the fact that 38,000 people were living in cellar dwellings under similarly bad conditions.

"In 1843, he read a paper to the members of the Literary and Philosophical Society of Liverpool on the 'Physical Causes of the High Rate of Mortality in Liverpool,' a subject on which he had given evidence to the Poor Law Commissioners. This paper was published very widely and its circulation called attention to many urgent questions which ultimately resulted in the passing of a most important Act of Parliament known as the Towns Improvement Clauses Act, 1847. Dr. Duncan's report was subsequently published by the Government.

"Dr. Duncan was born in Seel Street, Liverpool, in 1805, was educated at Edinburgh University, and was Medical Officer of Health of Liverpool from 1847 to 1863. He died and was buried at Elgin in 1863.

"I trust the Council will accept this little gift as a record of a famous Public Health pioneer."

The Council passed a hearty vote of thanks to Dr. Hanna for the trouble he had taken to make this interesting gift to the Society. The picture will be given a place in the Council Room.

The Council then adjourned.

THE METROPOLITAN BRANCH.

President: Dr. A. F. Cameron, Medical Superintendent, River Hospital Service, London County Council.

Hon. Secretary: Dr. James Fenton, M.O.H., Kensington.

On September 23rd, members of the Branch Council, together with a number of ladies, paid a visit to the works of Messrs. Horlick's Malted Milk Company, Ltd., at Slough, Bucks. The party, numbering thirty, travelled by motor-coach from the house of the Society, and were received on arrival by Mr. Clifford Harrison, the Publicity Manager of the Company who, with the chief chemist (Mr. G. W. Severn), the resident medical officer (Dr. C. R. Williams)

and other members of the staff, conducted the visitors over the handsome and spacious new building in which the products of the firm are manufactured. The whole procedure of extracting the nutritive elements from malted barley and wheaten flour and their combination with milk to produce, by the vacuum process, the malted milk powder and tablets, was clearly explained, and the various stages of manufacture, from the raw materials to the bottling and packing of the finished article, were keenly followed. Particular interest was shown in the special cabinets (containing a copper urn and attractively designed beakers) which have been supplied gratis, with the malted milk at special rates, to over 5,000 schools in Great Britain to enable the scholars to have a mid-morning hot drink. Another product in which the firm appear to have achieved considerable success is the "shadow" food, a combination of Horlick's malted milk and barium sulphate for use in X-ray diagnoses in ailments of the alimentary tract. Throughout the tour, as Dr. Cameron, President of the Branch, pointed out later, the members were impressed by the steps taken to ensure that the work should be carried out under hygienic conditions, and by the various benevolent, social and recreational facilities available to members of the staff. Special features in the offices include the installation of Sheringham "daylight" as a method of artificial lighting, and the "Anemostat" system of air conditioning and warming. With a view to reducing the monotony associated with filling and packing operations in the factory, arrangements have been made for the workers to become familiar with the several processes and to pass on from one operation to another at stated times during the day.

Following tea, Mr. Clifford Harrison gave a brief history of the undertaking which, he pointed out, was British throughout in its personnel and in all the materials used.

Dr. Cameron, on behalf of the guests, conveyed a cordial expression of thanks to the Directors for an enjoyable and instructive visit. The members had been greatly interested in all they had seen, and particularly in the application of the firm's product to the diagnosis and treatment of certain diseases.

For the convenience of those members of the Branch Council who were unable to be present on this occasion, it is hoped to arrange a similar visit to Slough on the afternoon of Friday, October 7th.

THE SCOTTISH BRANCH.

President: Dr. A. S. M. Macgregor, O.B.E., M.D., Glasgow.
Hon. Secretary: Dr. W. G. Clark, Aest. M.D., Glasgow.

-At the annual meeting of this Branch, held in the City Chambers, Glasgow, on May 28th, 1932, the undernoted office bearers were appointed for the ensuing year:—

President.—Dr. A. S. M. Macgregor, (Glasgow).

Vice - Presidents.—Dr. Thomas Adam (Stirling); Dr. A. K. Chalmers (Glasgow).

Hon. Secretary and Treasurer.—Dr. W. G. Clark (Glasgow).

Members of Council.—Dr. C. A. Bignold (Ayr), Dr. G. Arbuckle Brown (Glasgow), Dr. G. G. Buchanan (Paisley), Dr. W. L. Burgess (Dundee), Dr. C. C. Finlator (Alloa), Dr. John Guy (Edinburgh), Dr. R. Hamilton (Coatbridge), Dr. G. V. T. McMichael (Paisley), Dr. A. A. McWhan (Duns), Dr. B. R. Nisbet (Kilmarnock), Dr. J. Hume Patterson (Hamilton), Dr. Harry Rae (Aberdeen), Dr. J. Ritchie (Dumfries), Dr. T. Lauder Thomson (Dumbarton), Dr. G. Pratt Yule (Cupar) and Dr. Nora I. Wattie (Glasgow).

Representative on Council of the Society.—Dr. A. K. Chalmers (Glasgow).

Several meetings of the Branch were held during the year, and the following very interesting papers were read at well-attended meetings:—

(1) At a meeting held on November 7th, 1931, Dr. Macgregor, the President, opened a discussion on "Hospital Policy under the Local Government (Scotland) Act, 1929," and his remarks were followed by those of Dr. Buchanan (Renfrewshire) and Dr. McMichael (Paisley). Dr. Adam (Stirlingshire), Dr. Lauder Thomson (Dumbartonshire), Dr. J. Hume Patterson (Lanarkshire), Dr. Guy (Edinburgh) and others took part in the discussion, and pointed out the position as it presented itself to them.

(2) At a meeting held on December 5, 1931, Dr. J. Hume Patterson (Lanarkshire) introduced a discussion on "The Outdoor Medical Services," and Dr. Martin, Medical Superintendent, Stobhill General Hospital, Glasgow, who had been invited to speak, dealt with the question of domiciliary and institutional treatment. Dr. Macdonald Ross (Wigtownshire), Dr. Adam (Stirlingshire), Dr. McLeish (Perthshire), Dr. Adam (Roxburghshire), Dr. Ritchie

(Dumfriesshire) and several others took part in the discussion which followed.

(3) At a meeting held in Edinburgh on January 16th, 1932, Dr. Guy (Edinburgh) introduced the subject of "The Reorganisation of the Nursing Services," and Dr. Chalmers and several other members gave their opinions in this matter.

(4) At a meeting on May 7th, 1932, Dr. Gerald Leighton, Medical Officer (Foods), Department of Health for Scotland, gave a short communication on the question of "Food Poisoning," and the use of the terms "ptomaine poisoning" and "food poisoning." Thereafter a discussion on "The Modern Fever Hospital: its Function and Construction" was opened by Dr. McMichael (Paisley), whose paper appears in this issue, and Dr. Adam (Stirlingshire), Dr. Finlator (Clackmannan), Dr. Brownlie (Department of Health), and the Physician-Superintendents of the Infectious Diseases Hospitals in Glasgow, followed with their views.

A SESSIONAL MEETING of the Royal Sanitary Institute will be held at Coventry on Friday, October 21st, 1932. At 5.30 p.m., in the Council House, discussions will take place on (a) "The Position of the Medical Officer of Health in Relation to Industrial Hygiene" (opener: Dr. A. Massey, Medical Officer of Health, Coventry, and Hon. Local Secretary of the meeting); (b) "Current Sanitary Engineering Schemes in Coventry" (opener: Mr. E. H. Ford, City Engineer, Coventry); and (c) "The Place of National Health Insurance Administration in the Public Health Scheme" (opener: Mr. J. C. Lee Gordon, Clerk to the Coventry Insurance Committee). The chair will be taken by Dr. James Fenton, Member of the Council of the Institute. The meeting will be preceded at 12.30 p.m. by a reception by the Mayor of Coventry, and, after lunch, at 2.45 p.m., a visit will be paid to the Standard Motor Works, Canley, at the invitation of the Standard Motor Co., Ltd.

THE death is recorded with regret of Dr. Edwin Charles Warren, a Fellow of the Society of Medical Officers of Health, and formerly Medical Officer of Health for Gillingham.

Annual Report of the Council, 1931-32.

Your Council report:—

1. That ninety-six candidates have been elected as Fellows or Associates of the Society during the session 1931-32. (In 1931 the number was 136.) During the same period one hundred and four resignations (1930-31, 75) were accepted from members who are retiring from active work or leaving the Public Health Service for other branches of medical practice, or who decided to relinquish membership for financial reasons.

2. That the Society has to mourn the loss by death of Peter Henderson Bryce, M.A., M.D., formerly Chief Medical Officer, Canadian Federal Department of Health, and one of its Honorary Fellows; of Francis John Allan, formerly Medical Officer of Health, City of Westminster, President, 1915-16, and a Trustee of the Society's Funds; of Sir Thomas Eustace Hill, O.B.E., formerly Medical Officer of Health, County of Durham, President, 1922-23; of Professor Matthew Hay, formerly Medical Officer of Health, Aberdeen, and Professor of Public Health, University of Aberdeen; of Sir William Robert Smith, LL.D., M.D., J.P., D.L., formerly Medical Officer of Health, Woolwich, and Principal of the Royal Institute of Public Health; of Dr. John Parlange Kinloch, Chief Medical Officer, Department of Health for Scotland; of Sir Thomas Morison Legge, C.B.E., formerly H.M. Chief Medical Inspector of Factories; and of Drs. H. H. Back (Blofield and Aylsham), Bertram Bartlett, M.C. (Blackpool), W. H. Blackburn (Lowestoft), R. E. Brown (Willington U.D.), H. R. Burpitt (Newport, Mon.), W. L. Gwyn Davies (Carmarthenshire), Henry Davis (Callington), Archibald Gardiner (Essex C.C.), Mr. E. W. Harwood, L.D.S., Drs. W. F. Jones (L.C.C.), C. S. Kilner, O.B.E. (Thingoe R.D.), W. K. Loveless (Stockbridge R.D.), George Lumsden (Pateley Bridge R.D.), H. R. Macintyre, D.S.O., M.C. (Broad Green Sanatorium, Liverpool), A. McG. McMillan (Sedgeley U.D.), J. Aspinall Marsden (formerly Shelf and Hipperholme U.D.), Edwin Morton (North Oxon C.S.D.), J. T. C. Nash (formerly Norfolk C.C.), E. L. Parry-Edwards (Carnarvonshire), Marcus Paterson (L.C.C.), Charles Renner, F. S. Rhodes (Thornton U.D.), Thomas Robinson (formerly Leicestershire), T. W. Sinclair

(Melbourne), W. C. P. Smith (Poplar), Eliot Swainston (South - Western Hospital, L.C.C.), J. C. Thresh (formerly Essex C.C.), R. H. Todd (University of Sydney) and E. C. Warren (formerly Gillingham).

3. That allowing for these losses the membership of the Society shows a net decrease of 43 as compared with increases of 53 and 28 in the two preceding sessions.

4. That the total membership has fallen still shorter of the figure of 2,000, which it was hoped to attain, and it appears that both recruitment and resignations have been affected by the financial crisis during the past year and by the deductions made from the salaries of the majority of public health medical officers. During the session the usual invitations to apply for election have been sent to junior officers direct, and also in many cases through their medical officers of health or the honorary Secretaries of the Branches and Groups. The Council would once more urge members of the Public Health Service who are not members of the Society, but have reaped the benefit of the Society's activities in the past, to apply for election. It is of vital importance in present circumstances that the Society should represent the whole Public Health Service, if it is to exert any useful influence against unjustifiable encroachments on salaries and on public health functions generally which may be made in the name of economy.

5. That Dr. C. Killick Millard delivered his Presidential Address at the Annual Meeting of the Society on October 16th, 1931, on "The Legalisation of Voluntary Euthanasia." For the ordinary meetings of the session, the President arranged the following series of discussions:—

"Fever Hospital Policy and Modern Treatment." H. Stanley Banks, M.A., M.B., CH.B., D.P.H., Medical Superintendent, City Isolation Hospital and Sanatorium, Leicester; Dunstan Brewer, M.R.C.S., L.R.C.P., D.P.H., Medical Officer of Health; Swindon.

"The Mental Treatment Act, 1930." Sir Hubert Bond, K.B.E., D.S.C., M.D., LL.B., F.R.C.P., Commissioner of the Board of Control; P. K. McCowan, M.D., M.R.C.P., D.P.M., Medical Superintendent, City Mental Hospital, Cardiff.

"Causes of the Decline in Tuberculosis Mortality." G. Lissant Cox, M.A., M.D., B.CH., Central Tuberculosis Officer, Lancashire C.C.; Ernest Ward, M.A., M.D., F.R.C.S., Tuberculosis Officer, Devon County Council.

"Rheumatism in the School Child." Gerald Slot, M.D., M.R.C.P., D.P.H., Physician-in-Charge, Rheumatism Supervisory Centre, L.C.C.; Francis J. Bach, M.A., M.D., B.CH., Physician, Kensington Rheumatic Centre; Vincent Coates, M.C., M.A., M.D., M.R.C.P., Cardiac Specialist, Wiltshire County Council.

"The Provision of Medical Baths by Local Authorities." R. Fortescue Fox, M.D., F.R.C.P.; G. R. Bruce, O.B.E., M.A., M.D., D.P.H., Medical Officer of Health, Hastings.

6. That, in addition, the President arranged a Provincial Meeting which took place on June 18th, 1932, at Leicester, when a discussion on "Is Pasteurisation the Solution of the Milk Problem?" was opened by Thomas Orr, M.D., D.Sc., Medical Officer of Health, Ealing. The following also spoke: J. F. Blackshaw, Dairy Commissioner of the Ministry of Agriculture; Professor H. R. Kenwood, C.M.G., M.B., F.R.S.E., D.P.H.; Wilfred Buckley, C.B.E.; and James Mackintosh, O.B.E., N.D.A., N.D.D., National Institute for Research in Dairying, University of Reading. The meeting was attended by some sixty members of the Society from all parts of the country and a most interesting exchange of views resulted. Members were entertained to luncheon by the Lord Mayor of Leicester, to whom the Society's thanks are due. In the afternoon a large number of members attended the Leicester Historical Pageant, and were afterwards entertained to tea by the President and Mrs. Millard. The President's arrangements were most successful and the meeting gave great pleasure to those who attended.

7. That six meetings of the Council were held during the session, and Committees of the Council met on nine 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 and other Government De-

partments on various matters affecting public health administration and officials. They have been in communication with the Departmental Committees on Local Government Officers and on Food Law.

9. That they have been in communication with a number of representative bodies concerning principles and details of Public Health Teaching and Administration, including the League of Nations, the General Medical Council, the British Medical Association, the Royal Sanitary Institute, the National Smoke Abatement Society, the Association of Public Vaccinators, the British Dental Association, the National Association of Local Government Officers, the County Councils Association, the Association of Municipal Corporations, the Association of County Medical Officers, the British Social Hygiene Council, the National Association for the Prevention of Infant Mortality, the College of Nursing, the Central Midwives Board, the Association of Public Health Chief Clerks and the Women Public Health Officers' Association.

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 International Union of Local Authorities, the Joint Tuberculosis Council, the British Standards Institute, the National Milk Publicity Council, the Central Council for Infant and Child Welfare, the Central Association for Mental Welfare, the National Baby Week Council, the Queen's Institute of District Nurses, the Central Council for Health Education, the Central Council of Milk Recording Societies, the British Science Guild, the Associated Chambers of Agriculture, 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 the Council, and in particular the General Purposes Committee, have continued to watch the operation of the Memorandum of Agreement on Salaries and to advise members in reference to terms of appointment, security of tenure, office and travelling expenses and superannuation. During the session the Advisory Committee was set up under Section X of the Salaries Memorandum, and held its first two meetings, which Drs. G. F. Buchan, H. J. Milligan and R. M. F.

Picken, who are members of your Council, attended as representatives of the British Medical Association. The Council has continued to support the efforts of the British Medical Association towards the general application of the Salaries Memorandum and the further generous assistance of the *British Medical Journal*, the *Lancet* and *The Medical Officer* has been given by the refusal of advertisements when local authorities have attempted to secure officers at salaries below those laid down in the agreement.

12. That the Society's especial thanks are due to Dr. Alfred Cox, who has just retired after many years' service as Medical Secretary to the British Medical Association. Dr. Cox has always shown an understanding of and sympathy for the difficulties of the Public Health Service, and has played a leading part in the campaign for securing better conditions of service for medical officers of health and their assistants; he has earned the gratitude of all members of the Society.

13. That the Council, and in particular their General Purposes Committee, have devoted much time and attention during the session to a review of the Society's present constitution, as set out in the Articles of Association of 1923. The suggested revisions are still under consideration.

14. That His Majesty the King has conferred the honour of Knighthood on Sir Francis Fremantle, O.B.E., M.P., President of the Society, 1920-21, and formerly County Medical Officer for Hertfordshire; Sir Frederick Kay Menzies, K.B.E., Medical Officer of Health to the London County Council; and Sir Henry Brackenbury, LL.D., Chairman of Council, British Medical Association, and one of the Association's representatives on the Society's Council.

15. That, on your Council's recommendation, the following have been elected Honorary Fellows of the Society, as persons eminently distinguished in the advancement of public health—Sir George Newman, K.C.B., Chief Medical Officer, Ministry of Health; Surgeon-General Hugh S. Cumming, United States Public Health Service; Dr. F. F. Russell, Medical Director, Rockefeller Foundation; Dr. Carl Hamel, President, State Department of Health, Germany; and Dr. Thorvald J. M. Madsen, Director, State Serum Institute, Copenhagen.

16. That the Society's Consultant Secretary, Mr. G. S. Elliston, was returned to

Parliament at the General Election of October, 1931, as member for the county borough of Blackburn, and has become an hon. secretary of the Conservative Party Health and Housing Committee in the House of Commons.

17. That the annual exchange of officers and the re-election of the Council involves the retirement of Drs. J. Howard-Jones, Charles Franks, K. E. Tapper and A. A. Turner. We recommend that the thanks of the Society be accorded to these representatives for their services as members of the Council.

18. That the grateful thanks of the Society are due to Dr. C. Killick Millard for his services as President of the Society during the past session. His presidential address caused widespread interest and he has been unremitting in his attendance at Council and ordinary meetings. Dr. Millard arranged an interesting series of discussions for the session and a most successful Provincial Meeting, and gave up further of his time to attend the Centenary Meeting of the British Medical Association as the Society's delegate.

19. That they wish to record their appreciation of the efficient service rendered to the Society by the Executive Secretary during the past year.

A SESSIONAL MEETING of the Royal Sanitary Institute will be held at 90, Buckingham Palace Road, London, S.W.1, on Tuesday, October 11th, 1932, at 5.30 p.m., when a discussion on "The One-Pipe System of Drainage" will be opened by Mr. W. H. Draper, Sanitary Inspector, St. Marylebone. The chair will be taken by Dr. Charles Porter, Chairman of the Council of the Institute.

We regret to record the death of Dr. Harry Reginald Burpitt, School Medical Officer and Deputy Medical Officer of Health for Newport (Mon.). Dr. Burpitt was a Fellow of the Society of Medical Officers of Health, attached to the Welsh Branch.

THE Territorial Decoration has been conferred on Lieut.-Colonel H. Tunstall Bates, O.B.E., R.A.M.C., T.A., Medical Officer of Health for the Ilkley and Burley-in-Wharfedale Urban Districts, and immediate Past-President of the Yorkshire Branch of the Society of Medical Officers of Health.

Local Government Areas.

The following memorandum on local government areas has been drawn up by the Council of the Society of Medical Officers of Health and expresses the principles on which, in the opinion of the Council, more efficient administration of the public health work coming within the purview of medical officers of health could be secured. The Council of the Society of Medical Officers of Health realise that there are factors other than the public health work of medical officers of health which must be taken into account in the determination of suitable local government units, but they nevertheless trust their views may be found useful by administrators who may from time to time be called upon to consider the suitability of areas for purposes of local government.

MEMORANDUM.

1.—The Council of the Society of Medical Officers of Health have received representations from their members as to overlapping, confusion and friction which occur in connection with the exercise of public health functions by district councils and county councils.

2.—The Council of the Society have accordingly taken this matter into consideration with the view of ascertaining whether certain basic principles could be established on which better local public health administration could be found.

3.—The Council are aware that the Local Government Act of 1929 has done something to reduce overlapping by the abolition of the boards of guardians, but they feel that the maximum administrative advantages of the Act will not be secured unless its full powers are exercised so as to obtain areas sufficiently large for local self-government so far as public health is concerned. In this connection the Council of the Society of Medical Officers of Health have specially considered the following Sections of the Local Government Act:—

Section 46, relating to the re-arrangement of county districts.

Section 58, relating to arrangements for securing that every medical officer of health subsequently appointed shall not engage in private practice as a medical practitioner.

Section 63, relating to the provision of hospital accommodation for infectious diseases.

4.—The Council are of opinion that these Sections and the Act generally suggest the means by which suitable areas for public health administration can be mapped out.

PRESENT POSITION.

5.—At the present time, and excluding London, public health administration devolves upon local sanitary authorities and county councils, namely,

- (1) County borough councils,
- (2) Municipal borough councils,
- (3) Urban district councils,
- (4) Rural district councils, and
- (5) County councils.

It should be observed:—

(a) That the public health functions of all county boroughs are similar, and are administered by only one local authority in the area, namely, the council of the county borough. This unified form of administration is the only form which experience has shown to be satisfactory.

(b) That the public health functions of all municipal boroughs are not similar, and may be administered by two or more authorities in the area, e.g., the borough council, the county council, and a joint hospital board.

(c) That the public health functions of all urban districts are not similar and may be administered by two or more authorities in the area.

(d) That the public health functions of all rural districts are not similar and may be administered by two or more authorities in the area.

(e) That the public health functions of county boroughs, municipal boroughs, urban districts, rural districts and county councils vary widely.

6.—The present position as outlined in the previous paragraph is the outcome of legislation passed at different times. County districts were the bodies primarily entrusted by the legislature with public health duties and to-day they exercise many important and essential public health functions. County districts vary greatly both in population and area, and it is generally recognised that the main reason for the departure from the principle set out in 1875, that county districts should exercise all the main public health functions in their own

areas, was their inability to do so on account of the inadequacy of their resources. The county councils set up by the Local Government Act of 1888, were given, under Section 19 of that Act, certain supervisory functions with respect to public health throughout the administrative county, but these functions were generally but little exercised, and it was not until recently that a duplicate system of public health administration in the county areas was inaugurated by the endowment of county councils with certain executive public health functions which it was believed could not be satisfactorily carried out by small districts.

7.—The Council of the Society are of opinion that in the interests of good public health administration it is imperative to secure throughout England and Wales, at as early a date as possible, authorities with like responsibilities. It may not be feasible immediately to secure this desirable end, but Section 46 of the Local Government Act, 1929, gives the opportunity of laying down areas large enough to be able to administer their own health services.

8.—So far as the Council of the Society have information, however, the first reviews of districts by county councils are not likely to result in many material changes in administrative areas. It is, therefore, necessary to review the situation with this in mind, and also to remember that national economy has become an imperative need.

9.—The population of England and Wales at the census of 1931 was 39,947,931 including 4,396,821 in the county of London, 13,307,572 in 83 county boroughs, and 22,243,538 in 62 counties. Of the 22,243,538 in the 62 counties, 14,243,773 live in urban and 7,999,765 in rural areas.

10.—The accompanying table shows the ranges in population of the 62 counties and the 83 county boroughs, and names the county boroughs and counties with populations under 75,000.

An examination of this table shows:—

(a) That some county boroughs are too small for effective local government.

(b) That some counties are too small for effective local government.

(c) That 21 of the 62 counties have a population of under 150,000, the majority of which could be administered by the county council or an equivalent body, as a county borough with full county borough powers.

(d) That some of the larger counties might

ENGLAND AND WALES.

COUNTY BOROUGH.

Name.	Population.	Acreage.
Canterbury, City of	24,450	3,975
Chester, City of	41,438	2,863
Burton-upon-Trent	49,485	4,203
Worcester, City of	50,497	3,662
Gloucester, City of	52,937	2,318
Dewsbury	54,303	6,720
Bury	56,186	5,925
Great Yarmouth	56,769	3,598
Carlisle, City of	57,107	4,488
Eastbourne	57,435	6,487
Wakefield, City of	59,115	4,970
Dudley	59,579	4,063
Doncaster	63,308	4,831
Tynemouth	64,913	4,367
Hastings	65,199	4,496
Exeter, City of	66,039	4,705
Lincoln, City of	66,246	6,128
Barrow-in-Furness	66,366	11,002
West Hartlepool	68,134	2,690
Bath, City of	68,801	5,152
Rotherham	69,689	5,895
Merthyr Tydfil	71,099	17,760
Barnsley	71,522	6,036
Darlington	72,093	6,469

Population

Under 75,000	24
75,000 to 100,000	17
100,000 to 150,000	19
150,000 to 250,000	12
250,000 to 500,000	8
500,000 to 1,000,000	2
Over 1,000,000	1

COUNTIES.

Name	Population.	Acreage.
Rutlandshire	17,397	97,273
Radnorshire	21,314	301,165
Merionethshire	43,198	422,372
Montgomeryshire	48,462	510,110
Anglesey	49,025	176,694
Peterborough, Soke of	51,845	53,464
Cardiganshire	55,164	443,189
Huntingdonshire	56,204	233,985
Brecknockshire	57,771	469,281
Westmorland	65,398	504,917

Population.

Under 75,000	10
75,000 to 100,000	4
100,000 to 150,000	7
150,000 to 250,000	11
250,000 to 500,000	18
500,000 to 1,000,000	6
Over 1,000,000	6

with advantage be divided into two or more areas with county borough powers.

(e) That in the constitution of these new areas, existing county boroughs should be enlarged and utilised to the full so as to minimise as far as possible the total number

of local government areas in England and Wales. The necessity for some such adjustment of areas as between counties and county boroughs is well recognised. From time to time county boroughs desire to extend their boundaries and this is almost invariably a matter of dispute between the county council and the county borough council. Such disputes cause considerable expense to all the local authorities concerned. It may not be possible to abolish all differences of opinion as to areas but certainly much could be done to avoid the large expenditure involved in the settlement of such differences by the provision of better local government areas.

11.—Having regard to the considerable variations in density of population throughout England and Wales, the Council of the Society are of opinion that no hard and fast rule can be laid down as to the population or acreage of an ideal unit. They are, nevertheless, of opinion that generally an area with a population of about 75,000 to 100,000 inhabitants under a single authority can be well administered so far as the fundamental public health services are concerned, namely, sanitation, food supervision, and housing; the control of infectious diseases; maternity and child welfare work;

school medical work; mental deficiency; tuberculosis work; the work of district medical officers and vaccination.

12.—The Council are aware that a population of 75,000 to 100,000 will not be able to provide economically every kind of service for its exclusive use, but they are of opinion that a unit of this size may be entrusted to administer its public health services although it may join with similar units for purposes of certain institutional and other services, *e.g.*, sanatoria, hospitals, institutions for the mentally defective, or laboratories. For certain cases even national institutions may be necessary. The occurrence of such circumstances, however, does not, in the opinion of the Council, militate against the general principles here laid down.

13.—The Council would like to make it clear that these proposals are put forward with the sole object of securing the best possible local administration of public health with the minimum disturbance of existing machinery. The idea permeating the proposals is that the necessary changes in administrative areas and in administration can be gradually brought about without new legislation, provided the reviews of districts are carried out with a comprehensive policy of administration in view.

Branch and Group Elections: Session 1932-33.

METROPOLITAN BRANCH.

President .. Dr. A. F. Cameron
Vice-Presidents .. Dr. G. Clark Trotter.
Dr. J. Macmillan.
Hon. Treasurer .. Dr. F. L. Keith.
Hon. Secretary .. Dr. James Fenton.
Representatives on
Council of Society Dr. A. F. Cameron.
Dr. James Fenton.
Dr. J. B. Howell.

WELSH BRANCH.

President .. Dr. E. Lewys-Lloyd.
Hon. Secretary and
Treasurer, and
Representative on
Council of Society Dr. D. Jenkin Thomas.

HOME COUNTIES BRANCH.

President .. Dr. A. J. Laird
Hon. Treasurer .. Dr. K. E. Tapper, O.B.E.
Hon. Secretary .. Dr. R. P. Garrow.
Representatives on
Council of Society Dr. A. J. Laird.
Dr. W. A. Muir.
Dr. R. P. Garrow.

MIDLAND BRANCH.

President .. Dr. D'Arcy Ellis.
President-elect .. Dr. G. N. Anderson.
Vice-Presidents .. Prof. A. Bostock Hill.
Sir Arthur Newsholme,
K.C.B.
Dr. Wyndham Parker, M.C.
Sir John Robertson, C.M.G.
Dr. E. H. Snell.
Hon. Treasurer .. Dr. E. H. Snell.
Hon. Secretary .. Dr. R. H. H. Jolly.
Hon. Auditor .. Dr. W. M. Clendinnen.
Representatives on
Council of Society Dr. H. Gibbons Ward.
Dr. R. H. H. Jolly.

SCOTTISH BRANCH.

President .. Dr. A. S. M. Macgregor,
O.B.E.
Vice-Presidents .. Dr. Thos. Adam.
Dr. A. K. Chalmers.
Hon. Secretary and
Treasurer .. Dr. W. G. Clark.
Representative on
Council of Society Dr. A. K. Chalmers.

NORTHERN BRANCH.

President .. Dr. A. S. Hebblethwaite.
Vice-President .. Dr. J. O. Murray.
Hon. Secretary and
Treasurer .. Dr. J. A. Charles.
Representatives on
Council of Society Dr. G. C. M. M'Gonigle.
Dr. J. A. Charles.

NORTH-WESTERN BRANCH.

President .. Dr. T. W. N. Barlow.
Hon. Treasurer .. Dr. G. W. N. Joseph.
Hon. Secretary .. Dr. J. E. Spence.
Representatives on
Council of Society Dr. R. Veitch Clark.
Dr. G. W. N. Joseph.
Dr. F. T. H. Wood, O.B.E.

YORKSHIRE BRANCH.

President .. Dr. T. N. V. Potts.
Vice-President .. Dr. L. Pickering-Pick.
Hon. Secretary and
Treasurer .. Dr. J. Mair.
Representatives on
Council of Society Dr. T. N. V. Potts.
Dr. J. Mair.

WEST OF ENGLAND BRANCH.

President .. Dr. R. H. Parry.
Vice-President .. Dr. A. E. Remmet
Weaver.
Hon. Treasurer .. Dr. J. F. Blackett.
Hon. Secretary and
Representative on
Council of Society Dr. P. H. Stirk.

SOUTHERN BRANCH.

President .. Dr. H. C. Maurice Wil-
liams.
Hon. Treasurer .. Dr. H. Leslie Cronk.
Hon. Secretary .. Dr. H. D. Kelf.
Representative on
Council of Society Dr. R. H. Wilshaw.

EAST MIDLAND BRANCH.

President .. Dr. Cyril Banks.
Vice-President .. Dr. B. C. Stevens.
Hon. Secretary and
Treasurer and
Representative on
Council of Society Dr. J. A. Stirling.

EAST ANGLIAN BRANCH.

(Election pending.)

MALAYAN BRANCH.

Hon. Secretary .. Dr. R. W. C. Kelly.

SOUTH INDIAN BRANCH.

Hon. Secretary .. Major A. M. V. Hesterlov
I.M.S.

COUNTY DISTRICT GROUP.

President .. Dr. G. H. Dupont.
Vice-President .. Dr. E. A. Freear Wilkes.
Hon. Secretary and
Representative on
Council of Society Dr. C. Herington.

FEVER HOSPITAL MEDICAL SERVICE GROUP.

President .. Dr. E. W. Goodall, O.B.E.
Vice-Presidents .. Dr. E. H. R. Harries.
Dr. Sage Sutherland.
Dr. F. H. Thomson.

Hon. Secretary and
Representative on
Council of Society Dr. A. Joe, D.S.C.

TUBERCULOSIS GROUP.

President .. Dr. G. Jessel.
Vice-Presidents .. Dr. Peter Edwards.
Dr. H. G. Trayer.

Hon. Secretary and
Representative on
Council of Society Dr. Ernest Ward.

MATERNITY AND CHILD WELFARE GROUP.

President .. Dr. Margaret Emslie.
Vice-Presidents .. Dr. Agnes Bernfeld.
Dr. H. H. Chodak Gregory
Hon. Secretary .. Dr. C. Isobel Wright.
Asst. Hon. Secretary Dr. Muriel Radford.
Representative on
Council of Society Dr. Agnes H. Nicoll.

SCHOOL MEDICAL SERVICE GROUP.

President .. Dr. E. J. Boome.
Hon. Secretary .. Dr. Louisa C. Adam.
Representative on
Council of Society Dr. T. P. Puddicombe.

DENTAL OFFICERS' GROUP. (Election Pending.)

THE appointment of Dr. James Law Brownlie as Chief Medical Officer of the Department of Health for Scotland, in succession to the late Dr. John Parlane Kinloch, has recently been announced by the Secretary of State for Scotland. Prior to his appointment as a medical officer in the central department, Dr. Brownlie held a number of posts in the public health departments of the City of Glasgow and the County of Lanark.

The Literature of Preventive Medicine.

A Century of Public Health in Britain (1832-1929). By J. H. HARLEY WILLIAMS, M.D., D.P.H., Medical Commissioner, National Association for the Prevention of Tuberculosis. London: A. & C. Black, Ltd., 1932. pp. 314. Price 7s. 6d. net.

Thanks largely to Sir George Newman, who set the fashion, there is growing up a library of quite respectable dimensions dealing with the history of public health and showing how wonderfully it has developed. Many of the books have relied for much of their appeal upon curious pictures, in some cases by the dozen, illustrative of happenings in the lying-in chamber or of the methods adopted by the ancients in administering clysters or introducing setons. In this book of Dr. Harley Williams there is no seeking for aid from the illustrator. The entire appeal is based upon the writing, and the interest of the reader is to be caught and held by the story itself and the way of its telling. And the interest is held, and the story proves to be one of real interest as told by Dr. Williams. The method he adopts is entirely different from that followed in other recent publications, and none has dealt with the history of administration as he has done in the historical retrospect from the year 1829. That this was a good year upon which to stand for a backward look is obvious. In that glance the author takes in Simon, Chadwick, Galton, Shaftesbury and others whose names are household for health workers associated with that piece of progress, that piece of sanitation or legislation. As the author points out, most of the early improvements were in the sphere of legal reform, and from the look of things much of modern progress in preventive medicine and many of the developments that have taken place are based upon or urged forward by law. As a result, particularly in his references to the more modern trends, Dr. Williams omits nothing and gives a fair and full summary of activities in relation to maternity and child welfare, tuberculosis, etc. The book is based upon a thesis accepted by the University of Edinburgh for the degree of doctor of medicine. It makes up into an excellent book, and it is not surprising that the university authorities regarded it as worthy of a gold medal, any more than it will be surprising if the medical officers of health and councillors and members of

committees to whom it is proffered find it extremely interesting, instructive and stimulating.

In the Annual Reports.

POPULARISING THE CLINICS.—It is no good opening up a new ante-natal or post-natal clinic and expecting mothers to attend it unless intensive propaganda is carried out beforehand. One can talk to the expectant mothers attending the ante-natal clinic about the importance of one examination after the confinement is over, but the great problem still is how to get midwives, doctors and the women themselves to realise the importance of taking advantage of all the facilities now offered for making childbirth a safe and easy process. Women who have already passed through several confinements successfully without taking any special care beforehand are generally the most difficult to persuade; it is the woman expecting her first baby who is glad to have advice and supervision. The trouble often is that she turns to the wrong people for this advice, and the maternity and child welfare department do not get in touch with her until the event is over.—Dr. R. H. H. Jolly, *Wolverhampton*.

OBSERVATIONS ON SMOKELESS FUEL.—A substitute for coal should not only be smokeless, it should also be a fuel, i.e., it should readily ignite. Coke has served a useful purpose as a coal substitute; it certainly is smokeless, but it does not readily ignite. Smokeless fuel is a term given to a solid smokeless fuel which is more coal than coke and more coke than coal. Their respective methods of production indicate more clearly this difference. Coke is the bye-product from the high temperature carbonisation of coal for the purpose of making gas. Smokeless fuel is the main product from the low temperature carbonisation of coal, gas being a bye-product. The volatile content of a fuel is an indication of its potential smoke-producing properties. Coal has a high volatile content, therefore, it readily ignites—but it smokes. Coke has a very low volatile content, therefore, it does not smoke—but it does not readily ignite. Smokeless fuel has a comparatively low volatile content sufficiently high for ignition purposes, and suitably low for the prevention of atmospheric pollution. The smoke problem is now generally accepted as half industrial and half domestic. The industrial smoke problem can be solved by the adaptation of modern scientifically constructed furnaces built so as to consume as far as practicable their own smoke, and stoked either mechanically or by a person instructed in the technical science of stoking, i.e., little and often as in feeding a horse. The domestic problem cannot so easily be solved because the countless thousands of old-fashioned firegrates cannot reasonably be adapted or replaced. We thus are compelled to bring the mountain to Mahomed in the shape of a solid smokeless fuel.—Dr. A. Stuart Hebblethwaite, *Sunderland*.

PUBLIC HEALTH

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Editorial.

Dr. George Pearce, President, Session 1932-1933.

WITH the ceremonial customary and appropriate to the occasion, Dr. George Harper Pearce, Medical Officer of Health of Batley and Heckmondwike in the West Riding of Yorkshire, having been duly elected President of the Session 1932-1933 by his Fellows, was installed in the chair of the Society of Medical Officers of Health by his predecessor in that high office, Dr. C. Killick Millard, Medical Officer of Health of Leicester. In placing the emblem of office about the neck of Dr. Pearce, the retiring President wished for him a happy and successful year of office, and offered him congratulation and the loyal support of all the members. All the good and kindly wishes and hopes expressed by Dr. Millard were echoed by all those present at the meeting, and will be by all those who, for reasons geographical or other, were unable to attend. As

a fact, there are few men more deserving of the honour that has been conferred, or of the loyal and hearty support promised, than Dr. George Pearce. For long years he has given a vast amount of unselfish and unwavering service to the Society directly or through the Yorkshire Branch. In particular, of course, to the interests of this Branch he has shown intense devotion, but never without having in view the benefit that would ultimately arrive for the Society as a whole. Regular to an astonishing degree, having regard to the distances to be travelled if nothing else, in his attendances at meetings of the Council, he has never grudged time or effort, or failed to respond to calls for special service on this, that or the other committee or body connected with the Society. And everything he has done, every service he has given, has been carried through with such sincerity and kindness, simplicity and unselfishness as might be expected having regard to the shire from

which he hails. It was these qualities of heart, in addition to others no less manifest of head, that led to his choice as President of the Society. Because of them he will receive the loyal support of his Fellows, and because he possesses them they recognise that they may safely leave the guidance of the Society in his hands, knowing that there is nothing he will do but will redound to its credit and enhance its prestige.

In choosing as the subject of his Presidential Address "The Yorkshire Branch of the Society," Dr. Pearce was responding to an impulse entirely natural. The Society has now come to an age when the past is deserving of the description "historical." It is worth while looking back; worth while noting the names and honouring the memories of those who have gone and who, in their day and generation, laboured in the interests of their successors and the Society. The Yorkshire Branch has always been large, active and prominent, and to-day is nearly the largest and by no means the least active and prominent. Much of the progress made by the Society, as indeed in the realms of public health, originated in Yorkshire, and there is a debt due to health workers in that county for services provided and example given. All these things the new President noted in his address, which proved highly acceptable to those present at his installation, and to the historian of the future concerned to write of the Society will prove a mine of most useful information. In the programme prepared for the session the President has had in mind the many interests to be served within the Society, and regarding the lists of subjects it seems probable that well-attended meetings will be the rule, and unlikely that there will be any who can complain of injustice that in selecting subjects and speakers he has failed to give consideration to the particular class of work in which he or she is engaged.

The Andrew Balfour Memorial.

THE unveiling of the memorial to Sir Andrew Balfour on October 6th brought together as large and distinguished a gathering in the lecture theatre of the London School of Hygiene and Tropical Medicine as has been seen there for some time. The ceremony was performed by the Chancellor of the University of London (the Rt. Hon. the Earl of Athlone, K.G.), who delivered also an

address and paid tribute to Sir Andrew in terms that found an echo in the hearts of all the friends of the man whose memory was being honoured. Recalling that the establishment of the School was the last piece of work in which Balfour engaged, the Chancellor claimed that it was something of which he might well be proud. For the fact that not only did he see this work of construction completed, but was given the opportunity of seeing the School successfully launched, there was a reason for gratification on the part of his friends. The outline of the life and work of Sir Andrew sketched by Lord Athlone revealed, as clearly as any who knew the man could wish, his many-sidedness, his enthusiasm and his infinite capacity for hard work. The energy of Sir Andrew Balfour was astounding, as was also his passion for detail and accuracy. By nature modest, not to say shy and retiring, it was probably the most remarkable feature in the whole career of Andrew Balfour that he was continually called upon to do things or attracted to the performance of actions and functions that inevitably must bring him into prominence. Had it not been so, there would have been many who would have been deprived of opportunity of acquaintance or, in the case of the more fortunate, friendship with one of the most lovable of men. And one of the great men of the day, too. That he was a great man, Balfour never himself dreamed, would have denied if charged with greatness; but in every word the Chancellor said, in the introduction of Sir Holburt Waring, in the attitude of those attending the ceremony and in the nobility of the School itself, there was every evidence that he had made fame and a name. The propriety of making permanent and suitable record of these things was enthusiastically recognised as soon as a committee was formed for the purpose. The response, as shown by the statement of Sir Holburt Waring, was immediate and extremely satisfactory, a sum amounting to over £2,000 being subscribed, sufficient to create an Andrew Balfour Memorial Fund to enable students, preferably from overseas, to pursue courses of study at the School, and to provide for the erection of a tablet in the entrance hall. The tablet, after its unveiling, was received on behalf of the School by the Dean, Professor W. W. Jameson. It is the work of Mr. Allan Howes, A.R.B.S., and, surmounted by a sculpture in relief of Sir Andrew

Balfour's head, sets out that it is "a tribute of gratitude and affection to Andrew Balfour, K.C.M.G., C.B., M.D., LL.D., F.R.C.P., 1873-1931, in memory of his devotion to the cause of tropical hygiene and of his self-sacrificing labours as Director of this School," and closes with a quotation from Walt Whitman, appropriate not only to the work and memory of Balfour, but as an inspiration to all of the School but most, perhaps, to those who will benefit from the fund: "Through the battle, through defeat, moving yet, and never stopping, pioneers! O pioneers!"

A Harveian Oration on Preventive Medicine.

IT cannot have been often that the Harveian Oration to the Royal College of Physicians has been delivered on St. Luke's Day by one whose life's work has lain in the field of preventive medicine. Than that when it came to choosing such an one the choice should have fallen upon Sir George Newman, Chief Medical Officer of the Ministry of Health, nothing could have been finer or more appropriate. And there could have been nothing more suitable to the occasion and the selection than Sir George's subject for his oration—"The Debt of Preventive Medicine to Harvey and the College of Physicians." By all who know the work of Sir George Newman: who have heard or read him, and recognise the extent of his knowledge of the history of medicine and his ability to fascinate in the passing on of that knowledge, it will be readily believed that the oration of 1932 is one likely to stand out and be remembered.

Pointing out that the organised attempt to prevent disease began in England in the fourteenth century in the time of the Black Death, and indicating that since then there had been steady advance, Sir George claimed that in recent years the progress had been extremely rapid. In support of these views, and particularly of the opinion that in the past hundred years, as a result of the co-operation of the private practitioner, the research investigator and the public medical officer, progress had been most marked, many examples were quoted. He quoted also examples to show how active to-day the physician was in the preventive as well as in the curative aspect of healing. His drugs and remedies were not only prescribed for their preventive propensity; they were specifically

preventive in purpose. There is at command, and the physician who has become an "immunisator" makes use of them, protective inoculation against a long list of diseases, amongst them cholera, anthrax, plague, small-pox, typhoid fever, rabies and diphtheria. The physician of to-day knows himself to be, and acts as, a builder-up of the natural immunity of the body, and because of that there is to be seen a new approach to disease, a new birth of medicine, a treatment which is preventive.

On the subject of public medical service generally, Sir George expressed himself very clearly and laid down certain principles to be recognised in that connection. Amongst these he noted the need for the State to encourage the provision of the necessary hospitals and clinics with proper equipment, and to bring together the physician and the patient under circumstances acceptable to the latter. If the medical service in which the physician is engaged is communal, or paid for partly or wholly by rates or taxes, the State should exercise supervisory administrative control. At the same time, however, whether in private or public practice, neither the State nor anyone else should come between the physician and his patient.

The oration, it is hardly necessary to say, all the way through reached an extremely high level and was remarkable, amongst other things, for the generosity of the terms in which recognition was given not only to the benefactors of the College—which is, of course, the object of the oration—but to others as well. Most generous of all was he when he spoke of the family physician, claiming, as none are likely to deny and not least of all in the public health service, that he was, and would always remain, the most economic and effective physician for the vast majority of human ailments.

Canadian Royal Commission on Radium and X-Rays.

WHEN carcinoma of the breast is operated upon in its early stages, 90 per cent. of the women, according to Lord Moynihan, are alive after ten years! Yet in spite of this fact, well known and proclaimed to the profession for years, only 20 per cent. of cancer cases on admission to hospital prove to be operable, according to the recently published report of the Royal Commission appointed by the

Legislative Assembly of Ontario to enquire into the use of radium and X-rays in the treatment of the sick, etc. However this discrepancy may be explained (and the explanations are doubtless as complex as human nature itself) there surely exists a *prima facie* case for the further education of public opinion in the matter. "Cancer taken early is curable" is the slogan of the Belgian National League against Cancer. And here, as in the case of tuberculosis, the question put by the late King Edward: "If curable, why not cured?" may again be asked. To the existence of the question, however difficult, the public health service cannot for long maintain an entirely negative attitude. Cancer, let it be remembered, is still third on the list of death-dealing diseases, and the health service, with others, is bound to do what it can to save such as may be saved.

The Canadian Commission has collected data from Canada, the United States, Great Britain and various European countries. It recommends the organisation in Ontario of a large number of *diagnostic centres* and only a small number of *treatment centres*. The twelve national radium centres in Great Britain are considered to be too many for the country to support adequately. A timely criticism perhaps, although in this connection the requirements of the large number of medical schools in this country must be borne in mind. The reporters note with surprise the word "cancer" appearing in the name of a hospital such as the Fulham Road Cancer Hospital. They consider, very properly, that if the fear of cancer is to be replaced in the public mind by a more hopeful outlook, such a name must be dropped. The "Radium-hemmet" of Stockholm and the Tumour Clinic of Chicago are quoted as examples of more appropriate names. In the assessment of the value of X-ray and radium treatment, as well as of surgical treatment, much work yet remains to be done. There is room for the organisation of more efficient "follow-up schemes" and the co-ordination of the data obtained.

On the subject of cancer research, the views of Lumsden on anti-cancer serum, of Blair Bell on lead therapy, of Susman on pituitrin and theelin injections, and of German workers on the metabolism of malignant cells are discussed. The very full account given of present-day views on radiotherapy of malignant diseases, both as a substitute for and a

concomitant of surgical treatment, adds greatly to the value of an extremely interesting report.

The International Congress of Tropical Medicine.

THE fourth volume of the transactions of the International Congress of Tropical Medicine and Hygiene, held at Cairo in December, 1928, issued by Dr. Mohamed Bey Khalil, Secretary-General of the Congress, Faculty of Medicine, Cairo, adds considerably to the knowledge of such prevalent tropical diseases as schistosomiasis, malaria, leishmaniasis and dysentery. As might be expected, the contributions by well-known experts are given in several languages, English predominating, and the volume is well illustrated, many of the coloured plates being exceptionally good.

Among many valuable papers, mention may be made of the interesting articles on bilharziasis in Egypt, contributed by Dr. Ali Bey Ibrahim, in which the pathology of the disease in various organs of the body is fully and clearly described, much new matter being incorporated; the instructive contribution on the control of bilharziasis by Dr. Khalil; and the experiences with anti-larval work in Palestine by Dr. Schapiro.

Since the volume contains close on a hundred contributions running into 1,356 pages, it is astonishing to reflect that there is so much to record profitably about these diseases. The report provides a fascinating study, which carries the reader's interest throughout.

A SESSIONAL Meeting of the Royal Sanitary Institute will be held at 90, Buckingham Palace Road, London, S.W.1, on Tuesday, November 8th, 1932, at 5.30 p.m., when the following discussions will take place:—(1) "The Cyanide Fumigation of Ships," to be opened by J. D. Hamer, F.I.C., Chief Chemist, Orient Steam Navigation Co.; (2) "The Control of Insects on Foodstuffs and other Raw Materials"—(a) "The Entomological Aspect" (opener: J. W. Munro, D.Sc., Professor of Entomology, Imperial College of Science and Technology) and (b) "The Chemical and Physical Aspects" (opener: A. B. P. Page, Ph.D., A.R.C.S., of the Stored Products Research Laboratory, Biological Field Station of the Imperial College of Science and Technology, Slough).

The Yorkshire Branch of the Society: Its Origin and Progress.

Being the Presidential Address of DR. GEORGE HARPER PEARCE, Medical Officer of Health, Borough of Batley and Urban District of Heckmondwike, Yorkshire, President of the Society, at his Installation at the House of the Society in London, on October 21st, 1932.

AT the outset, and as a first duty, permit me to express my deep appreciation of the great honour which has been conferred upon me through your action. To be elected to the presidential chair of this learned Society by those who are competent to judge is calculated to stimulate any man. I realise it is the highest honour in the power of the Society to confer upon any of its members, and I trust that when the time comes for me to invest my successor with the presidential badge, it may be said I have followed the example set by my predecessors, the many distinguished occupants of this chair.

The choice of a subject suitable for this occasion which can be compressed into fifty minutes' duration has been difficult. Ultimately I decided it would not be out of place to compile something based upon the minutes of the Yorkshire Branch of this Society extending from its formation in September, 1875.

It might readily be advanced that this would be of more interest locally than to the Society as a whole. That such should not be so is shown by the fact that the histories of the Society and the Branch since 1875 are largely affected, the one by the other. Another point of importance is that many distinguished members of the Society have been, at some period of their careers, members of the Yorkshire Branch.

This Society was founded in 1856, and for about twenty years its members were scattered over various parts of this country and elsewhere. The headquarters being in London it was geographically difficult for provincial members to take that part in its proceedings which many might desire.

This was particularly felt in Yorkshire, and with the object of taking such action as would enable medical officers of health in that county to come together periodically for mutual assistance and instruction, certain preliminary work was undertaken which culminated in a

meeting at York on September 17th, 1875, at the house of Mr. S. W. North. The chair was taken by Mr. North, who was a well-known surgeon and the part-time medical officer of health of the city.

In those days almost every medical officer of health was engaged in general practice, and it is interesting to note from whence they came to attend this meeting, and to remember they had left their busy practices to travel many miles from each riding of the largest county, in their enthusiasm for the public health. This is in marked contrast to what happens to-day—fifty-seven years later—when, notwithstanding greatly increased travelling facilities, it is difficult to get together a really well-attended meeting of members. There were present:—T. Deville, M.D., Harrogate; T. Britton, M.D., Halifax; G. Goldie, Leeds; F. J. Grimshaw, Stillington; E. B. Hicks, Easingwold; T. D. Pain, Tollerton; H. F. Parsons, M.D., Goole; T. Scott, Ilkley; J. W. Smith, Coxwold; S. Steele, Todmorden; J. Taylerson, Whitby; T. J. Thomson, Beverley; W. S. Wade, Wakefield; J. S. Wesley, Wetherby; and W. Young, M.D., Malton.

Mr. North, whose portrait hangs in the picturesque house of the York Medical Society, acted as medical officer of health of that city for many years. He was a cultured and able surgeon. On his retirement he was succeeded by the late Dr. Edmund Moody Smith, who became the first whole-time medical officer of health and was twice President of the Yorkshire Branch.

Dr. Deville was a practitioner in Harrogate whose brass plate always had a fascination for me when taken to Harrogate by my mother. I could not be certain of the proper pronunciation of his name, and thought it had some Satanic connection. The doctor was dismissed by the Corporation from the position of medical officer of health, as mentioned later, for exhibiting too much zeal in the discharge of his duties,

Dr. E. B. Hicks of Easingwold, who frequently attended our meetings until comparatively recently, was President of the Branch in 1911-12, and died at an advanced age.

Dr. H. F. Parsons was the H. Franklin Parsons who later joined the staff of the Local Government Board and became well known in connection with isolation hospitals. For some years he was honorary secretary of the Yorkshire Branch.

Dr. Smith of Coxwold would doubtless be familiar with such names as Laurence Sterne and Tristram Shandy.

Dr. Steele was medical officer of health of the Todmorden combined districts in Yorkshire on the borders of Lancashire. He took the D.P.H. of Cambridge University in 1875, and died only a short time ago, when he still held office as medical officer of health of the borough of Morley, where for many years he had been in general practice.

Dr. Wade, of Wakefield, qualified in 1850. He served in the Crimean War, and knew Florence Nightingale quite well. He died about the time of the Great War, having acted as medical officer of health of the city for 37 years. On being appointed consulting medical officer of health he was succeeded by Dr. Thomas Gibson, who became the first whole-time medical officer of health, and is a Past-President of the Branch.

Dr. Joseph Buck, President of the Yorkshire Branch in 1922 and now in his fortieth year as medical officer of health for the Hunslet rural district council, is still a regular visitor to our meetings. He relates how he commenced his career as a medical student in 1879 by being apprenticed to "Dr. Taylerson, Surgeon, Apothecary, and Medical Officer of Health of Whitby," who was present at the York meeting. The indenture covers five years and, *inter alia*, provides "the said apprentice his master faithfully shall serve, his secrets keep, his lawful commands everywhere gladly do. He shall do no damage to his said master, nor see to be done of others, but to his power shall tell or forthwith give warning to his said master of the same. He shall not waste the goods of his master, nor lend them unlawfully to any. He shall not contract matrimony within the said term, nor play at cards or dice tables, nor any other unlawful games whereby his said master may have any loss with his own goods or others during the said term without licence of his said master. He shall neither buy nor sell,

He shall not haunt taverns or playhouses, nor absent himself from his said master's service day or night unlawfully, but in all things as a faithful apprentice, he shall behave himself towards his said master and all his during the said term." What would the youth of to-day say to this? Dr. Buck's apprenticeship hours were 9 a.m. to 8 p.m., and two attendances on Sundays. He had five days' holiday during the five years. Evidently his master, the medical officer of health of Whitby, did things very thoroughly.

At this meeting it was unanimously resolved that an association be formed under the title of the "Yorkshire Association of Medical Officers of Health" and that its objects be to promote the progress of sanitary science, to watch the course of legislation on subjects relating to the public health, and to afford mutual counsel and support to medical officers of health. Mr. North was elected President, and the annual subscription was fixed at 5s. payable in advance.

I believe the North-Western Branch is the oldest Branch of the Society, being founded in February, 1875, some seven months before the Yorkshire Branch. I cannot find anything in the minutes of the latter Branch which substantiates the claim of the North-Western Branch that its area included parts of Yorkshire.

Amongst the rules are the following:—

Membership to be confined exclusively to medical officers of health within the county of York. Retired medical officers of health may remain members, but shall take no part in the government of the Association. Any name may be removed from the list of members by a vote of the majority of those present.

At the meeting held in Leeds in April, 1876, Dr. H. Franklin Parsons, previously mentioned, was elected secretary. Dr. Deville of Harrogate read a paper dealing with sanitary defects often met with in lodging houses at watering places, overcrowding of such houses, the necessity for their inspection, etc.

Following a paper read by Dr. Parsons on rural water supplies, it was decided to send a petition direct to the House of Commons asking for power in any future legislation to enforce the provision of a proper supply of water to every house whenever such supply can be obtained at a moderate cost from a public service or otherwise. It will be noticed

no time was wasted by dealing with intermediaries in those days.

At a meeting at Harrogate on July 5th, 1876, it was reported that Dr. Deville had been dismissed from his office as medical officer of health because in the paper previously mentioned it was alleged he had published statements damaging to the sanitary reputation of Harrogate. A memorial was forwarded to the President of the Local Government Board asking that sanction be not accorded to this dismissal. The West Riding Medico-Chirurgical Society, the North-Western and the Northern Counties Associations of Medical Officers of Health, and the Yorkshire Branch of the British Medical Association passed resolutions on public grounds condemnatory of the action of the Harrogate local authority, and the case was brought before the House of Commons by Mr. Mills, M.P.

At the Yorkshire spring assizes in March, 1877, Dr. Titus Deville claimed one quarter's salary from the Commissioners for the Improvement of High and Low Harrogate. The statement for defence alleged that the plaintiff was not their medical officer and that no salary was due. Judgment was given in July, 1877, in favour of the plaintiff, Dr. Deville, on all points. The doctor having vindicated his position, then resigned the appointment as medical officer of health for Harrogate, feeling that this course was the one most consistent with his own self-respect, and the best means of showing that in these proceedings he was influenced by no merely selfish motive.

Mr. Digby Seymour, Q.C., was the leading counsel for the plaintiff. He was the counsel who was briefed by Arthur Orton, the Wapping butcher, in the famous Tichborne case, but returned the brief. His grandson, Mr. C. H. Digby Seymour, M.A., the present town clerk of Worcester, is a relative of mine, thus linking up those bygone days with this meeting to-day.

In the report of the Committee of the Yorkshire Branch for 1876, reference is made to "an influential meeting held in Birmingham under the presidency of Mr. Joseph Chamberlain, the mayor, when papers on the health of various localities were read by some of our own members." Unfortunately, their names are omitted.

On October 25th, 1876, Dr. Goldie, medical officer of health of Leeds, in the course of a paper contributed by him at a meeting of the

Branch, stated "he had not found scarlet fever specially prevalent in the neighbourhood of slaughter-houses."

Dr. H. F. Parsons contended that, by the introduction of various sanitary improvements, the average mortality in Selby had been reduced in 30 years from 29.3 to 21.1 per 1,000, and that the town had made a profit of £6 during the last year by performing the scavenging with their own horses and men.

On January 31st, 1877, at Hull, Dr. Goldie, in a paper expressed the opinion "that one great cause of infant mortality from diarrhoea was that very young children were never taken out into the pure open air, but were compelled to breathe continually the foul air of their dwellings, and their inability to resist the baneful effects of noxious vapours."

Dr. Holden, medical officer of health of Hull, spoke on refuse collection in Hull, and referred to the necessity in many cases of carrying the night soil through the houses and the dependence upon the inmates for access. He recommended the pail system and pointed out the advantage of being able to carry them out without rousing the inmates of the houses.

At a meeting in Halifax on April 25th, 1877, the secretary reported he had received subscriptions amounting to about £50 respecting Dr. Deville's case. The Goux system was discussed, and one speaker said "the school board system with forced attendance was the greatest means of spreading zymotic disease that he knew of."

In October, 1877, the membership had considerably increased, and in consequence the annual subscription of 5s. was reduced to 2s. 6d.

On February 1st, 1878, a joint meeting of the Yorkshire and North-Western Associations was held at Rochdale, when the members visited the Rochdale corporation manure works.

In July, 1878, a joint meeting was held at York with the Northern and North-Western Associations, when Mr. H. E. Armstrong, medical officer of health of Newcastle-on-Tyne, read a paper on "The Regulation of Cow Byres and Dairies."

It was moved by Mr. Armstrong, seconded by Mr. Goldie, and carried unanimously: "That recognising the evils due to the insanitary condition of byres, cowsheds, and dairies, it is desirable that sanitary authorities should have the power and be required to make bye-laws for the better regulation of

such places, and that a memorial to the Local Government Board be drawn up embodying the above resolution."

Mr. Armstrong was Dr. H. E. Armstrong, sometime President of this Society and for many years an outstanding figure in the public health service. I believe at one time in his career he was dismissed from his position as medical officer of health for his zeal in performing his duties, but peace was eventually proclaimed. His portrait hangs on the walls of this room.

At this meeting it was stated: "It would be unjust to require medical men to give information of cases of infectious disease without payment, but if the returns were paid for, the cost to the community would be intolerable."

Mr. Vacher is mentioned as being present. He was later medical officer of health to the Cheshire county council and President of this Society. His picture is in this room.

At the meeting in September, 1878, at Harrogate, it was resolved: "That it be an instruction to the secretary to make arrangements for refreshments at the expense of the members attending the meeting."

In January, 1879, at a meeting in Huddersfield, Dr. J. Spottiswoode Cameron, medical officer of health of Huddersfield, and later medical officer of health of Leeds, read a paper on the working of section 67 in the Huddersfield Local Act of 1876, providing for the notification to the sanitary authority of certain cases of infectious disease. Dr. Cameron was later President of this Society, and his photograph hangs in this room.

In April, 1879, a joint meeting was held in Leeds of the Yorkshire, North-Western, and Northern Counties Associations, when Dr. Vernon brought forward a proposal for the amalgamation of the three associations, but no decision resulted.

Mr. Vacher read a paper on the diseases of animals which did not necessarily render them unfit for the food of man.

He said that "bronchitis was a very common bovine complaint, and the only circumstances under which an animal suffering from bronchitis should be condemned would be when the disease had actually caused death." "He did not regard jaundice as important even when freshly-dressed carcasses were as yellow as if smoked." "Sheep in the early stages of sheep rot had a great propensity to fatten, and he knew of a man

who used to overflow certain of his pastures, and, when the water was run off, turn those of his sheep upon them which he wanted to prepare for the market. These speedily became rotted and in the early stages of rot they accumulated flesh and fat with wonderful rapidity. By this manoeuvre he gained five or six weeks on his neighbours."

An exhibition of sanitary appliances had been arranged by the Yorkshire Association, which was stated to have been very instructive.

At the annual meeting at Bradford in October, 1879, Dr. H. F. Parsons resigned his position as secretary and treasurer on appointment as one of the medical inspectors of the Local Government Board. He was succeeded by Dr. F. W. Barry, medical officer of health of the Craven combined sanitary district, who resigned the following year on appointment as chief sanitary officer of Cyprus. He became in due course a prominent member of the Local Government Board staff.

A discussion on infantile diarrhoea elicited the opinion in the case of some members that it was caused by (1) the making of home-made bread with German yeast, (2) excremental pollution of the atmosphere, (3) bad smells, (4) absence of milk from children's diets.

At the conclusion of the meeting it is recorded that Mr. Butterfield, medical officer of health of Bradford, exhibited "a number of the internal organs of pigs which had been affected with typhoid fever."

At a meeting in Rotherham, many visitors from the Northern Branch being present, three lengthy papers were read. The last was entitled "Remarks on Rural Sanitation," by R. Bruce Low, M.D., then in general practice at Helmsley, Yorkshire. Dr. Low later became one of the medical inspectors of the Local Government Board, and well-known to members of this Society. It is interesting to read, more than fifty years later, the following extracts from this paper:—

"The duties of medical officers of health clash with those of private practice. A medical man who is a zealous sanitarian frequently offends his patients. If he works conscientiously as a medical officer of health his private practice suffers. To give him a fair chance of doing his duty without fear or favour, the medical officer of health must be debarred from private practice." "There is every encouragement for the medical officer of health to become a dummy

and the nearer to that type he approaches the better for his own comfort."

Having had considerable experience as a part-time and whole-time medical officer of health I can testify to the truth of Dr. Bruce Low's remarks. We have hopes that, even so many years later, the Local Government Act, 1929, will effect improvements, but so far there have been many examples of obstruction.

In May, 1880, a meeting was held in Leeds when Dr. Hime, of Sheffield—a name familiar to students of public health 30 years ago—pressed for the appointment by school boards of school medical inspectors.

Dr. Vacher, of Birkenhead, read a paper advocating that the marriage of all clearly suffering from syphilis, scrofula, or phthisis be pronounced illegal by statute. He added that "this would be a good beginning to legislation in a much-needed direction." Dr. Rayner, of Stockport, and Mr. Holden, of Hull, expressed the opinion that the long-necked tube feeding bottle—and not the milk—was the cause of excessive mortality in children.

At a meeting in Wakefield in May, 1881, Dr. Hime said that "when in a family two or three children were suffering from scarlet fever and one was well, the Sheffield school board insisted upon the healthy child attending school." Mr. Butterfield, of Bradford, read a paper suggesting that wool sorters' disease might be identical with anthrax.

At York in April, 1881, two medical inspectors of the Local Government Board were present, Drs. Ballard (another well-known name in the service) and Parsons. Dr. Reid, in speaking on infantile diarrhoea, said all the causes "were but as a drop in a bucket compared with the vile custom of feeding milch cows on brewers' grains and distillers' wash. Through such practices thousands of the infant population had been sent to premature graves."

A meeting was held in Bradford in March, 1882, when Mr. H. Butterfield, the medical officer of health, read a paper entitled "The Working in Bradford of the Act for the Compulsory Notification of Infectious Diseases." He said this was a local Act which had recently received the royal assent and provided for the compulsory notification of "smallpox, cholera, typhus, typhoid fever, scarlet fever, scarlatina and diphtheria." Relapsing fever

was included originally, but was omitted at the request of the Medico-Ethical Society. Scarlatina, as distinct from scarlet fever, was inserted by some official in London, but he did not know why. The responsibility of notification was thrown upon the householder, and the nearest police station was chosen as the place where notice should be given. Considerable opposition had been experienced from members of the medical profession.

A discussion followed in which every speaker was more or less opposed to the Act, including Dr. Mason, of Hull, who said that in the previous year Hull had lost about 800 people through scarlet fever, and at least 9,000 children had suffered from this disease during the same period.

At the meeting in Doncaster in June, 1882, Dr. J. M. Fox, medical officer of health for mid-Cheshire, read a paper on "Scarlet Fever in connection with defective connections between the dwelling and the sewer." He maintained that "sewer air" in houses had a direct bearing upon liability to outbreaks of the disease.

At the meeting in York in October, 1883, Dr. R. Bruce Low, of Helmsley, was appointed treasurer of the branch.

In July, 1883, the subscription was raised to 5s. per annum, instead of 2s. 6d. to which it had been reduced.

A paper was read by Dr. Angus Smith on "Water Analysis." His name is familiar to all D.P.H. students.

Dr. Vacher advocated the establishment of "tenement hospitals," which he described as "buildings for infectious cases, rooms in which would be let on weekly hire to patients, each one of whom would be attended by a nurse."

At this meeting the first mention of Associates appears, they being defined as "gentlemen known to take an interest in the work of the Association."

In those days they did things thoroughly, for we read that "in the morning the members visited the town's yard, and in the evening they dined together."

Referring to disinfectants, the majority expressed little faith in them. Carbolic acid was especially discredited, but the President advocated the disinfection of drains by sulphate of iron.

In August, 1883, a special meeting was held to discuss Asiatic cholera, and at Keighley,

in November, 1883, when the meeting was attended by the Mayor and many members of the corporation, great satisfaction was expressed that the death rate was "only 21·2 per 1,000," and it was advocated that to prevent "foul and pestiferous air getting into the houses from the ground below, a chamber should be constructed under the cellar, one foot deep and the size of the cellar, with the top concreted or asphalted so as to render it air-tight. The chimney should be taken down into the air chamber so that the fire would cause the foul air to ascend and dissipate itself through the chimney."

The mayor entertained the members to tea "which had been prepared on a sumptuous scale in the surveyor's room." It was usual for the members to be welcomed by the mayor wherever the meetings were held and to be entertained to refreshments on a varying scale. Members of local authorities and other laymen were present at discussions, which were often reported in the Press.

In March, 1884, Dr. Giddings, medical officer of health for the town of Calverley, read a paper on some results of ten years' sanitary work in Calverley. He said they did not treat their sewage in any way, did no scavenging, had no public or even recognised slaughter-houses, their drainage was mostly of a primitive character, and the cost of their entire staff of officers was £18 per annum. The council did not punish Dr. Giddings for daring to make these statements as did the Harrogate "city fathers" in the case of our old friend, Dr. Deville, for Dr. Giddings continued in office as medical officer of health for many years.

In May, 1884, a combined meeting of the North-Western and Yorkshire Associations was held at Halifax when Dr. Vacher, medical officer of health of Birkenhead, was bold enough to read a paper on "The Dress of Women and Children," which stimulated a discussion on such things as divided skirts, improvers, stays, etc.

In October, 1884, at Hull, Dr. R. Bruce Low, medical officer of health of Helmsley, said: "The Yorkshire Association of Medical Officers of Health comprises 60 members of whom only four hold a certificate or diploma in sanitary science. The Midland Association has 40 members and only four have certificates. There are thus 100 members with only eight public health diplomas among them." He advocated that "it be

made compulsory before a practitioner could be appointed a medical officer of health he should hold such a certificate." Referring to the attitude of politicians towards public health, he continued: "Surely the preventive service—the best, the greatest, and the noblest department of medicine—is worthy of the serious attention of every statesman."

At Rotherham in May, 1885, Dr. Mason, medical officer of health of Hull, said that from his investigations he believed bovine tuberculosis was a communicable disease, and as a result the town clerk of Hull, at the Association of Municipal Corporations, proposed a resolution, which was carried, that the latter body communicate with medical officers of health throughout the United Kingdom, asking whether they considered bovine tuberculosis infectious and whether milk or flesh from tuberculous cows in an uncooked or insufficiently cooked condition was injurious to the human subject.

At the annual meeting at York in 1885, Dr. T. Clifford Allbutt, of Leeds, whose name is so greatly respected amongst members of the profession, and Mr. T. Pridgin Teale, F.R.C.S., of Leeds, a pioneer in public health, were elected members of the Yorkshire Association. The latter introduced the Teale stove.

At Leeds in April, 1886, the Royal Sanitary Institute, so closely connected with this Society, is first mentioned in the minutes of the Yorkshire Association, when it was resolved: "That it was desirable that a conference of medical officers of health should be held during the congress of the Sanitary Institute of Great Britain at York in September, 1886," and it was decided to send a copy of the resolution to the secretary of the Sanitary Institute together with some suitable topics for discussion.

The annual report states: "Through the aid of our Association that conference was attended by a large number of medical officers of health."

Two names, Dr. Seaton, of Chelsea, and Dr. Sykes, of St. Pancras, are still well remembered by us to-day as prominent in this Society.

Mr. North, who had held the Presidency since the formation of the Association, expressed the wish to retire, and he was succeeded by Dr. Hime, of Bradford.

A letter was received from Dr. Alfred Hill, medical officer of health of Birmingham—himself a distinguished figure in the field of

public health, a Past-President of this Society and the father of two greatly esteemed Past-Presidents, Professor A. Bostock Hill and the late Sir T. Eustace Hill—advocating the advantage of the whole body of medical officers of health forming themselves into one Society. Dr. Hill's views were unanimously approved, and a sub-committee was formed to arrange details and report to a future meeting.

Dr. J. Mitchell Wilson gave an account of "an outbreak of diarrhoea caused by the emanation of noxious gases from tide-locked sewers," and Dr. J. Spottiswood Cameron of a similar outbreak which he had traced to what he called "that abominable concoction known as savoury duck." A Pasteur Chamberland filter and a sample of peat dust for use in earth closets were examined with much interest.

At the meeting in Hull on July 14th, 1886, it was "decided to amalgamate with the Society of Medical Officers of Health, and that the Yorkshire Association of Medical Officers of Health should become the Yorkshire Branch of the parent Society."

At Bradford in October, 1886, a discussion took place as to "whether the medical officer of health or the police should investigate cases of illness supposed to be due to eating pastry made from suspected flour," when the general feeling went against the police.

At the annual meeting in Huddersfield in December, 1888, regret was expressed at the loss of Dr. R. Bruce Low as treasurer, on his appointment to the staff of the Local Government Board.

An instrument by which calculations of birth- and death-rates could be made was exhibited and explained.

At Pontefract in November, 1888, the President, Dr. Britton, medical officer of health of Harrogate, said: "The Local Government Board is a myth. It muddled and muddled but never did anything." Dr. Buncle, medical officer of health of Pontefract, advocated vaccination from arm to arm, and condemned the use of calf lymph.

At York in March, 1889, Mr. North, the medical officer of health, said "he found there was no reason to suggest that diphtheria was taking the place of croup or laryngitis."

In October, 1889, Dr. Whitelegge, of Wakefield—now Sir Arthur Whitelegge, H.M. Chief Inspector of Factories (retired)—was elected a member of the branch.

At the annual meeting at Leeds in January, 1890, the chairman explained that, owing to the absence in Paris with a case of hydrophobia of the secretary, no annual report could be presented. Dr. Herbert, medical officer of health of Whitby, in a paper on lead poisoning due to drinking water, said: "It is a curious fact that lead poisoning is noticeable in towns supplied with water from the moors. Danger is caused by the thousands of sportsmen who year after year deposit showers of lead upon the moors. The effects were terrible to contemplate, for water on the moors became impregnated with this lead and found its way to the town supplies."

It is interesting to note that the Sheffield meeting in April, 1890, was held in the town clerk's office. Dr. Copeman—well known in public health circles—was present. Dr. Thomson read a paper on "a recent outbreak of typhus fever in Sheffield" in which, of fourteen persons attacked, four died, including a medical officer and ward maid in the fever hospital.

In the subsequent discussion many views as to the actual cause of typhus were advanced and it was agreed that lack of knowledge as to the nature and method of infection was a great handicap.

At York in October, 1890, regret was expressed that a year had passed since the Infectious Diseases Notification Act became law and it was only permissive. As an example, it had given a town like Leeds the opportunity of declining to adopt its eminently useful provisions.

At the meeting in Hull in September, 1891, amongst new members elected appear the names of Dr. Eden, medical officer of health of Willesden—why he joined the Yorkshire Branch I cannot discover—and Dr. Harvey Littlejohn, medical officer of health of Sheffield, whose name was prominent in public health circles for many years and is still remembered to-day.

In this year, Dr. McLintock, of Bradford, who had succeeded Dr. J. Mitchell Wilson as honorary secretary, was appointed medical officer of health of the county of Lanark. He was succeeded as secretary by Dr. Mason, medical officer of health of Hull.

The annual provincial meeting of the Society of Medical Officers of Health, by the invitation of the Yorkshire Branch of the Society, was held at Leeds on October 3rd, 1891. Amongst those present were:—

"A. Bostock Hill, M.D., medical officer of health of Aston and Sutton Coldfield, Arthur Newsholme, M.D., medical officer of health of Brighton, and Arthur Whitelegge, medical officer of health of the West Riding county council," each of whom is happily still with us and held in the highest esteem by all members of the service.

Mr. Alderman Ward, chairman of the Leeds sanitary committee—who, I believe, was the father of Dr. Ernest Ward, a prominent member of our Society—received the members and read a paper on the destruction of refuse by heat, illustrated by diagrams, which was fully reported in the journal of the Society.

The Alderman then entertained the members to luncheon in the town hall. Having become mayor of Leeds, the Alderman similarly entertained those present at the meeting of the Yorkshire Branch in Leeds in January, 1893, when Dr. Harvey Littlejohn read a paper on "The Prevention of Smallpox." Leeds had still not adopted the Notification of Infectious Diseases Act.

The list of officers of the Yorkshire Branch for the session 1893-94 shows, amongst others, the names of R. A. Whitelegge (President), T. Clifford Allbutt, F. W. Barry, R. Bruce Low, H. F. Parsons (three members of the staff of the Local Government Board), T. Pridgin Teale and Harvey Littlejohn.

Dr. Herbert Jones, later so well known in this Society, being at the time in general practice at Shipley, was present at the annual meeting.

Dr. Barry, a former medical officer of health to the Craven sanitary authorities, Yorkshire, and previously honorary secretary of the Branch, was entertained to dinner. An address in book form, handsomely bound in vellum, consisting of four leaves illuminated, was presented to him upon his further promotion to the official staff of the Local Government Board and his removal from Yorkshire to London.

At the meeting in Keighley on February 14th, 1895, Dr. Houston—later Sir Alexander Houston—Director of Water Examination, Metropolitan Water Board, was present and took part in a discussion upon lead in potable waters. He was at that time engaged upon the survey of watersheds in Yorkshire. His reports are looked upon as classics, and were published in the annual reports of the Local Government Board.

The death of Sir George Buchanan, of the

Local Government Board, was deplored at the meeting in Batley town hall in May, 1895.

At the annual meeting at Leeds in July, 1895, Drs. Whitelegge and Littlejohn were appointed representatives of the Yorkshire Branch to the Central Council of the Society.

In June, 1896, the Branch gave a complimentary dinner to Dr. Whitelegge, a former President, on his appointment to the office of Her Majesty's Chief Inspector of Factories. This was the first occasion upon which the position had been held by a member of the medical profession.

A special meeting was held in December, 1897, to discuss the subject of *superannuation* for medical officers of health, when it was unanimously decided that "*superannuation* is not desirable."

A sum of £3 3s. was contributed towards a memorial to be erected to the memory of the late Dr. Barry, senior medical inspector to the Local Government Board, and a former secretary of the Branch.

In July, 1898, a discussion took place upon the position of members of the Branch who refused to join the Central Society. Of these there was a large number. For the fourth time in recent years the following resolution was passed unanimously: "That the Central Society be again requested to submit to the Councils of the several Branches all important matters before taking action thereon." For several years there had been continuous friction between the Branches and the Society about this and other matters.

On Friday, October 20th, 1899, exactly 33 years since, by the day of the week, I was elected a Fellow of this Society in company with Dr. A. A. Mussen—then assistant medical officer of health in Huddersfield, and now retired from the post of medical officer of health of Liverpool—and Dr. Edmund M. Smith, acting medical officer of health of York, who died in 1924. At that time I was in general practice at Darton, near Barnsley, Yorkshire, and the part-time medical officer of health.

As an illustration of the enthusiasm displayed in those days, when the membership of the Yorkshire Branch was much less than at present, it may be recalled that at the annual dinner in May, 1900—which had been inaugurated the previous year—according to a Press report there were present "some fifty medical officers of health from all parts of Yorkshire."

For several years recently it has been impossible to run an annual dinner in the Branch, and only with considerable difficulty has an annual luncheon been kept going. Out of a membership of over 150 it is impossible to get an attendance of more than twenty, apart from guests, and this only after personal appeals to men to turn up and support their own Society.

An interesting point is that at the annual dinner on this occasion (1900), Professor T. Clifford Allbutt, who had been a member of the Yorkshire Branch for fifteen years, said: "We know little about cancer, although the weight of evidence is undoubtedly on the side of its being an infectious disease."

For more than thirty years I have expressed my belief that cancer is a disease which originates in the nervous system. The formation, deposit and nutrition of new cells is controlled by that system, as is the removal of exhausted ones. It does not seem unreasonable to suggest cancer follows some pathological process in the brain and/or spinal cord, and I have often thought it would be advantageous if they could be examined *post-mortem* by competent pathologists when death followed cancer. I am no authority on the disease, but until the cause is discovered this theory is perhaps, worthy of consideration.

At the meeting in Leeds in December, 1900, a discussion on the condemnation and seizure of diseased meat was opened, when Dr. Martin, medical officer of health of the borough of Brighouse, reported upon a case where the Brighouse corporation had to pay damages to the amount of over £1,000 through the unsuccessful prosecution of a local butcher for being in possession of the carcass of a cow affected with generalised tuberculosis. Objection was taken by defendant's counsel to the summons, on the ground that "the only penalty for being in possession of such meat was the seizure and destruction of the same." After conferring with their clerk, the bench declared that there was no case. A claim for damages followed, with the above-mentioned result.

At the meeting at Sheffield in June, 1902, jointly with the North-Western Branch, of which Dr. James Wheatley was then hon. secretary, Dr. Robertson—later Sir John Robertson—read a paper on smoke prevention. Both these gentlemen occupied the presidential chair of this Society in succeeding years.

Dr. Robertson entertained the large company to what was described as "a most excellent lunch."

During this year the death of Dr. Deville occurred. He was formerly medical officer of health of Harrogate, and his unfortunate experiences were mentioned at the commencement of this address. He had remained a member of the Branch since 1875, and regularly attended the meetings.

At Ilkley in September, 1902, a discussion on "Arsenical Poisoning from Beer" was the principal business. Many cases had been seen in Yorkshire about this time. Notwithstanding the fact that Ilkley was not easy of access, over thirty members, the majority being in general practice, remained to dinner, catching the last train home, having to travel, in some cases, over fifty miles.

At the annual dinner in April, 1903, Sir James Crichton-Browne, proposing the toast of "The Public Health Service," said "he regarded that service as a noble and almost sacred calling, and he looked upon the medical officer of health as an important modern specialist."

Dr. F. J. Allan, a former President of this Society, whose recent unexpected death we so much deplore, was with us as a guest. He is described at that time as medical officer of health of the city of Westminster, and editor of *The Public Health Journal*.

An extract from the annual report of the branch for this year reads: "The expenses of the Branch have included a considerable item for attendance of representatives at the central meetings in London. This is necessary if we are to maintain the position we now hold in the counsels of the Society as representing the most important Branch in the provinces."

In these days when the maternal death-rate is a common subject of discussion, it is of interest to read that in January, 1905, our old friend, Dr. E. B. Hicks, of Easingwold—who was present at the meeting when the Association was formed in 1875—read a paper on the treatment of puerperal fever by anti-streptococcic serum.

On February 2nd, 1906, the following were, amongst others, elected members of the Yorkshire Branch: Charles Porter, M.D., Health Office, Sheffield; R. A. Lyster, M.B., County Hall, Wakefield; and F. Robinson, M.D., County Hall, Wakefield. The latter is

to-day medical officer of health to the Cambridge county council. Amongst members of this Society it is unnecessary to discuss the identity of the other gentlemen.

The jubilee provincial meeting of this Society was held at Bath in July, 1906. Amongst those who attended were members of the Yorkshire Branch. From the minutes I find the statement: "In the evening there was a dinner at the Empire Hotel, the management placing on the tables a banquet of the daintiest description" and—what appears worthy of special commendation—"The toast list occupied barely half an hour."

At Bradford in October, 1906, Dr. Scatterty mentioned that the borough of Keighley, where he was medical officer of health, was the only place in the West Riding where a veterinary inspector regularly inspected dairy cows. Every cow was inspected at least four times yearly. The doctor is a Past-President of the Branch and, though retired from the position of medical officer of health of Keighley, still attends when possible.

In April, 1907, attention was drawn at the Branch meeting to a letter in the *British Medical Journal* by Miss M. H. Williams, M.B., "protesting against the salary of £105 per annum which it is proposed to give for whole-time lady assistant medical officers of health in a provincial town." It may come as a surprise to many of our younger colleagues that such things were possible only twenty-five years ago, but only four years previously a friend of mine was appointed whole-time medical officer of health to a Yorkshire city at a salary of £250 per annum, hence this scandalous offer, from the viewpoint of to-day, was not so much out of proportion when compared with salaries of their male seniors.

It is amazing to me that so many members of the public health service remain outside the Society. In their own interests it would appear suicidal to adopt that policy. Those of us who were members in pre-war years are only too well acquainted with the circumstances. It is not uncommon to-day to hear grumbles against the Society by such persons, who should either join it and assist in its work, or change their occupation.

In my opinion, those who are unwilling to pay the annual subscription, but quite ready to share in the benefits obtained for them by the Society, are deserving of contempt.

The great work done by the Society since the war through its salaries committee, in conjunction with the British Medical Association, is worthy of the highest commendation and gratitude from all of us, including those who are to follow. There is one name which will always stand out pre-eminently in this connection, that of George Frederick Buchan. Let this not be forgotten.

In September, 1907, at Sheffield, under the guidance of Dr. H. Scurfield, the medical officer of health, the members inspected forty-two cottages erected at a cost of £175 to £225 each. The accommodation varied from two bedrooms, large living-room and scullery, with a bath, to three bedrooms, parlour, large living-room, scullery, and bath.

The housing problem would be easily solved were such conditions possible to-day.

In December, 1919, I informed the Branch that in one of the towns for which I act as medical officer of health (Batley) the corporation proposed to erect 180 houses similar to these at a cost of £1,000 each.

At the March meeting in 1908, Dr. R. Veitch Clark, assistant medical officer of health of Leeds, now of Manchester, and a member of the Council of the Society, was elected a member, and at the annual dinner in July, 1908, the principal guest was Dr. Arthur Newsholme—later Sir Arthur—the newly-appointed chief medical adviser to the Local Government Board, who in his speech claimed to be a Yorkshireman and expressed his great delight at meeting such a body of medical officers in his native county.

At the annual dinner of the Branch in 1911, the principal guest, Sir Lauder Brunton, at that date a physician of much authority, said: "No branch of the medical profession was deserving of more honour for excellent work done, and no branch got so much less than it deserved."

There are many interesting episodes which might be quoted from the minute books during the first forty years of the life of the Yorkshire Branch, but time and space have rendered it impracticable for me to do this.

There was a more or less continuous quarrel with the Council of the Society because the Branches had little or no share in the government of the Society. It was not unusual for this Branch to communicate directly with Parliament, the Privy Council and Government departments, when some of the great landmarks in the public health service were

first suggested. Members of Parliament were often requested to call the attention of the House to what at the time were thought to be subjects of great importance to the health of the community.

My object in this address has been to present something which would be interesting, and, at the same time, enable comparison to be made between the views of yesterday and to-day.

The records having now reached the period bordering upon the outbreak of the Great War, it would appear I have arrived at a suitable period for termination.

To-day the Society has a larger membership and holds a more authoritative position than at any period in its existence, being the recognised representative body for the whole of the British public health service.

A distinguished visitor at one of our Branch meetings said: "Yorkshire is big enough to satisfy the aspirations of anybody."

To-day the Yorkshire Branch has more members than ever previously; it has established three groups, the County District, Veterinary, and Dental within its area, and active steps are at present being taken for the formation of a Maternity and Child Welfare Group.

Occasionally complaints are made by junior members of the service that they have no voice in the government of the Society. This, of course, is not correct and on investigation it is usually found that the complainant is not a member of the Society, or, if he is, takes no active part in the work of his Branch. That every member of the service should belong to the Society and help with constructive criticism is obviously the best thing for every one of us, but unfortunately there is a considerable amount of apathy.

The Yorkshire Branch, about six years ago, revised its bye-laws, the result being that no person can be appointed to any office in the Branch unless elected as the result of a vote by ballot. In consequence the Branch can be governed entirely by colleagues—male or female—who are engaged in different branches of public health but are not themselves medical officers of health. The result has been disappointing. On no occasion has any assistant ever nominated any other assistant for election, and in every instance where assistants have been elected they have been nominated previously by colleagues who are medical officers of health.

So far as Yorkshire is concerned this should be a complete answer.

May the Society continue to progress and may we ever do our utmost, each one of us, to further that end. The result will benefit the public health, bringing with it greater happiness for every member of our race which is all to the advantage of that great Empire to which we are proud to belong.

CHADWICK Public Lectures, to conclude the autumn programme of the twentieth annual series, are announced to be held as follows:—

- (a) London (Theatre of the Royal United Services Institution, Whitehall, S.W.1), Tuesday, November 15th, at 5.15 p.m.—"The Employment of Tuberculous Patients" (lecturer: Sir Pendrill Varrier-Jones, M.D.).
- (b) Bradford (College Hall, Technical College), Monday, November 21st, at 7.30 p.m.—"Recent Developments in the Housing Problem" (lecturer: Professor S. D. Adshead, M.A., M.A.R.C.H., F.R.I.B.A.).
- (c) Gateshead (Town Hall), Friday, November 25th, at 7.30 p.m.—"Maternal and Infant Welfare" (lecturer: Professor Dame Louise McIlroy, D.B.E., M.D., D.Sc.).
- (d) London (Royal Sanitary Institute, 90, Buckingham Palace Road, S.W.1), Thursday, December 1st, at 8 p.m.—"Public Health Administration" (lecturer: Dr. T. Carnwath, D.S.O., Senior Medical Officer, Ministry of Health). Admission to all lectures is free, and no tickets are required.

A DISCUSSION on "Clearance Areas and Improvement Areas" will be opened by Dr. James Fenton, Medical Officer of Health, Kensington, at a Sessional Meeting of the Royal Sanitary Institute to be held at 90, Buckingham Palace Road, London, S.W.1, on Tuesday, November 29th, 1932, at 5.30 p.m. The chair will be taken by the Right Hon. Lord Balfour of Burleigh, President of the Institute.

THE Model Abattoir Society (President, Sir James Crichton-Browne, F.R.S.), offers a free public lecture upon the benefits of a public abattoir in those towns where the subject of such a provision is under consideration. Application should be made to the Secretary of the Society, 90, Buckingham Palace Road, London, S.W.1.

Ut Ita Dicam.

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

The Annual General Meeting.

The attendance at the annual general meeting, though good, was not large. The reasons for this included, in addition to the financial, a meeting that was not held, and meetings that were. The meeting that was not held was that of the Council, postponed because, in the view of both the President and the President-elect, the business was insufficient to justify the expense of calling the members together. And in reply to the several who said, "What a pity, because it will mean a smaller gathering to support the new President and hear his address," somebody who knows said, "Well, when you look up the attendance book you find it really doesn't make any difference, for whatever it is the Council people do after their own meeting—go and catch trains or keep other appointments—they certainly do not seem to come to the Society meetings, so it does not matter if you have a Council meeting or not." Meetings that did make a difference, and prevent the attendance of several people, were the fifth of his Heath Clark lectures by Professor Carl Prausnitz at the new School, and the Royal Sanitary Institute sessional meeting at Coventry. The clashing of the former probably could not be prevented any more than could that of the second of the Prausnitz series with the wonderful Harveian Oration of Sir George Newman earlier in the week. But it is rather a pity that some other day than that of the annual general meeting of the Society was not chosen by those responsible for arranging the sessional meeting at Coventry.

The Presidential Address.

It is pleasant to relate that though the room was not full to overflowing the meeting was splendid and successful. There was a warmth and cordiality about it that even the formality of receiving reports and what not could not cool. For this the retiring and the new President were jointly responsible. They were both sincere and genuine: Dr. Killick Millard in the words he used in installing Dr. Pearce; and Dr. Pearce, in expressing thanks, appreciation and pride, showed that he did sincerely regard it as an honour that he had been chosen.

He showed also that he was genuinely proud and happy to be called upon to bear the responsibility and to carry out the very many arduous duties that fall to the lot of the President of so important a body as the Society of Medical Officers of Health, even though the first thing he had to do was to prepare and deliver a presidential address, a task he pretended to be one not at all to his liking and that he feared above all others. This fear was entirely without reason, for as he made it and delivered it, his survey of the growth and activities of the Yorkshire Branch proved to be a very valuable and attractive historical note, full of humour and humorous touches and just as appropriate as a presidential address as any I, for one, have listened to. And very much less heavy, not to say dull, indigestible and uninspired than some.

The Retiring President.

Even with routine and formal business and the address and the votes of thanks and everything, the meeting was over before half-past six. The fact that amongst the votes of thanks there was one to Dr. Killick Millard on account of his conduct in the chair and of his contributions to the prestige of the Society during his term of office, might very well have justified a longer sitting. In many ways Dr. Millard's year was a noteworthy one. Always unconventional, as he invariably does, he got off the beaten presidential track at the very beginning. His address, intentionally or not, dealt with a subject which appealed at once to the disease and death conscience multitude, and awoke a number of people to the existence of a possibility that the Society was a body that might now and then discuss a subject on which the public, whose servants its members are, desire help and light and leading. The programme of the session also was particularly attractive, more than one of the subjects down for consideration proving so interesting and so very much to the general liking as to produce meetings more crowded and enthusiastic than we are accustomed to see. The provincial meeting at Leicester was extremely well attended also, and the Conference of Medical Officers of Health at the Brighton Congress, over which he presided, was outstandingly representative and attracted and impressed

most favourably the several overseas and foreign delegates to the Congress. In making reply to the congratulatory remarks of Dr. Wilshaw and Dr. Snell, Dr. Killick Millard said that his year of office would be one of the things long to be remembered with pleasure. Because so many quite important and noteworthy things happened in it, for many of which we have to thank him, the year of Dr. Killick Millard's presidency is one deserving of mark in the annals of the Society.

The Harveian Oration.

How very many reasons there are for preventive medicine and those concerned with it to be grateful to Sir George Newman. During the third week of October the number was added to enormously. In that week the Heath Clark lectures were delivered, and if it had not been for Sir George it is doubtful if there would have been any Heath Clark lectures. Probably also if it had not been for him the privilege of having Professor Prausnitz, of Jena, as this year's lecturer making a contribution of note on the subject of the teaching of preventive medicine, would not have been ours. And, finally, if it had not been that he is marked out as an orator and a scholar it is likely that it might have been many a day before the Harveian Oration fell to be delivered by one whose specialty was preventive medicine and who would seek to make it the subject of his discourse. Until he showed just how great it was, I am confident that few of its Fellows recognised that there existed any debt of preventive medicine to Harvey and the College of Physicians. Yet proof after proof was produced by Sir George Newman of its origin in the early days of the fourteenth century, of its steady and gradual development in the days of Harvey, and its markedly rapid growth in more recent times. Proofs also he produced that though an increasing need for work by the State in relation to preventive medicine existed, nevertheless the family physician would always remain the most economic and effective physician for the vast majority of human ailments.

Congratulations.

(a) To Dr. Picken (and the British Medical Association and the Society) on his election to the chair of the Public Health Committee of the British Medical Association.

(b) To our readers for that (though none

has noticed how much nicer the cover of the journal is) coincidentally with readers of *The Times* (who did take notice because they were warned) they have had a change of type.

Why?

"Our Pound Day," said the matron of the crèche, "brought in a box of apples, a sack of potatoes, and a half-pound packet of dessicated turtle soup."

P.

THE Society of Apothecaries of London announces that examinations for the Diploma of Mastery of Midwifery of the Society (M.M.S.A.) take place twice in each year, beginning on the third Monday in the months of May and November. The qualification is not registrable by the General Medical Council, but is a recognition granted by a competent authority that a legally qualified medical practitioner has, by intensive study and practical experience, acquired a special knowledge of ante-natal care, midwifery, and infant welfare and the application thereto of the principles of preventive medicine and personal and general hygiene. For the reason that, as generally recognised, the importance of these matters to the future of the race cannot be over-estimated, the tests imposed are intentionally stringent in order that admission to the Mastery may indicate a thorough competence to undertake, and to supervise, the responsible control of maternity and child welfare work. Copies of the regulations and the necessary forms for application for admission to the examination may be obtained from the Registrar, the Society of Apothecaries, Water Lane, London, E.C.4.

THE London County Council announce that the following appointments in the hospital service have recently been made:—A. L. Guhn, F.R.C.S. (EDIN.), M.D. (WALES), Senior Assistant Medical Officer (Grade II), St. Leonard's Hospital; H. C. Harley, B.A., B.M., B.CH. (OXON), M.R.C.S., L.R.C.P., Assistant Medical Officer (Grade I), Lewisham Hospital; E. J. R. Leiper, M.A., M.B., CH.B. (HONS.), (ABERDEEN), Assistant Medical Officer (Grade II), St. Stephen's Hospital; G. A. M. Madel, M.R.C.S., L.R.C.P., House Physician, St. James' Hospital; and Celia Weinstein, M.R.C.S., L.R.C.P., House Physician, Lewisham Hospital.

The Preventive Treatment of Smallpox.

By A. F. CAMERON, M.A., M.D., D.P.H., Medical Superintendent,
River Hospital Service, London County Council.

One of the largest and most distinguished meetings the Metropolitan Branch of the Society ever saw was held when Dr. Cameron opened the session of 1932-33 on September 30th. The greatest authority on the subject, in this country at any rate, naturally in his Presidential Address he chose to speak of smallpox, discussing, because he agreed with his hearers in regarding it as the most important, the question of the control and preventive treatment of the disease. Readers of Dr. Cameron's paper will find no difficulty in endorsing the view of those privileged to attend the meeting, that in it he makes a contribution of the utmost interest and practical value to the literature of the subject.

WHEN you appointed me to the distinguished position of President of the Metropolitan Branch of our Society, it was suggested to me by more than one of my fellow members that the address which it is my duty and privilege to offer to you, should deal with smallpox, particularly with reference to our recent experience of the disease. I am inclined to think that the suggestion had its origin in a desire on the part of my colleagues to make the matter as easy for me as possible, and not in the expectation that any original conceptions on the subject of smallpox might be placed before you. It is, I am sure you must agree, hardly possible to bring forward any really novel ideas on this subject before any body of medical men, and quite impossible before an association of health officers in active practice. But, for the reason already given, I feel that I am absolved from the necessity to apologise for daring to use this occasion in order to add another page to the mass of writings which have accumulated round the subject of smallpox, within the recollection of us all. There is, however, one aspect of the subject on which there is still room for discussion and, in fact, as I hope to show, an urgent need for discussion and decision. It is the administrative aspect. The question concerns the procedure necessary in the control or preventive treatment of smallpox, and has acquired its importance on account of our recent experience in dealing with the disease during the last 12 or 13 years throughout the country and during the last five years in London.

The question is:—Are we justified in maintaining our present method of segregating almost every known or recognised case of

smallpox, or should we modify our method in view of the change which has taken place in the character of the disease as we know it in this country?

I would like to suggest that the observations which I have to make should not be regarded as *dicta ex cathedra*, in accordance with our courteous custom on occasions such as this, but should rather be treated as the introduction of a subject for discussion and criticism in the ordinary way by members of the Branch. It is also necessary for me to say by way of preface that any deductions which I may draw or suggestions I may make must not be regarded as in any respect connected with or as a reflection of the policy of the authority by whom I am employed.

I wish to direct your attention to the table of annual admissions on p. 51. This is derived mainly from the annual reports of the Metropolitan Asylums Board, and shows the numbers of annual admissions to hospital of cases of smallpox during the last 57 years. It will be necessary to refer to this table more particularly later, but for the present let us consider the most recent figures.

During the period of nearly five years, from the beginning of 1928 to the present time, *i.e.*, to the end of August, 1932, 12,807 cases of smallpox have been admitted to the Metropolitan Smallpox Hospitals. Of these, 35 have died, a gross case mortality of 0·27 per cent. One has been accustomed during the period under review to scrutinise the cause of death as certified, in order to form an estimate of the importance of the attack of smallpox as a factor of fatality. Of the 35 fatal cases, one may say that smallpox was the primary and sufficient cause of death in

METROPOLITAN HOSPITALS.			
ADMISSIONS OF CASES OF SMALLPOX.			
Year.	No. of		
	Admissions.		
1876	2,134	(17·43)	
1877	6,516	(18·63)	
1878	4,558	(18·08)	
1879	1,628	(16·77)	
1880	1,982	(14·43)	
1881	8,551	(16·57)	
1882	1,799	(14·45)	
1883	598	(15·55)	
1884	6,363	(14·77)	
1885	6,146	(17·12)	
1886	99		
1887	56		
1888	62		
1889	5	(14·33)	
1890	22		
1891	63		
1892	325	(10·77)	
1893	2,376	(7·57)	
1894	1,117	(9·13)	
1895	941	(6·80)	
1896	190		
1897	70		
1898	5	(8·02)	
1899	18		
1900	66		
1901	1,743	(14·74)	
1902	7,916	(16·89)	
1903	355	(3·38)	
1904	449	(6·01)	
1905	53		
1906	27		
1907	2		
1908	1		
1909	15	(12·22)	
1910	5		
1911	70		
1912	5		
1913	1		
1914	1		
1915	11		
1916	1		
1917	0		
1918	45	(9·70)	
1919	25		
1920	50		
1921	2		
1922	72	(31·94)	
1923	13	(15·38)	
1924	5		
1925	11	(9·09)	
1926	5	(20·00)	

Year.	No. of	
	Admissions.	
1927	9	(33·33)
1928	288	
1929	3,031	
1930	6,170	
1931	2,255	
1932	1,063 *	

* To August 20th, 1932.

N.B.—The figures in brackets show the annual or periodic case mortality per cent.

14, and was at most a secondary or adjuvant cause in 21. But that is not the whole story. In regard to the 14 cases, it is to be noted that in three of them the attack was of the severe toxic type. In one of the three, infection was acquired on board a ship coming from India; in another by direct and intimate contact with an infected member of the crew of the same ship; and in the third, a boy who was admitted with a confluent vesicular eruption, the source of infection was not, I believe, definitely traced.

Let me here diverge a little from the question of fatality in mild smallpox to say that in the spring of 1929, at a time when we were approaching the maximum number under treatment of the mild type of the disease for that year, we received a group of 13 cases of the severely toxic type. Of these, 11 were primary so far as London was concerned, and only two were secondary infections, and three of this group died. Therefore, if these three cases are deducted, the number of deaths of which the mild or sub-toxic type of smallpox was the primary and sufficient cause during the period under review is 11 out of a total admission of 12,794 cases, and it is further to be noted that of the 11 fatalities, four were infants, two of nine days, one of four weeks and one of five weeks of age.

Turning now to the remaining 21 fatal cases in which smallpox was at most a secondary or adjuvant cause of death, one notes that in nine of these it is difficult to assign any position to smallpox as a factor of fatality. That is to say, the attack of smallpox was so slight as to have practically no influence, so far as one could judge, on the patient's chance of recovery. Among these cases there was, for example, one of advanced pyonephrosis and another of cerebral thrombosis, another was the result of whooping cough and broncho-pneumonia and another was a case of cerebral hæmorrhage which occurred after the patient had been selected

and notified for discharge from hospital. In every one of the nine the attack of smallpox was of minimum severity. Therefore, our experience during the period under review has been that out of 12,794 cases of sub-toxic smallpox, 32 died; that in 11 of these, smallpox was the primary and sufficient cause; that 4 of those 11 were infants under two months; that in 21 fatal cases smallpox was at most a secondary or adjuvant cause of death, and in nine of the latter it was difficult to ascribe any share in the fatal result to the attack of smallpox.

Accompanying this extremely low and almost negligible case mortality, there is, as is also well known, a low degree of invalidity. The patient's illness is, in very many cases, over in two or three days, coincident with or even preceding the completion of eruption of a very discrete rash. Not infrequently, the degree of malaise is too slight even to attract the patient's attention. In a few cases, and not necessarily in the more severe cases, eye complications supervene, and in a few cases individual lesions become septic, or a crop of boils occurs.

In order to form an estimate, as close as possible, of the degree of invalidity to which this type of smallpox gives rise, a careful scrutiny was made of cases admitted during sections of the period under review. The scrutiny was carried out by my colleagues of the hospital staff who had dealt with the patients at the receiving station and had attended them in hospital. The question to which a reply was sought was: Did the patient at the time of admission, by reason of the character of the attack of smallpox or on account of concurrent disease, or later by reason of the development of complications, or of intercurrent disease during the period of infectivity, actually require treatment in hospital, that is to say, nursing or medical attention of a character which he could not easily obtain at home? No attempt was made to draw a rigid line between the two classes of case. If any doubt arose, the patient was given the benefit and placed in the hospital class.

The results obtained were as follows:—

During the period:—

- (1) From November 1st, 1929, to end of May, 1930: of 5,117 cases admitted, 628 required hospital treatment, i.e., 12.27 per cent.

- (2) From November 1st, 1931, to end of May, 1932: of 1,193 patients admitted, 224 required hospital treatment, i.e., 18.77 per cent.

Thus, out of a total of 6,310 cases sent into hospital, 852 were really in need of hospital treatment, i.e., 13.5 per cent.

We have, therefore, passed through the hospital during the period under review, upwards of twelve thousand cases of a disease in which the case mortality is so small as to be almost negligible, and we have given expensive hospital accommodation to cases of which not more than 14 per cent. were on any account in need of hospital treatment. It is inevitable that the question must be raised as to whether we can any longer justify the indiscriminate segregation of patients suffering from so mild a disease simply because they have been attacked by the disease and irrespective of the character or the severity of the attack.

To call the disease *alastrim* or by any other name than smallpox, or to attempt to lay down administrative distinctions between *variola minor* and *variola major* does not solve the difficulty. The disease is smallpox. It is a disease of which individual cases are indistinguishable at the bedside or in the laboratory from mild cases of the severely toxic type of smallpox with which we used to be so familiar in London, and of which our last experience occurred in the spring of 1929. It is to be noted that all the cases associated with that invasion, which were received in the Metropolitan Smallpox Hospitals, were dealt with in the same way as the large number of the sub-toxic type which we were receiving at the same time and were treated in the same wards side by side with these mild cases. The minimum cost of removal and treatment in hospital of the case of smallpox in London is, I am informed, not less than 12s. per case per day. Can we in these days of financial stress any longer justify the outlay of public funds involved in providing hospital accommodation sufficient for this indiscriminate segregation of patients suffering from smallpox of so mild a type?

Before beginning to discuss more particularly the arguments for and against the indiscriminate segregation of cases of smallpox, I wish to refer to an attitude of mind, doubtless unconscious in many of us, which has, I believe, unduly influenced opinion on this question. We have been so long accus-

tomed to regard smallpox as always a dangerous infectious disease, dangerous not only to the victim, but also to the body politic (the disease occupies the first position in the schedule of dangerous infections) that it is difficult for us to visualise a case, which has been notified as smallpox, located anywhere else than in the segregation hospital for smallpox. Some smallpox is a dangerous infection, so is some influenza, and so is much of our measles. Obviously a very large proportion of the smallpox with which we have been dealing in London during recent years is not a dangerous infectious disease, and in a community, hampered by no traditions, in a community which is just beginning to draft its communal law, if such a community can be imagined, it is certain that no provision would be made for the hospital accommodation of every case of sub-toxic smallpox. But we are an old community, with a communal law and custom, ancient in origin and of very gradual growth and development. We are very conscious of tradition. We do not easily accept suggestions of change in our procedure. We are apt to insist on proof of the advantage of the change. But in regard to the question under discussion, it seems to me that the onus of proof that this indiscriminate segregation is necessary lies upon those who may advocate the continuance of the system, having in view the character of the disease with which we are dealing, its low case mortality, the low degree of invalidity which accompanies the attack and the outlay of public funds which the system entails.

It is evident that opinion will lean to one side or the other in this question, according to the value ascribed to segregation as a means of controlling the spread of infectious disease. In the course of a discussion on "Fever Hospital Policy and Modern Treatment," held at a meeting of the Society in November, 1931, the preventive value of isolation, or, as I should prefer to call it, of segregation, the preventive value of the infectious hospital was referred to with considerable disparagement by several of the speakers. In the view of the leader of the debate the value of isolation hospitals in the control of the incidence of infectious disease is more than doubtful, and, in fact, he expressed the opinion that isolation has proved a failure in this respect. He went on to say that isolation hospitals, having failed *quâ* isolation, can justify their existence only by giving treatment which is

superior to that obtainable at home. But he seemed to hesitate in regard to smallpox and did not express an opinion in one direction or the other as to the necessity of segregating that disease. The speaker who followed adopted a bolder attitude in advocating the abolition of specialised isolation hospitals generally and of smallpox hospitals particularly, "because the principle of treating smallpox differently from other diseases capable of epidemic function" is "contrary to the principles of modern epidemiology." But he made a reservation, and would retain special smallpox hospitals in connection with "vast centres of population such as London." Other speakers who followed, joined in the condemnation of the special hospital for smallpox, and one would gather that, in their opinion, smallpox should be accommodated in the same way as scarlet fever, measles or diphtheria, in a general infectious institution common to all these diseases. Theoretically, these views appear to be quite sound and in accordance with modern knowledge of infectious disease, and of the carriage and spread of infection. But in practice their adoption would, I fear, place a very severe strain on the internal administration of the institution. Smallpox is one of the three or four diseases with which we are familiar in this country, to which human susceptibility is very great. If the infection of the sub-toxic type of the disease were carried to other sections of the institution, the accident might perhaps be of little consequence, but even so, only one unfortunate failure of the human factor in prevention of spread of the infection is required to condemn the system, unless it can be shown that the separate institution is an impossibility. In any case, with modern transport facilities, the small special hospital for smallpox is an unnecessary luxury and can be avoided.

These comments are not made with a desire to be hypercritical of a discussion which was very notable and also valuable in showing the tendency of modern opinion regarding the utility of infectious hospitals in the protection of the public health. But there seems to be (I trust I may be pardoned for suggesting it) a confusion of thought in the advocacy of the development of the therapeutic function of the infectious hospital because the preventive function has failed, or in the advocacy of the abolition of the present system of special smallpox hospitals without any indication or

suggestion as to how the frailty of the human factor in the prevention of the spread of infection is to be guarded against in the common infectious institution.

There is, I believe, no doubt that the hospital for infectious disease has a dual function, therapeutic and preventive. There is equally no doubt that the therapeutic function, which has developed along with the development of the humanitarian principles which govern modern civilised life, has now reached a position from which it overshadows the preventive function. One may also go so far as to say that the preventive function has receded from its primary position of importance. But the two functions are not very closely associated, and it is illogical to place them in any sort of opposition to each other. The alternative to segregation is not treatment but immunisation of the community attacked by the disease, and the preventive function of the hospital has not completely failed of its object. If it had completely failed, our position in regard to the indiscriminate segregation of mild smallpox would be quite clear. We should refuse to incur the expense. But the preventive function of the infectious hospital can never completely fail because it is obvious that the patient who is segregated ceases from the time of his segregation to be capable of spreading the disease in the community from which he has been removed. Therefore, a modicum of preventive value at least must remain to segregation in any infectious disease, however attenuated that value may seem to be, so long as immunisation against the disease is neglected. This is old and well-trodden ground, and I am almost ashamed to traverse it again. But it must be obvious that the value of the preventive function of the segregation hospital should be considered not in relation to the therapeutic function but in relation to immunisation on which that value absolutely depends. If it were not so, the removal of the smallpox patient to hospital would simply be the transference of his infective power from one place to another to the profit of the former and to the detriment of the latter. This infective power ceases in hospital because he is surrounded by an immunised staff each of whom, being incapable of acquiring the disease, forms a barrier on the line of vital spread of the infection. But that is not the whole story. The preventive function of the hospital depends for its value not only on the immunisa-

tion of the staff of the hospital. It also obtains an additional but spurious value proportionate to the thoroughness of the immunisation carried out in the community from which the patient has been removed. If the conditions are favourable, if immunisation is thorough and if there are no missed or unrecognised or deliberately concealed cases to carry on the infection, prevention is complete and the result, which as we all know is really due to immunisation, is unfortunately by uneducated opinion placed for the most part to the credit of segregation. But if conditions are unfavourable, if the immunisation of known contacts is entirely neglected, as it has been in many parts of this country, the preventive function of the hospital loses almost all its value. We know that it almost completely disappears, but we cannot prove that it absolutely disappears because so long as the fortified hospital is in use as a warehouse for smallpox, it is evident that the infectivity of the segregated case is curtailed. Therein lies our difficulty in determining whether we should or should not employ wholesale segregation in dealing with the mild type of smallpox, and it must be evident that the question is ultimately a question of finance and economics. Is the benefit to the people and to the public health obtained by indiscriminate segregation of smallpox commensurate with the expenditure involved? I do not hesitate to say that it is not, and that of all our endemic diseases, smallpox is pre-eminently one to which the method of selection of cases for hospital treatment should be applied.

Let us suppose that it has been decided to cease the segregation of all notified cases of smallpox and to select cases for treatment in hospital. What changes in procedure would be required and what difficulties and risks have to be considered?

(1) In regard to procedure (I have to ask for your indulgence in my references to details of preventive work with which I have no personal practical connection), there is no doubt that the work and responsibility of the local authority would be increased, not necessarily very seriously, but certainly to some extent. A closer contact would have to be maintained by the local authority with the focus of infection than appears to be necessary under present conditions. The responsibility of selecting the patient for hospital treatment must of necessity fall on the local medical officer of health. His selection would be based

on the severity of the attack and on other concomitant conditions of which he alone is the competent judge. It is unnecessary to attempt to specify these conditions except to say, by way of illustration, that the primary case of untraced origin would receive special consideration. Severity of attack is estimated not so much by the nature of the onset as by the prolongation of the signs of fever and particularly by the density of the rash, especially by the density of the rash on the face. The case, for example, let us say with over 100 lesions on the face would receive special consideration and the case with 300 or over would usually be selected for hospital treatment. Obviously a selection based on the density of rash means that selection will be delayed until eruption is completed, or at least until the ultimate density of the eruption has become evident. But this difficulty is not so important in practice as it appears to be, because only in rare cases is the ultimate density not apparent by the fifth or sixth day from the onset of the illness, and in practice I believe it would be found that the ultimate severity which the rash will assume is evident in the great majority of cases by the time a definite diagnosis of the disease becomes possible. I am convinced that the day of disease on which the admission of the patient to hospital would take place would be on the average no later than it is under present conditions. If notified cases of the disease were dealt with in this way, it is clear that close contact with the focus of infection would have to be maintained by the local authority, that more frequent and repeated medical inspection of notified cases would almost certainly be required.

If the case were not removed to hospital, printed instructions might with advantage be left at the patient's house, in which would be emphasised the necessity of obtaining medical advice, particularly in the event of trouble with the eyes, with suppurating sores or the occurrence of a crop of boils. The employment of a fever trained nurse would be invaluable in connection with cases which were not removed to hospital. One might almost say that nursing assistance for the local authority under these conditions is essential.

Procedure in regard to contacts would not, I believe, materially differ from present practice. In regard to the immunisation of contacts I would suggest in the first place, as a justifiable procedure, that printed bills

notifying the occurrence of smallpox should be posted in the district, that the bill should contain the offer of free vaccination and the place where it might be obtained, and also a statement to the effect that anyone who neglected to take advantage of the offer would have no one to blame but himself should he contract smallpox. Every possible endeavour should be made to cast the net of immunisation as widely as possible. The immunisation of familial contacts is, of course, important enough, even although a failure to secure immunity by the operation may require explanation. But as a barrier to the spread of infection, the immunisation of the outer ring of contacts, of the friends and direct associates of the familial contacts, is much more important.

In regard to terminal disinfection, the extent to which it should be undertaken is rather a question for the local authority in individual cases than a subject for general observations. There is no doubt that the modern tendency is to ascribe the greater importance to direct transmission of infection from patient to contact and the less importance to mediate transmission of infectious disease. As a personal opinion, I suggest that infectivity in smallpox and, in consequence, the risk of the occurrence of mediate infection, is generally dependent on the severity of attack, that is to say, on the density of the rash.

(2) What difficulties and risks have to be considered? The common basis of the objections which can be raised against the method of dealing with smallpox by selection of cases for hospital treatment, is that supervision of the patient and control of his movements would be, to some extent, sacrificed. Now as a matter of experience I believe that most of us will agree that it is not the known and recognised case of smallpox so much as the missed or deliberately concealed case which is the serious disseminator of infection. Here we are concerned with the known and recognised case. Missed cases will continue to occur and to produce their results however rigid may be our method of dealing with the disease.

Although a proportion of the recognised cases are not incarcerated in hospital, the supervision and the control of the movements of these patients would not be entirely neglected. The patient who is not removed would be warned that, being the subject of an infectious disease, of smallpox, it is his duty

to restrict his movements and to be guided as to his return to work by medical advice. Any commercial interests concerned in his attack of smallpox may very well be left to provide their own safeguards against the spread of infection. The patient himself might quite justifiably be warned that he should avoid association with his acquaintances, as long as he continued to be infectious, unless they were aware of his condition and were willing to take the risk.

One can imagine a system of dealing with smallpox, or indeed with any infectious disease, by the rigid isolation, not only of the recognised case, but also of as many of the contacts as can be secured. But that is not practicable, and the value of the present system of incarcerating the patient only, may be roughly regarded as in inverse ratio to the length of his illness before he enters hospital. There is also, I believe, no doubt that the infectivity of the smallpox patient is proportionate to the density of his rash and that the curve of infective power rises to its maximum at the onset of maturation and subsequently falls with a steep decline. I am not here considering the severely toxic or purpuric case of smallpox, or the confluent or severe discrete attack, but only those cases of mild discrete smallpox which form by far the great majority of the cases with which we have been dealing during the past five years. Under the system of selection suggested, cases of the former classes would be sent to hospital.

These considerations are intended to suggest that the preventive value of indiscriminate segregation is in practice at the most very little greater than the preventive value of selective segregation, and that the price we pay for indiscriminate segregation is out of proportion to any possible additional preventive value which we may obtain from it.

In this connection there is another point of considerable practical importance. Indiscriminate as opposed to selective segregation is disadvantageous in so far as it encourages the opinion that hospitalisation in itself is an important factor in the control of the incidence of infective disease, by concealment of the power of the really vital factor, which is immunisation. This disadvantage has, I believe, been illustrated in our experience of the last five years in this way. The only evidence that is available to the medical officer of the hospital of the extent to which immunisation is used in the district from which

his patients come, is obtained from the observation of the proportion of contacts admitted with smallpox who have also the active lesions of vaccinia or other evidence that vaccination has been performed subsequent to the outbreak of the disease. From district A, for example, contacts of this description form a large proportion of those admitted. From district B the proportion is negligible. In district A the disease is kept under control. For considerable periods no patients arrive in hospital, while from district B the supply of cases is more or less constant day by day or week by week and the incidence in the district waxes and wanes, influenced only by the seasonal variation which characterises smallpox until the saturation of the population by the infection attains the degree sufficient to check the spread. It is reasonable to conclude on the one hand that the people, that the local authority of district B, hold the opinion that segregation in itself is the important factor in the control of the incidence of the disease. Is it reasonable, on the other hand, to continue to encourage that opinion which is demonstrably erroneous, and is the most important cause of the abuse of the expensive therapeutic function of the hospital by the admission of cases which stand in no need of treatment?

The fear that the adoption of selective segregation might make the effective control of the disease more difficult than it is under present conditions finds formal expression in two suggestions:—

- (1) That the mild cases of the disease with which we have been familiar for so many years may gradually or suddenly in direct sequence give rise to cases of a more severe nature.
- (2) That, in any case, intercurrent outbreaks of the more severe type of smallpox would be given a greater opportunity to spread than they have now.

With regard to the first suggestion, if it is a substantial one, it is obvious that the second suggestion must assume very considerable importance. Instances of the sudden appearance of a series of cases of severe and fatal smallpox in the course of an epidemic of the mild type, have been cited in illustration of this suggestion, as, for example, in the province of Ontario several years ago and in Willesden a few years ago. The Willesden outbreak began in the usual way with a mild case in an unvaccinated child in which definite diagnosis was deferred, followed in direct

sequence by very definite cases of the severe type of the disease. But, as far as I am aware, no connection was established with previous cases of the mild infection, and it is worthy of note that, in spite of the missed case, perhaps it would be more correct to say, in spite of the deferred diagnosis, the outbreak did not assume serious proportions. The question of the power of a virus to acquire an enhanced virulence is one which I am not competent to discuss, and the discussion of the conditions which may promote an increase of virulence in the *materies morbi* is also one for expert bacteriologists. But our clinical experience during the last 12 years in the provinces and during the last five years in London, lends no support to the suggestion that we are not dealing with a fixed variant of smallpox, or that there is any likelihood of a sudden or gradual or even occasional increase in the severity of attack, irrespective of the influence of morbid conditions pre-existent in the patient. Clinically the tendency of epidemic virulence is downwards and not upwards. This tendency was well illustrated in the case mortality of the years 1901-04, as was pointed out by Sir William Hamer in his Milroy Lectures of 1906. The type with which we have been dealing in London during the last five years has certainly shown no increase in severity. The cases do not differ in this respect from the cases which occurred in Essex during 1920, in the course of an extension from the outbreak on the East Coast in 1919 when this type of smallpox was first officially noticed in this country. They appear to be of lower average severity than the cases which occurred in the Midlands during 1922, many of which I had the opportunity of examining.

In regard to the second suggestion that under a system of selective segregation, intercurrent outbreaks of the severe toxic smallpox would be given a greater opportunity to spread than they have under present conditions, it is necessary to bear in mind that we are not here concerned with the missed or unrecognised or deliberately concealed case of which the immediate results cannot be influenced by any method of dealing with the disease. We are concerned with the known and recognised case which on account of its apparent mildness has not been removed to hospital, and the suggestion is that if such a case really belongs to the more toxic type of the disease, a disastrous spread of the infec-

tion, that is to say, a dissemination of infection which passes beyond control, may be brought about before the character of the outbreak is recognised. I believe that consideration of our experience in London for many years past shows that the fear of disaster is unjustifiable, or in any case very greatly exaggerated.

In order to support this opinion I wish to direct your attention more closely to the table of hospital admissions (p. 51) during the last 57 years. The history of smallpox in London during this long period shows that continuous and vital changes and improvements in our method of combating the disease have been brought about.

During the decade 1876-85, smallpox was endemic in London. The end of the decade was a period of transition. The need of systematic notification of the disease had been recognised, and during 1885 the policy, initiated in the previous year, of removing smallpox patients out of the metropolitan area, that is to say, the cessation of the concentration of virulent smallpox in hospitals situated in crowded centres of population and the use of hospitals in more isolated positions, became fully effective. During the years which immediately followed the critical year 1885, smallpox ceased to be an endemic disease in London, and the degree of control which was established as a result of the improved policy has been maintained, as shown by the figures in the table, up to the year 1928, when London was first seriously attacked by the mild type of the infection. To return to the second decade, 1886-95, it is evident that the control established in 1885 was by no means complete. Although London ceased to be a breeding ground for smallpox, the vulnerability of the population remained the same as before, as well as the certainty of repeated attacks by imported disease and the consequent risk of the occurrence of explosive outbreaks the magnitude of which could not be estimated. These conditions are exemplified by the figures for the years 1892-95 and 1901-04. These successful assaults showed clearly that although the improved policy in the provision of hospital accommodation had removed smallpox from our list of endemic diseases, the procedure in meeting attack by imported infection, in anticipating attack and in preparation for it, was seriously deficient. But it was only after the successful assault of 1901 that we really began to put our house in order. During 1904, 449 cases of smallpox were

admitted to hospital, and during the succeeding 23 years down to 1927, the total number of admissions was 429, an annual average of less than 20 cases. The case fatality rates show that these patients suffered from smallpox of a virulent type. During those 23 years attacks by imported disease were frequent and menacing, just as menacing as the invasion which gave rise to the extensive epidemic of 1901-04. In their history they were very similar to the attack of 1901, but they failed, even although the trail of the infection from one focus to another throughout London in many instances could not be traced. The record of this long period is, therefore, a record of the failure of virulent smallpox to secure a hold on London. This failure cannot be ascribed to any outstanding improvement in the social conditions or to a decrease in the susceptibility of the population or to a change in the propensities or in the virulence of the disease. Obviously the only possible explanation of the difference in the behaviour of virulent smallpox in these more recent years lies in the further improvement which has taken place in our procedure in dealing with imported disease. Where this improvement has occurred it is hardly necessary to specify. It has affected the accuracy of diagnosis as a result of the work of my predecessor, the late Dr. T. F. Ricketts. It has been seen in the increased knowledge and alertness of the practitioner, in the increased efficiency of the local authority at the ports and throughout the country, in the speed with which the machinery of that authority comes into action, and last but not least in the information and warnings which are now available through the agency of the Health Committee of the League of Nations. It is to be noted that without exception, as far as I am aware, every outbreak of virulent smallpox with which London has had to deal during the last 30 years has originated in a missed or unrecognised case of the disease. Is it likely in the face of our experience since 1904 that a known case of the disease, a case which is already under observation and, let us say, a degree of supervision, will succeed in disseminating the infection to any serious extent throughout the population? The enormous increase in the incidence of the disease during the last five years must be regarded as an attribute of the type, as the reaction of the people to the character of the attack, and not as an indication of the failure of the machinery of control nor as an indica-

tion of what the reaction of the people would be to an invasion by virulent smallpox.

Our experience during the last five years should really be regarded as little more than a very expensive method of securing the immunisation of the people against the virulent form of the disease, a method of immunisation which is not amenable to any of the restrictions laid down in our vaccination laws and puts the conscientious objector quite out of court. It has been, and will probably continue to be, the immunisation chiefly of that section of the population of which virulent smallpox almost invariably takes the greater toll. Regarded in this way, our experience since 1904 surely indicates the necessity of a change in our procedure in dealing with notified smallpox. We cannot, as has at times been suggested, entirely ignore the mild type of the infection. Even if it be regarded as only a form of immunisation, it is yet a contagious disease which in some of its examples assumes a considerable degree of severity and produces a certain degree of invalidity. In these respects, as well as in its case mortality, it is a more serious and disabling form of immunisation than the method by inoculation. Is it not, by the way, very unfortunate that the people do not understand that it is practically the same virus in both cases which is introduced into their bodies, and that the only real difference between the two methods of immunisation are a probable difference in the route of entry and a decided difference, in a proportion of cases, in the severity of the resulting reaction? Is it not reasonable to suggest that the necessity to protect the public health would be fully met by the selective, as opposed to the indiscriminate, segregation of cases of smallpox? Is it unreasonable to suggest that we should use the hospital for the purpose for which it is fitted, and cease to abuse it by the employment of expensive hospital accommodation for individuals who are not in need of skilled nursing and medical treatment, and are sent to hospital simply because they are victims of a contagious disease, which of all our common infections is the most easily preventable?

DR. W. A. McLENNAN has been appointed Assistant Medical Officer of Health and School Medical Officer to the Borough of Leigh, Lancs.

AN AMERICAN LETTER.

Our correspondent speaks of Great Gatherings and Emergency Health and Sanitary Measures—Relapsing Fever in California—Infantile Paralysis in Philadelphia—and Loans for Waterworks Construction.

Emergency Sanitation.

While things in this country have been very quiet from the public health standpoint, two great gatherings have been held which have demonstrated our ability to apply scientific knowledge to the control of emergencies. The first was in the celebration at Yorktown, Virginia, a town which is practically nothing more than a village, with not more than 400-500 inhabitants. For several days there were more than 100,000 persons congregated there. Needless to say, the prospect exercised the public health officials, as the ordinary resources were totally inadequate to take care of the wastes from so many people, yet it was done with no outbreak of disease, and apparently everyone was comfortable and well taken care of. Sanitary engineers from the United States Public Health Service had charge of the preparation and operation of sanitary measures.

Hygiene and the Olympic Games.

A greater undertaking from some standpoints than this was the medical supervision of the Olympic teams at Los Angeles. Fortunately, there was plenty of time to make ready for this group of athletes who came from all parts of the world. A small town called the Olympic Village was built, with complete waterworks and sewage disposal plants. There was an emergency hospital with full X-ray outfit, laboratory, physical therapy and emergency service, with doctors and nurses on duty every hour of the day and night. While the local health officers of the city and county rendered valuable services, the duty of taking care of the athletes was under the supervision of Dr. Sven Lokrantz, medical director of the Los Angeles City Schools. To assist him he had three men physicians and seven women consultants. Some 2,000 treatments were given in the hospital during the stay of the athletes. For the most part these were concerned with boils, blisters, minor infections, sprains, etc., though there were 16 cases of a serious nature which were treated in one of the hospitals of the city of Los

Angeles. There was also a dental outfit, and the Board of Education stationed one of their travelling healthmobiles, equipped with a modern dental office, in the village. Some 30 dentists volunteered their services and performed 430 operations, caring for 90 patients.

First-aid Facilities.

There was, too, a women's residence provided with first-aid facilities under the care of registered nurses. At all contests, official field surgeons were present so that athletes who were injured, or members of the audience who were taken sick, received immediate attention. This work was done under the chief surgeon of the receiving hospital, with four assistant field surgeons, two of whom were assigned to the care of the public, and two to the athletes. For special events, such as the marathon, the fifty-thousand-metre walk and cycling road race, ambulances with physicians were stationed at intervals along the route, while other physicians followed the athletes in cars. There was also a "Pick-up" car to take care of any athletes who were forced to drop out. During the swimming and yachting events, physicians were present in launches, and in the stadium where swimming events took place, there was full apparatus for resuscitation, with trained personnel for operation. The care of the bath-houses and dressing-rooms was under the direction of the chief sanitary inspector. Special antiseptic foot baths were provided to protect against the so-called "athlete's foot" (ringworm), which is so prevalent in this country, and especially in California. Altogether, there were 65 first-aid stations, about half of which were in operation at a time. Four hundred and thirty trained first-aid operators volunteered for this work, and 120 Red Cross nurses volunteered for work in the stations. During the games a spell of hot weather, very unusual for California, was experienced, which gave first-aid workers a considerable amount of employment. Taken altogether, it was a tremendous undertaking, well planned, and well carried out, with the results of which those in charge may well feel proud.

Prevalence of Communicable Disease.

Relapsing fever has appeared in California, some 30 cases having been reported to the State Board of Health, all of them having occurred at an elevation of more than 5,000 ft. The spirochete has been recovered from chipmunks and certain species of squirrels. The work is not yet completed, and only the bare facts can be given at present. Mrs. Borah, wife of the prominent Republican Senator, has been reported in the papers as being a victim of influenza with considerable lung involvement, so that her condition was giving considerable anxiety. Now the report comes that the diagnosis of psittacosis has been made. We do not fear that this disease will ever become epidemic, but it is evident that it is quite widespread, and that cases will occur in widely separated areas. A severe outbreak of infantile paralysis is now prevailing in

Philadelphia—the greatest for a number of years, upwards of 600 cases having already occurred within the last three months. The opening of the public schools was postponed for a week, and at the end of that time another postponement took place. Only the high schools are in operation at the time of writing.

Assisted Waterworks Schemes.

The Reconstruction Finance Corporation, it is announced, has now made available loans for waterworks construction. These may be made to states, municipalities, or to private projects devoted to public uses, and are made at a low rate of interest for ten years. Already six towns in Alabama, one in Florida, two in Kentucky, several in Michigan and Nebraska, and one in California, have made applications. The Sacramento Waterworks application was for \$12,600,000.

MAZYCK P. RAVENEL, M.D.

The Society.**Reports, Proceedings and Announcements.****ANNUAL GENERAL MEETING.**

The Annual General Meeting of the Society was held at the house of the Society on Friday, October 21st, 1932.

The retiring President (Dr. C. Killick Millard) was in the chair, and there was a large attendance of members.

The minutes of the last Annual General Meeting having been approved and signed, a number of apologies for absence were received. A letter was read from Dr. G. C. M. M'Gonigle regretting the cancellation of the Council meeting which was to have been held in the afternoon, as he feared several members travelling from a distance might thus be prevented from hearing the new President's Address.

Dr. Millard announced that the Council, on the recommendation of the Branches, nominated Dr. G. H. Pearce, Medical Officer of Health for the Borough of Batley and the Urban District of Heckmondwike, for election as President of the Society for the session 1932-33, this nomination being accepted by the meeting with acclamation. Dr. Millard said that it gave him great pleasure to invest with the badge of office and induct to the Presidential chair one who had devoted so

much time and energy for many years past to the interests of the Society, and especially of the Yorkshire Branch. Dr. Pearce thereupon took the chair and, briefly returning thanks for his election, read a letter from Professor Bostock Hill regretting his absence through illness. It was the unanimous wish of the meeting that the best wishes of the Society should be sent to Professor Bostock Hill for his early recovery.

Dr. R. H. Wilshaw proposed a warm vote of thanks to the retiring President (Dr. C. Killick Millard)—“retiring” in one sense, but “untiring” in another. The Society had been proud to have such a distinguished Fellow in the chair. Dr. E. H. Snell, in seconding, said that it would have been a great omission on the part of the Society if Dr. Killick Millard had not at one time or another occupied the presidential chair.

The vote of thanks was carried with enthusiasm, and Dr. Killick Millard, in a brief reply, said he would look back on his year of office with great pleasure and satisfaction.

The annual report of the Council (see PUBLIC HEALTH, October, 1932) was received and adopted and thanks accorded to the Council for their work during the past year.

Dr. Charles Porter presented his report as Hon. Editor of PUBLIC HEALTH as follows:—

Like everything else, the journal during the past twelve months was affected by the wave of economy, the Editor being prevented by the necessity of keeping down the number of pages, from indulging in any specially enlarged numbers, even though greatly tempted, by the excellence of the material at his disposal, from time to time to do so. Each of the twelve numbers issued during the session consisted of 32 pages, the total being 384 pages, as against 396 for the previous year.

Whether or not it was the necessity for economy, it is noticeable that the papers read at the various meetings were, on the whole, shorter than usual. In this way, assistance in keeping the size of the journal down was afforded. As to the quality of the contributions, this again was high, and numbers of complimentary communications received from correspondents both here and abroad would indicate that the contents of the journal are studied, and that the views and opinions of contributors are given full weight.

Special reference must be made to the new feature introduced in the course of the year, namely, the American Letter, contributed practically every month by Professor Mazyck P. Ravenel, M.D., Editor in Chief of the *American Journal of Public Health* (the official publication of the American Public Health Association). That there might suitably be an exchange of letters for publication in the respective journals was arranged between the Editors at the meeting of the American Public Health Association held in Montreal last year, and the practice has now been so well established that there is every promise that it will be continued. That the letters and what they mean, otherwise than as mere vehicles of news and of notes of occurrences and progress, have been appreciated is the hope of those who contribute them.

Several typographical alterations, which it may be taken have been improvements, have been introduced in the journal during the session. Whether or not these were noted by readers is unknown, none having mentioned them or made communications to the Editor with regard to them.

So far as reports of meetings, etc., are concerned, these in every case have come forward in good time for publication. For this I would express thanks to the Secretaries of the Branches and Groups, as I do also to all the many Fellows of the Society who have rendered assistance in connection with the contribution of notes to the editorial pages, reviews, and other matters that justify the claim that PUBLIC HEALTH continues to establish itself more firmly as a monitor of Preventive Medicine, and to show itself something more than the recorder of proceedings of meetings held by the Society, its Branches and Groups.

Dr. Porter was accorded a vote of thanks for his report and his work during the year.

Dr. G. F. Buchan submitted his report as Hon. Treasurer for 1931-32 together with report of the Auditor and Balance Sheet. Dr. Buchan's report was as follows:—

I beg to submit my report for the year 1931-32.

Revenue Account.

The income from all sources was £3,748 1s., being an increase of £232 12s. 6d. over the previous year.

The expenditure was £3,297 12s. 7d., being £123 11s. 5d. less than the previous year.

The result is that our credit balance for the year

1932 is £450 8s. 5d. as compared with £94 4s. 6d. in the previous year.

The increase in income is mainly accounted for by a better collection of arrears during the current year. It will be remembered that last year the arrears collected fell to a low figure on account of the economic crisis, which occurred late in the financial year. This year recovery has been effected and this is shown on the income side of the Revenue Account.

The decrease in expenditure is made up of various items.

I would again call attention to the fact that the membership of the Society falls short of what it should be. This matter has received the continuous attention of the General Purposes Committee during the year, and although the Executive Secretary has worked valiantly there is a disinclination on the part of eligible candidates to assume additional financial obligations at the present time. All Fellows of the Society are earnestly requested to secure additional members.

Balance Sheet.

The balance sheet discloses a satisfactory financial position.

It will be observed that there is a sum of £1,775 in the Reserve Account, and £564 13s. 1d. in the Revenue Account, making a total of £2,339 13s. 1d. Against this there are assets represented by £750 worth of Metropolitan Stock and Consols, and £995 3s. 8d. being the purchase price of the unexpired lease, making a total of £1,745 3s. 8d. These figures show a balance of £594 9s. 5d. In addition there was a cash balance at the bank of £807 2s. 4d. at September 30th, making a total available balance of £1,401 11s. 9d.

In these circumstances it is suggested that the sum of £1,000 should be invested.

It is further satisfactory to note that the investments of the Society, which fell to a low figure in 1931 have very considerably recovered.

Generally.

I think the Society may congratulate itself on its present financial position. It should be borne in mind, however, that the lease of our present premises which were purchased in 1925 for £2,200 expires in 1939, when considerable expense may have to be met. It is worthy of note that owing to the maintenance of sufficient sums in the current account of the Society by our previous secretary, Capt. G. S. Elliston, M.P., and likewise by his successor, the lease of the premises although purchased by way of a loan from the bank, has already been purchased out of revenue, as only during the first year or so of the loan were any charges made against us by the bank.

I desire to record my great appreciation of the manner in which Mr. G. L. C. Elliston has assisted me during my year of office as Treasurer.

A warm vote of thanks was passed to Dr. G. F. Buchan for his report and for his diligence in administering the finances of the Society during the past session.

Mr. J. T. Harris was unanimously re-elected Auditor to the Society for the session 1932-33.

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

As Fellows.—

Bell, Ruby Eva, M.B., CH.B. (LIV.), M.R.C.S., L.R.C.P.; Gilford, Sidney, M.B., CH.B.; Gilmore, Edward Raymond William, M.B., CH.B. (VICT.), D.P.H., D.T.M.; Gorman, Alfred David, M.R.C.P. (ED.), F.R.F.P.S. (GLAS.), L.R.C.S. (ED.); Heathcote, Harold, M.D. (VICT.), D.P.H.; Hughes, Enid Myfanwy, M.B., CH.B. (LIV.);

Jenkins, Eric Malcolm, M.B., CH.B. (ED.); Jones, Isaac Spedding, M.R.C.S., L.R.C.P., D.P.H.; Lees, David, M.B., F.R.C.S., F.R.C.P. (EDIN.), D.P.H.; McEwen, Owen Reginald, M.D. (DURH.), M.R.C.P. (LOND.), M.R.C.S. (ENG.); McNabb, Arthur Alexander Joseph, M.B., B.S. (DURH.), D.P.H.; Mayfield, Roger Bolton, B.A., M.B., B.CH. (CANTAB.), M.R.C.S., L.R.C.P., D.P.H. (LOND.); Parry-Pritchard, David Evan, M.D., CH.B. (LIV.), D.P.H.; Quirke, Michael Joseph, M.B., CH.B., D.P.H. (Major I.M.S. ret); Robson, Alice Lilian Louisa, M.B., C.M. (GLAS.), D.P.H. (CAMB.); Smithard, Edward Harvey Ratcliffe, M.D. (STATE MED.), LOND., D.P.H.; Williams, Howell Meyrick, M.R.C.S., L.R.C.P., D.P.H.

As Associate.—

Batten, Kevern, L.D.S., R.C.S. (ENG.).

A number of nominations were received for the November election.

Dr. G. H. Pearce then delivered his Presidential Address (published in this number) on "The Yorkshire Branch of the Society." A hearty vote of thanks to the President for his address was moved by Dr. J. J. Buchan, who expressed the especial pleasure of the Yorkshire Branch at this signal recognition of Dr. Pearce's work for the Society, and referred to the interesting developments in preventive medicine shown in the Presidential Address. Dr. Charles Porter warmly seconded the vote of thanks, and Dr. E. H. Snell, supporting, referred to the interesting facts that came to light in such a review of the Branch records as that made by Dr. Pearce. The preparation of such a paper entailed much hard work, as he himself had discovered some years previously when he attempted the same task in regard to the records of the Midland Branch. Dr. C. L. Williams also spoke in support giving a graceful tribute on behalf of the younger generation of medical officers. The vote of thanks was thereupon passed with acclamation.

THE MIDLAND BRANCH.

President: Dr. H. D'Arcy Ellis, M.O.H., Amblecote and Brierley Hill Urban Districts.

Hon. Secretary: Dr. R. H. H. Jolly, M.O.H., Wolverhampton.

The first meeting of the Session of this Branch was held at the Medical Institute, 154, Great Charles Street, Birmingham, on October 6th, 1932. Thirty-four members were present.

The induction of the new President (Dr. H. D'Arcy Ellis) was carried out by the retiring President (Dr. Wyndham Parker), who congratulated him on his election, and said how glad the Branch were to welcome the most

senior member of the Branch as their President. Dr. Ellis thanked the members for the honour they had done him, and proposed a cordial vote of thanks to Dr. Wyndham Parker for his able and efficient conduct of the affairs of the Branch during his year of office. In his response Dr. Wyndham Parker paid a graceful tribute to the assistance that he had received from the Hon. Secretary.

It was agreed to nominate the following representatives to serve on the Tuberculosis Group Committee of the Society:—Drs. Cyriax, Dixon, Gordon Smith and Elliott.

Dr. D'Arcy Ellis delivered an address on "Tuberculosis in Swine." He said that the subject matter of his paper was based mainly on statistics obtained from a large pork and bacon factory in his area. To this factory pigs were brought from all over the British Isles, and a careful veterinary examination of every carcass was made after slaughter. An examination of approximately 44,000 carcasses a year over a period of two years showed that 13.8 per cent. exhibited signs of disease and 86.2 per cent were healthy. Tuberculosis accounted for 55 per cent. of the diseased carcasses. The frequency of the involvement of the various glands and organs of swine with tuberculosis was shown in the following table:—

	per cent.
Head and Throat ...	90
Liver ...	31
Lung ...	31
Bowel ...	27
Stomach ...	17
Spleen ...	16
Kidney ...	1
Spinal column ...	0.7

Dr. Ellis referred to Dr. Stanley Griffiths' findings that tuberculosis in pigs was due to the bovine bacillus in about two-thirds of the cases and to the avian bacillus in the remaining one-third, the human type being very rare indeed. He then dealt with the problem of tracing the source of infection in pigs affected with bovine tuberculosis, and related some of his experiences in trying to follow up these cases. In some instances it was possible to discover a tubercular cow in the dairy herd whose milk had been given (unboiled) to the pigs, but in a large number of cases great difficulty was experienced in obtaining information as to the actual breeder of the pigs, especially where they had been purchased in the open market. The speaker concluded by

suggesting that a greater measure of control could be obtained by some system of registration and organised inspection at the markets. Compulsory sterilisation of milk used to feed pigs would reduce swine tuberculosis, but it would not lead to the discovery of the dairy cows affected.

Dr. Snell proposed, and Dr. Jolly seconded, a hearty vote of thanks to the President for his excellent address. Dr. Wyndham Parker spoke in support of the motion, which was carried by acclamation.

THE SOUTHERN BRANCH.

President: Dr. H. C. Maurice Williams, M.O.H., Southampton.

Hon. Secretary: Dr. H. D. Kelf, Asst. M.O.H., Hants. County Council.

The first meeting of the session of this Branch was held at East Park Terrace, Southampton, on October 7th, 1932.

The Hon. Treasurer (Dr. H. L. Cronk) presented the annual balance sheet, showing a satisfactory position. The report was adopted, and the Hon. Treasurer cordially thanked for his services.

The retiring President installed Dr. H. C. Maurice Williams as President of the Branch, investing him with the badge of office.

Dr. Maurice Williams suitably replied, and delivered his Presidential address on "The Public Health Services of the Future." He gave a brief sketch of the history of preventive medicine from the early ages, describing discoveries and writings, and showing that there were sanitary methods in Babylonia 3,000 years ago and public health work in Rome as early as 494 B.C. The tremendous strides in public health work during the last 100 years were indicated in order to show that, in visualising the future, what may appear on the surface to be fantastic and unworkable, is possible in the picture given of a state medical service. Dr. Williams referred to the necessity of the unification of all the numerous bodies that at present govern the various sections of public health, the re-distribution of all sanitary areas, especially of the small urban and rural districts to a minimum of approximately 50,000 population under the control of one medical officer of health. The centralisation of hospitals, compulsory immunisation, and state paid medical officers, specialists and midwives would come next. The medical officer would have a definite future; the

Ministry of Health would run the medical service like the colonial service, each officer commencing in the junior positions, and by post-graduate courses and examinations he would progress to the senior posts, and thus end the present difficulties as to promotion and salaries. Voluntary hospitals would merge into the state hospitals, where treatment of every kind, especially that relating to maternity, could be carried out.

An interesting discussion followed, and Dr. Maurice Williams was thanked for his thoughtful paper. After tea, a visit was made to the extension of the Southampton Borough clinic activities, new premises having recently been erected for the venereal diseases department, and for maternity and child welfare work, including light and orthopaedic rooms.

THE NORTH-WESTERN BRANCH.

President: Dr. T. W. Naylor Barlow, M.O.H., Wallasey.
Hon. Secretary: Dr. J. E. Spence, M.O.H., Eccles.

The opening meeting of the session of this Branch was held on October 14th, 1932, at the Public Health Laboratory, York Place, Manchester, when the President (Dr. G. W. N. Joseph) occupied the chair.

Dr. G. W. N. Joseph, the retiring President, inducted the President-elect (Dr. T. W. Naylor Barlow) into the chair, and Dr. Barlow, after thanking the members for receiving him as President of the Branch, delivered his presidential address on "Thirty Years as a Medical Officer of Health," which will appear in an early number of the journal.

A cordial vote of thanks was accorded to Dr. Barlow for his most interesting address.

Dr. J. W. Talent proposed that the thanks of the Branch be accorded to Dr. G. W. N. Joseph for his services as President during the past session. This was seconded by Dr. H. Whitehead, and carried by acclamation.

A letter was read from the Executive Secretary intimating that Dr. W. Hannah had resigned his membership of the Society on retirement, and it was resolved on the proposition of Dr. Joseph, seconded by the President, to recommend the Council of the Society to elect Dr. W. Hannah and Dr. H. H. I. Hitchon as honorary life members.

Dr. E. H. M. Milligan referred to the position of medical officers holding combined appointments who would lose part of their salary consequent upon the re-arrangement of county districts under the Local Government

Act, and it was considered that the position of such officers was provided for in the Act.

THE DENTAL OFFICERS' GROUP. YORKSHIRE SUB-GROUP.

President: B. R. Townend, Esq., L.D.S. (LIV.), D.O., Yorks. (W.R.) C.C.
Hon. Secretary: Jeffrey Fletcher, Esq., L.D.S., R.C.S. (ENG.), D.O., Yorks. (W.R.) C.C., Heathersett, Listerdale, Rotherham, Yorks.

A special meeting of this Sub-Group was held on September 1st, 1932, in the New County Offices, Wakefield, to consider the proposed institution of a Diploma in Public Dental Service by the University of Leeds.

The President was assisted in the deliberations by twelve members, and apologies for absence were received from two members.

It was resolved that the congratulations of the Sub-Group be sent to Leeds University on their public-spirited action in considering the institution of a Diploma in Public Dental Service.

It was pointed out that in the opinion of the Sub-Group, instruction in the purely dental subjects of orthodontia, dental bacteriology and radiology, etc., should be in the nature of refresher courses, and that the examination should be confined, as far as possible, to subjects outside the L.D.S. curriculum, such as maternity and child welfare work, epidemiology, vital statistics, child psychology, public speaking, etc., and further, that in the early days, at any rate, of such a course, every consideration should be given to existing dental officers, and that every endeavour should be made to make it possible for them to take the course with as little sacrifice as possible of their time and salary. If the course were to be a full-time one, it was felt that very few, if any, existing dental officers would be in a position to spare the time or money to take such a course.

THE MATERNITY AND CHILD WELFARE GROUP.

President: Dr. Margaret Emalie.
Hon. Secretary: Dr. Isobel Wright, Public Health Department, 121-121, Rosebery Avenue, London, E.C.1.

A meeting of this Group was held at the Society's house on September 30th, 1932. The President occupied the chair and twenty-seven members and visitors were present.

"Diphtheria Immunisation in Infancy" was discussed; there were four openers.

Dr. R. A. O'Brien, C.B.E. (Wellcome

Laboratories) urged the immunisation of children during the pre-school period, and thought nine months the ideal age. He regretted that the more highly potent toxoids (alum and concentrated) tested for safety in the laboratory and found to be more highly efficient, had not been more widely tested outside. He disassociated himself from resolution II of the London Conference of the League of Nations, and thought the milder prophylactics only should be used for tuberculous children.

Dr. Guy Bousfield (Medical Officer, Immunisation Clinics, Camberwell, Lambeth, Heston and Isleworth) had dealt with several thousand children in seven years, and gave three intramuscular injections of Burroughs Wellcome T.A.M., first interval one week, second interval two weeks. No child had been made ill during the process, and he thought serum sensitisation very rare.

Dr. Maule Horne discussed the practicability of the adoption of a scheme of immunisation against diphtheria in infancy in England and Wales. He commented on the obstructive factors, objection from the local authority, discouragement within the profession, a weak central authority, conscientious objectors, and expense. The minimum necessary for success appeared to be 35 per cent. of the population continually immunised, and that figure maintained. At present immunisation clinics do not qualify for exchequer grant, either under the special services of the Board of Education or under the maternity and child welfare scheme of the Ministry of Health.

Dr. Graham Forbes (London County Council) compared the London and New York figures as to incidence of diphtheria and the number of children immunised, stating that the London figures were fractional. He urged the importance of practitioners advocating immunisation and carrying out the work themselves. He wished that London could secure the backing of the business interests and financial aid of some insurance firms and trust bodies for an immunisation campaign, as in New York.

In the discussion which followed, Drs. Emslie, Brewer, Gunn, Joe, Radford, and Miss Norah March, Editor of *Mother and Child* (present as a visitor), took part.

A vote of thanks to the openers was proposed by Dr. Radford and carried by acclamation.

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Editorial.

The Health of the Industrial Worker.

IT is noticeable that when a subject with a complete, or more or less complete, clinical aspect is down for discussion at a Society or Branch meeting, the attendances are, in general, large. Perhaps the same reason that makes such meetings pleasant—freshness and the novelty of hearing of things which, while they have relation to the daily round, are not actually handled—accounts for the very real attraction that lies in the chapter of the Annual Report of the Chief Inspector of Factories and Workshops, in which the Senior Medical Inspector tells of his activities, and talks of industrial hygiene and diseases and the conditions that make for or interfere with the health of the members of the industrial population. The chapter contributed by Dr. Bridge to the report for the year 1931* appears shorter than usual. For this, reasons of

economy may be responsible, but there is also the possibility that the state of trade may have had an effect. The fact that the incidence of notifiable industrial disease is low is due to the state of the labour market. Lead poisoning, particularly, shows a marked decrease (168 cases as against 265 in 1930). Speaking broadly, however, health in general was satisfactory, amongst women and young persons especially so. This is remarkable having regard to what the report has to say with regard to the depressive effect of repetition tasks in which women appear to be so largely engaged. Work on the whole, however, is a healthy thing particularly if it is such as the worker can take an interest in.

Amongst actual industrial diseases and illnesses discussed in the report, lead, mercurial and certain other poisonings receive particular attention. The figure 168 for cases of lead poisoning, with 21 deaths, is the lowest recorded, and is due partly to better protec-

*Cmd. 4008, H.M. Stationery Office. Price 2s. 6d. net.

tion. The fact that pottery, formerly a large contributor, gave only nine cases is worthy of note, as is also the tendency to decrease shown in the case of electric accumulators. Of mercurial poisoning six cases occurred, three in the repair of electric meters and one in making thermometers. Of aniline poisoning there were 30 cases. The most frequent cause is absorption through the skin, and amongst other precautions the need for the wearing of protective clothing is stressed. Toxic jaundice was reported in seven instances, all due to arseniuretted hydrogen.

There were 21 cases of anthrax with four deaths, as against 43 cases and six deaths in 1930. Of the total, nine were due to wool; four to horsehair, and seven to hides and skins. A most interesting table in this section is that in which the 315 cases that have been notified between 1900 and 1931 are analysed. The object of the analysis was to assist those at Geneva who propose to consider regulations to protect workers handling, in transport, material likely to be infected with anthrax. Unfortunately, the conclusion to which Dr. Bridge finds himself driven is that the regulations are only likely to be of problematic value.

A close analysis of the cases of epitheliomatous ulceration over the last five years shows some slight reduction in numbers. The total for 1931 was 156 with 46 deaths. There has been little alteration in the proportion traceable to various trades. Periodic medical examination of workers is again recommended, and apparently in some industries is well carried out. The total number of recorded cases amongst cotton mule spinners is now 1,062. There is a growing tendency on the part of workmen to seek advice at an early stage. By mentioning the fact that of eight cases of carcinoma of the bladder that came to notice, five occurred in persons engaged in chemical works in the manufacture of synthetic dyes, Dr. Bridge draws attention to a matter of real concern and importance. Dermatitis, of which 666 cases were voluntarily reported, appears to be decreasing. In the case of those due to oil, the use of the alkaline antiseptic wash appears to be responsible for the decrease, and in the dermatitis of painters the coating of the skin with ointment is helping to bring the numbers down. The very useful lists showing causative agents and occupations having relation to dermatitis are repeated in this year's report.

The sections on dust and fumes and gases are as interesting and informative as usual. The fact of the existence of a great variety of processes exposing workers to the risk of inhaling dust of silica or asbestos is noted. In the case of silicosis the difficulty of control in many industries continues, but in respect of asbestosis it is interesting to note that even though special regulations have only been in force since March, 1932, already improvements have been made. Dust in malhouses and in the packing of soap powders containing alkalies, and the effects produced, are discussed. In the latter, perforation of the nasal septum is the risk, but this can be obviated by the provision of mechanical means of removing dust or by the use of a mouth and nose shield. Fumes and gases of various kinds caused 122 cases with 11 deaths, the principal causes being the same as in previous years, and special mention is made of certain cases of brass founders' ague amongst manganese bronze welders, and to gassings with such gases as carbon monoxide, sulphuretted hydrogen and petrol.

Short as it is, the report of Dr. Bridge is wonderfully interesting and stimulating also, since it indicates how carefully industrial conditions are dealt with in his department, and that as a result of the work done, great benefit has already accrued to the workers and undoubtedly will continue to accrue.

Death of Professor Bostock Hill.

BY the death of Professor Alfred Bostock Hill, which occurred at his home at Weybridge, Surrey, on November 5th, 1932, at the age of 78 years, the public health service loses an outstandingly great man, whose working life was spent in the advancement of the science of public health.

Bostock Hill received almost every honour which it is possible for his colleagues in the service to bestow, and it is unnecessary to recapitulate them here. He will probably be best remembered by the world at large as Professor of Hygiene and Public Health in the University of Birmingham and County Medical Officer for Warwickshire. In his capacity as Professor of Hygiene many were the students who came under his influence, later to become distinguished and assiduous workers in public health. His high scientific attainments, charm of manner and brilliance as a lecturer enabled him to exert an influence

on the medical students of Birmingham which has been one of the outstanding features of the advance of public health in this country. As County Medical Officer for Warwickshire, Bostock Hill laid down and developed a county health department which still serves as a basic model for the county public health administration of to-day. Particularly was he successful in demonstrating the value of the work of health visitors in combating mortality and morbidity amongst mothers and infants.

Bostock Hill was a great man from every point of view. His opportunities began early in life. He was only 22 years old when he was first associated with the County of Warwick, but he grasped his opportunities with both hands and established a position of authority and influence unequalled by any public health worker of his time. He was well endowed by training and nature for the position of leader which he occupied. His training was primarily scientific and the accurate and logical habit of mind which such training stimulates was seen in all his work. He was a strong man physically and until recent years did not suffer from any but the minor ills to which all flesh is heir. In early and middle life he was a keen yachtsman, and his love of the sea is reflected in the position which one of his sons occupies in the Royal Navy. With such endowments and opportunities and a capacity for hard work and the proper employment of leisure, it is not to be wondered at that Bostock Hill soared above all his colleagues. But it is not because he achieved greatness or was a great scientific expert, or held all the honoured positions in the world of public health, that he will live in the memories of his colleagues, but because as a man he was a wise counsellor and a loyal friend. If a difficult problem, either personal or communal, arose, Bostock Hill could always be relied upon to give disinterested advice. His powers of debate were very keen and he invariably dealt with the arguments of an opponent in a tactful, erudite, but nevertheless, coldly logical manner. He was a delightful host, and in the smaller amenities of life as in larger public affairs, he spared himself in no way to give of his best, for the benefit and comfort and pleasure of all.

The departure of Bostock Hill from the Council of the Society of Medical Officers of Health is a real loss. His recollections of the advances of public health and the methods by which these advances were achieved were often

of the greatest possible service. It is a pleasure to think that his colleagues will remember him as alert, earnest and indefatigable to the very last, and it is not too much to say that his life and work will remain for all time as an imperishable example of all that is best in service and achievement.

The Society of Medical Officers of Health mourns his loss and extends to Mrs. Bostock Hill, her sons and daughter, most sincere sympathy and heartfelt condolences.

The funeral took place on November 9th at St. John's Crematorium, Woking, and was attended by many members of the Society of Medical Officers of Health, Royal Sanitary Institute, and other associations. Among representatives of the Society present were: Dr. G. F. Buchan (Hon. Treasurer), Dr. Charles Porter (Hon. Editor), Dr. James Fenton, Dr. J. Macmillan, Dr. A. Hamilton Wood (County Medical Officer, Warwickshire), and Mr. G. L. C. Elliston, the Executive Secretary.

* * * * * Death of Dr. Harold Kerr, O.B.E.

THE blow of the death of Dr. Harold Kerr, which occurred on November 10th, appeared all the more calamitous, coming as it did so soon after that of Professor Bostock Hill. That the loss sustained by public health, as by the public health service, is a serious one all who knew Dr. Kerr and the work he did will readily agree, and all the more sincerely regret because at his age death might have been thought to be still far off. Yet it had been recognised for some time that the state of his health would not much longer permit him to continue at the work that he loved and did so well, both in his own city of Newcastle-upon-Tyne and in the wider fields in which his services were so much in demand. Indeed, for over two years he had been in ill-health, and although at times he seemed to show improvement, the signs of progress of his illness became more and more evident until death released him. At the time of his death, Kerr was only 52, having been born in 1880.

Determined to study medicine, he entered the University of Edinburgh and graduated therefrom M.B., Ch.B., in 1902. After holding hospital posts at Bury and Rotherham he took the Cambridge D.P.H. and became Assistant Medical Officer of Health for Bury. In 1907 he proceeded to the M.D. of Edinburgh, and commenced his long association

with Newcastle as assistant to Dr. H. E. Armstrong, Medical Officer of Health, on whose retirement the corporation promoted him Medical Officer of Health for the city. This post he occupied until his death, being held all the time in the highest affection and esteem.

Harold Kerr took a leading part in the medical life of the north, and was the moving spirit in the Northern Branch of the Society. Having acted as Hon. Secretary for many years, in due course he became President of the Branch, and its representative on the Council of the Society. He was chosen President of the Society in 1930, and served also as Chairman of the Newcastle Division of the British Medical Association, and as Professor of Public Health in Durham University.

During his career many honours were conferred upon him, not least that of the O.B.E., and an Honorary M.A. of Durham University. Kerr was a tremendously hard worker, and it appears not unlikely that, in fact, he overworked latterly, particularly when, in addition to looking after the interests of Newcastle and its citizens to whom he was devoted, he carried the heavy burden of the Presidency, and put a vast amount of energy into collaborating with Professor Kenwood in the production of the last edition of *Parke's Hygiene*.

Dr. Kerr leaves a widow and four daughters to mourn his loss, to whom the most sincere sympathy is extended in their bereavement.

The funeral took place at St. Nicholas' Cemetery, Newcastle-upon-Tyne, on November 12th. The city health department was represented by Dr. J. A. Charles (Deputy Medical Officer of Health) and other medical colleagues, and the Society by the President (Dr. G. H. Pearce) and a large number of members, including Dr. R. Veitch Clark, Dr. J. W. H. Morrison, Dr. W. E. Harker, Dr. T. N. V. Potts, Dr. Andrew Smith, Dr. A. Stuart Hebblethwaite, Dr. C. Franks, Dr. P. A. Dormer, Dr. W. H. Dickinson, and the Executive Secretary (Mr. G. L. C. Elliston).

Infant Life Protection.

THE provisions of the Children and Young Persons Act, 1932, relating to infant life protection, and contained in sections 65 to 69 and the second and fourth schedules to the Act, will

come into operation on January 1st, 1933. For the guidance of maternity and child welfare authorities who will administer them and of health visitors who will perform duties under them, the Minister of Health has issued special memoranda dealing with the matter. As the new provisions contain substantial alterations of the existing law, authorities, it is suggested, should take immediate steps to make them known throughout their districts. The main connections in which changes have been made are in relation to the notification of children, the age being increased from seven to nine years, and the period of notification so altered as to ensure notification *before* instead of, as under the 1908 Act, after reception. That notification of the death or transference of a child must be given not only to the local authority but to the person from whom the infant was received is also noted, and certain modifications in the manner of notification introduced by the new Act are referred to.

An interesting provision specially mentioned is that requiring that at least one of the infant protection visitors of each authority, or of the persons authorised to act as such, must be a woman. Authorities are advised to take immediate steps to conform to this requirement if they have not already done so. It is assumed that in most cases the health visitors of the authority have already been appointed to these posts. With regard to the scope of visits the same schedule makes it clear that the scrutiny, advice and direction of the visitor should extend not only to the nursing but also to the general health and well-being of the child. The work of infant protection is thus more closely assimilated to the authority's child welfare services. With a view to the prevention of overcrowding the power of the authority to limit the number of children in a foster home has now been extended to enable them to impose conditions to be complied with so long as the total number of children kept in the dwelling exceeds a specified number. Power to enforce a limitation by legal action is similarly extended to enforce conditions so imposed.

Further extension of the powers of the authority enables them not only to secure the removal of children kept on unsuitable premises or by unsuitable persons, but to prevent their reception in such premises or by such persons. The class of persons described as unfit to have care of such children is also extended to cover unfitness by reason of old

age, infirmity or ill-health; and detrimental environment, as well as unsuitable premises or foster-parents, is recognised as a ground for action both before and after reception. By the second schedule, persons who have been convicted under the Prevention of Cruelty to Children Act, 1904, are required to obtain the written sanction of the authority to keep a foster-child only if they have been convicted of an offence of cruelty under that Act.

As regards the taking of legal action, it is important to note that hereafter the authority, in place of the visitor, will be directly responsible for applying to a court of summary jurisdiction for an order for the removal of a child to a place of safety, and the authority's power to issue an order on the application of a visitor is rescinded. If, however, there is imminent danger to the health or well-being of the child concerned, a single justice may make an order on the application of a visitor or other appointed or authorised person, and, if need be, may exercise that power *ex parte*. Particular attention is directed to the fact that anonymous advertisements for children are prohibited, and the authorities are advised to make arrangements for the scrutiny of local newspapers and for investigating relevant advertisements in order to enforce this provision.

For the guidance of maternity and child welfare authorities the forms of advertisement to be made and of instructions to be given to foster-parents are set out in the memorandum (165/M.C.W.). In memorandum 165A/M.C.W. the suggestions that are offered cannot fail to be of value to the officers appointed to perform duties in regard to this important matter.

* * * * *

British Butters.

"BUTTERS imported from Australia and New Zealand show a high and uniform potency in vitamins A and D." This is probably the most important conclusion, from the severely practical as well as the scientific nutritional point of view, based upon certain investigations carried out at the Lister Institute by Dr. S. S. Zilva and others into the vitamin content of Australian, New Zealand and English butters. The Medical Research Council, who have issued the report* of the workers, explain that it is an account of in-

*Special Report Series, No. 175. H.M. Stationery Office, 1932. Price 1s. net.

vestigations forming part of a scheme of research into the vitamin content of foodstuffs, particularly fruits, vegetables, and dairy products, and into the effects upon it of different methods of cultivation, preparation, transport, and storage.

Accounts of other parts of the investigations have already been published, and the present report deals only with the work done on the vitamin content of butters of Empire origin. The subject has importance in that butter, among ordinary foodstuffs, is at its best a particularly good source of the fat-soluble accessory food factors, vitamins A and D, which are essential for the normal growth of children and for the maintenance of good health. Vitamin A plays a part in maintaining resistance to infections, while vitamin D is necessary for the proper formation of the bones and teeth, and a deficiency of it causes rickets in children and gives increased liability to dental decay. Potency in respect of these two factors is therefore an extremely important quality in butter, and the fact that butters marketed in this country come from many different sources made it desirable to investigate the influence upon their vitamin content brought by the varying conditions of production, transport, and distribution.

From a practical point of view, it is gratifying to find that the Australian and New Zealand butters are equal, so far as the vitamins A and D are concerned, to the best summer butters produced at home, and even to butter made from the milk of cows whose diet has been fortified by an artificial supply of the vitamins. The finding is the more important in that these butters from the southern hemisphere are available in winter here, when it is known that the vitamin content of milk and butter produced in northern latitudes falls below its summer level. Butter from the southern dominions, moreover, constitutes an increasing proportion of the total supply: in 1913 some 20 per cent. of the United Kingdom imports of butter came from the southern dominions, while in 1927 the proportion had increased to 30 per cent., and last year to no less than 44 per cent.

It is also satisfactory to note that the fat-soluble vitamins in butter have great stability in cold storage. There is, indeed, no fear of significant loss in potency under the prevailing conditions of shipment and distribution. Other practical points that emerge from the investigation are that the breed of the dairy

herd seems to be unimportant in the present regard. Butters from different parts of Australia, with widely divergent conditions of climate and pasture, it was found showed little variation, and the process of neutralising the acid creams before churning, which is practised both in Australia and New Zealand, was proved to have no destructive effect.

With these and the findings generally the Empire Marketing Board, which made a grant to the Medical Research Council for the cost of the work, cannot fail to be satisfied, and to find in them encouragement to continue to support the investigations.

* * * * *

Mortality in the Mercantile Marine.

THE difficulties that almost of necessity lie in the path of those who seek to compile records of a community so scattered in distribution as that of the Mercantile Marine are many, but in a recent report of the London School of Hygiene and Tropical Medicine,* for the first time there is provided information as to mortality amongst merchant seamen that may be regarded as authoritative. Mr. P. Granville Edge, who is responsible for the work, is deserving of the utmost credit for the painstaking manner in which he has sifted and correlated a mass of information and presented it in so palatable a form.

From a comparative table of causes of death in the Merchant Service and in the Royal Navy, it is particularly interesting to find that the Merchant Service compares very favourably, as regards both death-rates and causation of mortality, with the Royal Navy.

It is a pity that invaliding rates cannot be statistically compared, as these would give a truer picture of the incidence of the various diseases, tuberculosis particularly, for example. The merchant seaman, signing on voyage by voyage instead of by term enlistment, when ill between signing off one voyage and signing on for another more or less disappears; whereas his brother in the Royal Navy is, from the time of his entry to the time of his discharge at the end of twelve or twenty years' service, continuously under medical supervision whether ill or well.

The old bogey that all sailors are, *ipso facto*, alcoholic and promiscuous should by

now have died a natural death, but the untruth still lurks in the mind of those with no practical experience. It is refreshing to read, therefore, that "all ages considered, mortality due to this cause (alcoholism) in the Mercantile Marine differs little, if at all, from that relating to "dock labourers" and "all occupied and retired males."

Unfortunately, statistics for venereal diseases are unprocurable, but it would not be unfair to hazard a guess that such figures would also be favourable if they could be obtained.

The fact that respiratory diseases exact their greatest toll from among firemen and stewards is worth noting. The man engaged on deck duties in this regard is better off.

Of no publication more truly than this report can it be said that it provides a wealth of interesting data, and by the many in the Society at least, who have from time to time demanded that the information that it provides should be made available, it is certain to be fully and carefully studied.

* * * * *

Typhoid Fever in Yorkshire.

WIDE public attention having been drawn to the outbreak of typhoid fever at Malton, interest attaches to the history of the epidemic, as told by the Ministry of Health. No case, it appears, occurred in Malton this year until September 23rd, when a youth from outside the district was admitted to the workhouse infirmary suffering from "pneumonia and diarrhoea." He was not regarded as a case of typhoid until on or about September 26th, and he was retained in the infirmary until October 26th, when he was removed to an isolation hospital outside the district. After October 22nd other cases began to be notified, and up to November 17th there have been 245 cases in Malton and its immediate neighbourhood. There have been fourteen deaths.

All known measures were at once taken, and have been continuously maintained, to meet the immediate needs of the situation, including the immediate removal from the workhouse and effective isolation of the original infecting patient and of all subsequently notified cases; the sterilisation of the water supply by chlorination; steps for protective inoculation of the public; and, of course, the repair of the drain concerned.

As to the course of the outbreak, it should be noted that it was not until October 26th

that the sewage from the defective drain was freed from the specific infection which had gained access to it by the removal of the typhoid patient from the workhouse. Thus, in endeavouring to estimate the spread of infection by the water supply among the consumers, the date of October 26th becomes important and, indeed, critical. It was to be anticipated that from 14 to 21 days after that date primary water-infected cases would be inevitable. Moreover, as the outbreak extended, secondary or contact cases would occur.

Immediately on hearing of the outbreak on October 25th the Ministry of Health sent one of their most experienced epidemiological investigators (Dr. Vernon Shaw) to Malton to advise the local authority and co-operate with the local medical officer of health. Dr. Shaw remains on duty at Malton, and the Chief Medical Officer has personally visited the district.

Immediate enquiry into the cause of the outbreak excluded, as a cause, conveyance of infection by contagion or contaminated food supply, and confirmed that the outbreak was waterborne. The drain from the workhouse was found to be gravely defective near its junction with the sewer. Its contents had been deposited for an extended period, not in the sewer, but subterraneously upon land immediately contiguous both to the low-lying water well and to the pumping station (by which the well-water was conveyed to the reservoir).

The question of the future of the water supply is under active consideration both from the medical and engineering points of view.

* * * * *

Does Mild Smallpox Breed True?

IN an article on the "Permanency of the Mild Type of Smallpox," published in the *Journal of Preventive Medicine* in July last, Drs. Charles V. Chapin and Joseph Smith, of the Department of Health, Providence, Rhode Island, U.S.A., have put on record much valuable evidence in support of an affirmative reply to this question. With the painstaking attention to detail in investigation, followed by the carefully guarded conclusion which is expected from this source, the incidence of smallpox throughout the United States of America, during a period of 29 years, from 1900 to 1928, has been analysed, and an endeavour has been made to trace the

source of infection in every outbreak of the severe type of the disease which was known to have occurred during the period under review. The authors quite frankly acknowledge that there are many imperfections in the records with which they deal, due to imperfect registration, defective notification and want of thorough epidemiological investigation in many instances, but the magnitude of the figures, amounting approximately to 1½ million cases of smallpox, as well as the extent of the period brought under review, must to a very considerable extent discount the effect of these deficiencies and leave their conclusions as a notable contribution to an affirmative reply to a very important administrative question. The more important of these conclusions, as summarised at the end of the article, are that "cases of this mild strain of smallpox, like those of most contagious diseases, exhibit many minor variations, but without the development of a permanent new type," and that they have "been unable to find any evidence that the mild strain has ever reverted to the classical type, that is, that the pathogen of the disease has ever undergone a mutation in that direction."

It is hardly possible to expect that an affirmative reply, without qualification, can ever be given to the question of fixity of type in smallpox any more certainly than in many other important epidemiological questions for which the inductive method of investigation is the only one at present available. But there is no doubt that, with the accumulation of experience of the mild type of smallpox in this country, the reply of our epidemiologists to the question has tended to become more definitely affirmative, and although our figures and the period of our experience are not to be compared in magnitude with those available in the United States of America, the conclusion to which they point is, in all important respects, similar to the conclusion reached by our American colleagues.

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Public Health in India.

THE annual report of the Public Health Commissioner with the Government of India for 1929 and 1930, although somewhat belated, so often unavoidably the case with government publications of this nature, contains much valuable information regarding not only the state of the public health gener-

* Board of Trade Statistics relating to Mortality in the Mercantile Marine. Report of the London School of Hygiene and Tropical Medicine. H.M. Stationery Office, 1932, pp. 98. Price 1s. 6d. net.

ally, but also, in volume II, the health of the British and native troops in India.

Although the birth-rate for the general population is satisfactory, the same cannot be said of the infant mortality, which continues at the high rate of 178. This is accounted for not only by the high maternal mortality rate but by the high stillbirth rate and ante-natal death rate.

The three great epidemic and endemic diseases of India—cholera, plague and smallpox—continue to exact a heavy toll, but plague is undergoing a steady natural decline, and smallpox is well under control. It is interesting to note a heavy increase in the attendances at State and private medical institutions, which is proof of the popularity of the western system of treatment. The state of health of the British and Indian troops for the year 1930 was satisfactory.

Copies of these extremely interesting and valuable publications may be obtained from the Office of the High Commissioner for India, India House, Aldwych, London, W.C.2: Vol. I (1929) price 6s. 3d., Vol II (1930) price 3s. 6d.

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Work of the Rockefeller Foundation in 1931.

DURING the year 1931, according to its latest report, the Rockefeller Foundation, an organisation devoted exclusively to philanthropic work, appropriated a total of nearly 19 million dollars. This sum was distributed among the five fields in which the Foundation's interests lie—the humanities, public health, medical, social, and natural sciences. In the field of public health the Foundation continued to give assistance, both directly and through training of personnel, to universities and other agencies, chiefly national in scope, which carry on research of a fundamental character, and to co-operate with governments in the development of general public health activities and in the study and control of certain diseases.

In medical science, for a number of years preceding 1929, attention was given chiefly to the support of medical institutions, and an extensive programme of surveys of medical education and aid to influential medical centres was carried out. Since 1929, interest has centred in the development and fostering of research. Among the research projects

sponsored was work connected with problems in virus diseases, puerperal fever, neurology, serology, biochemistry, and dental pathology, as well as studies of the common cold. Medical research was aided at such institutions as Vanderbilt University; University College Hospital Medical School, London; the Universities of Leipzig, Brussels, Montreal and Edinburgh.

During 1931, the Foundation supported and administered directly eighty-nine fellowships in the medical sciences and thirty-five in nursing. In addition, it supplied funds to the National Research Council and to the National Committee for Mental Hygiene for fellowships for Americans, and to similar organisations in other countries for fellowships for citizens of those countries. Altogether, the Foundation provided, during 1931, a total of 353 fellowships in the medical sciences, through which it was hoped that young men and women in many countries might be aided in preparing for careers in research in the medical field.

In support of public health work, a total of over three million dollars was expended by the International Health Division during 1931. The work in connection with yellow fever was continued, and it is noted that as a result of a new vaccine, there is confident hope that further deaths may be prevented among workers studying the disease in field or laboratory. This vaccine resulted from work done with the white mouse by Dr. Max Theiler, of Harvard University, who, by employing a new technique on anaesthetised mice, opened the way to fruitful work on yellow fever vaccine. Details are given regarding the continuation of the Foundation's work in connection with malaria, hookworm infestation, and other diseases. Assistance was given to field research and field work in the forty-seven countries throughout the world and the thirty-seven states in the United States. During 1931, the Foundation awarded 123 fellowships in public health. The recipients included 49 persons from the United States, 10 from China, nine from Canada, seven from India, six from Japan, and five from Greece.

The fact that, even in the present depression and often at the cost of considerable sacrifice and strenuous endeavour, public health work throughout the world is being maintained, is one very definitely brought out by the report, and certainly deserving of emphasis.

Hospital Bed Accommodation.

By H. P. NEWSHOLME, M.D., F.R.C.P., D.P.H., Medical Officer of Health, Birmingham.

The problems of effective use of hospital beds and of integration of effort in hospital accommodation are of vital concern to members of the public health service at the present time. In the following paper, read at a meeting of the Midland Branch, Dr. Newsholme outlines in a manner certain to be of value and interest some of the points calling for consideration in an enquiry into the question.

A. FACTORS BEARING ON ADEQUACY OF SUPPLY.

In attempting to assess the adequacy of supply of medical and surgical beds for the acutely sick, the first essential is accuracy and definiteness of information. Many of you will agree with me as to the impracticability of ensuring that information as to bed accommodation shall be either fully definite or completely accurate; and that is true equally for the municipal as for the voluntary hospital. It is not easy to say what is, in fact, the real bed accommodation of any hospital. There is no doubt for each hospital a theoretical accommodation based on floor space, wall space and cubic space; but the actual as distinct from the theoretical accommodation is subject to violent fluctuation, for example, with the season of the year. But apart from this, discrepancies are likely to arise, even though they may not be momentous, in regard to the inclusion of beds not usable all the year round, such as beds on balconies; or not usable for all cases, as for example where beds in wards out of action in succession throughout the year for cleaning are incorrectly included as "live" beds; or again, where the beds attached to a special department are lumped in with the general beds.

Given, however, the data as to bed provision in the institutions, and accepting them as an approximation to the truth, can any standard measure be applied to them to determine adequacy of provision or otherwise? A categorical answer can be given. There are no general standards at present available in this country for determining whether the hospital bed provision in any one area is adequate. Each case must be judged on its merits, and on the evidence available locally as to a demand or otherwise for further beds.

Even if there is no general standard, is it possible to glean any useful information by comparison with other areas analogous in size

and character? I have had occasion recently to try this out, with the result at first sight that Birmingham appeared to be substantially worse off for hospital beds than a number of other large areas. On looking in detail into the data, however, it proved impossible to be sure that they had been collected on a basis making it even reasonably certain that they were comparable; while the extreme variations in efficiency in the municipal (transferred) general hospitals in the several areas made any comparison in relation to really effective hospital beds of little value. We are brought back, then, to the standpoint that each case must be judged on its own merits and its own needs.

What facts are we to take into consideration in deciding on the adequacy or otherwise of hospital accommodation in an area?

1. Waiting Lists.

The size of the waiting list is the most obvious measure of the need or otherwise of additional bed accommodation, where the routine of the hospital involves the establishment of a waiting list. But even such a statement has to be hedged around with safeguarding clauses. Is the waiting list a really live one, or does it contain names hoary in their seniority merely because their present necessity has not recently been verified? Does the waiting list contain names shared in common by other hospitals visited by a too-business-like patient, who may have reaped the reward of his labour by treatment at one of the rival establishments? Is it even possible that a waiting list may have been an asset in opening the purse of the public, and may have been allowed, therefore, to remain at high-water mark with no great attention to a reduction of its level?

The method of admission, again, may have an important bearing on the length of the waiting list. Where in municipal (transferred) hospitals the policy of the guardians has been

continued, of admission at once of all needing admission, irrespective of the beds apparently available, there will be no waiting list, though there may be severe fluctuations in occupied beds, and the beds occupied may on occasion be in queer and unsatisfactory situations. Where, on the other hand, the admission is in substantial part through honorary staff in charge of wards, there may to that extent be a waiting list created by the picking and choosing as between various types of case and even as between one practitioner and another, irrespective of the beds vacant in the hospital at the time of seeing a particular patient. This question of the method of admission is one of great importance in relation to the most effective use of the beds available, and it will be necessary to return to it later.

2. Area Served by Hospitals.

A second point to bear in mind is the extent to which the hospitals in any considerable centre of population serve, not merely that centre, but also the population within a varying radius outside it. With the present trend towards the improvement, modernisation, and frequently the extension of hospitals all over the country, one would expect to find that the smaller hospitals are taking a larger share of responsibility for medical and surgical treatment, with the effect in corresponding degree of lightening the load of those larger hospitals in the more populous centres which have hitherto dealt with such cases. While the radius served by the hospitals in the larger centres would not diminish, the frequency of inflow of patients within that radius might be expected to decrease. Does this *a priori* view correspond with the facts? It is difficult to give a categorical reply; and this comes no doubt from the parallel movement, in the opposite direction, resulting from growth in specialisation of service, and the greater ease of development of special departments or special hospitals in a town than in a more rural area. In Birmingham, at any rate, a city which acts as a centre for a large surrounding district, I have not been able to satisfy myself that the increase in demand for beds for out-patient cases over a limited period such as the past five years has been of any substantial character.

3. Duration of In-Patient Treatment.

A third factor having an important bearing on the adequacy of bed accommodation is the duration of in-patient treatment. The extent to which a change in this factor can altogether

transform the situation is insufficiently recognised. Between 1925 and 1930 the administration of the Birmingham guardians' two general hospitals, with a total of some 1,400 beds, was adjusted to such an extent as to pass five additional patients through each bed in the year by the end of the period as compared with its beginning. This was equivalent to the saving of some 600 beds, released by this more intensive use of each individual bed. While the development thus brought about by the guardians and their chief medical officer was, of course, phenomenal, it is startling to find how immensely it could affect the situation.

But there must come a limit to the extent to which hospital beds can be utilised, and a false impression may be derived from considering a reduction in in-patient days as necessarily a sign of increased efficiency. That limit is passed when a patient is being discharged earlier than his physical condition warrants. I find, for example, that the municipal general hospitals which in 1925, when they were guardians' hospitals, passed 10.8 patients through each bed in the year, in 1930 passed 15.5 patients through each bed. In the two voluntary general hospitals, on the other hand, the number of in-patients treated per bed was decreased, not increased, during the same period, from 18.6 to 15.8 in one, and from 16.4 to 15.9 in the other, when the years 1925 and 1930 again are compared. That does not mean that the municipal hospitals became more efficient and the voluntary hospitals less efficient during this period. It means, no doubt, taking the extremes in these figures, that the general hospital, voluntary or municipal, finds itself able to deal with more than an average of 10.8 patients per bed per annum, and finds on the other hand that it should deal with less than 18.6 patients per bed per annum. But is it correct to assume that, because all the general hospitals, voluntary and municipal, attained a fairly even standard in 1930 of from 15 to 16 in-patients per bed per annum (i.e., an average of 23 to 24 bed-patient days), therefore this may be regarded as the optimum rate of in-patient circulation? It does not necessarily follow. It may be that patients would benefit by staying in longer, and the medical and surgical staffs would no doubt in general concur in such a view. But if this were so, that in its turn raises a further question: do the patients, or a large proportion of them, need longer hospital treatment, or, when passed through hospital beds at this

rate of 15 or 16 per annum, have they reached in general a stage when they need *convalescent* rather than hospital treatment? The answer to that question has a very vital bearing on hospital policy and on bed-accommodation requirements; but it is an answer which, so far as my knowledge goes, has not yet been given.

4. Effectiveness of Occupation of Beds.

Enquiry may show another factor causing apparent as distinct from real shortage of beds, *viz.*, the extent to which the beds are utilised at a hospital. If it were found, for example, that in a particular hospital the percentage of available beds occupied is only 85 per cent. of the total, while in other comparable hospitals it is 95 per cent., it would give a *prima facie* case for concluding that there is a relative wastage of beds in the first hospital, if the two are in fact truly comparable. The wastage in such event would obviously be a considerable one; for assuming each to be a hospital of, say, 300 beds, it would mean that in the better managed institutions some 15 beds would be constantly unoccupied, but in the hospital less well managed in this respect some 45 beds would be similarly vacant. If the former be adopted as the ideal, then in the latter there would be an avoidable wastage of 30 beds, 10 per cent. of the total accommodation. The illustration, taken at random from a table in the *Hospitals Year Book*, shows that data must not necessarily be accepted at their face value; an apparent shortage of beds may involve nothing more radical than an adjustment of administration. What particular adjustment can be suggested to remove this difficulty? The obvious solution is to make some one individual, whether a clerk or a house governor or a medical superintendent, responsible for keeping the beds filled. Such provision, customary in municipal institutions, is by no means universal, perhaps not even usual, in voluntary hospitals, where admissions and discharges are commonly arranged in rather haphazard way by house physicians and house surgeons. The possibilities are sufficiently obvious of wastage of a day or two in filling a bed; by reason, for example, of premature or unexpected discharge and absence of machinery for prompt filling of the vacant bed. The accumulation of such occasions of bed-wastage throughout the year may be a very substantial item.

5. Effectiveness of Use of Beds.

But there is a further way in which beds may be imperfectly utilised, beyond that of being irregularly filled; though this imperfection does not reflect itself in the statistics of average daily occupation. The beds may be occupied, but occupied in part by cases of not ideally suitable type. Here we have no ready gauge of facts, and can go only on probabilities. Compare the usual method of admission in municipal with that in voluntary hospitals, and it seems likely that the risk of admission of the less urgent case is minimal in the municipal, maximal in the voluntary hospital. In the municipal hospital, admission is mainly through the medical superintendent, or where not through him then through a casualty or out-patient medical staff who are concerned only with the selection of the most fitting cases to what are often a very restricted number of beds. In so far as in voluntary hospitals the admissions are similarly through casualty or out-patient medical staff, the same comment as to the type of patient admitted applies, and the cases most needing admission can confidently be regarded as having priority. Is the same as fully true, however, of the patients admitted where the senior physicians and surgeons have a voice in the admission of patients to their wards? The patients admitted may then be in part patients seen at the physician's or the surgeon's private consulting room or in their homes, in either case at the instance of private practitioners seeking a second opinion or a specialised examination. It would be difficult under such arrangements to deny that in some degree there is a chance from time to time of preferential treatment being given to practitioners rather than to patients, involving the admission on such occasions of the somewhat less urgent to the loss of the more urgent case who might otherwise be admitted to that bed through the hospital waiting list based on the out-patient or casualty department, or on direct applications from general practitioners.

To what extent can such a disturbing factor as this operate? Obviously no exact information is available. If, however, the proportion of cases thus admitted directly or indirectly through the senior staff rather than through the out-patient or casualty department lists is substantial—and I am given to understand that on occasion it can be very considerable—then the practice may have a not unimportant

bearing on the effective use of the hospital beds.

B. THE PROBLEM OF INADEQUATE SUPPLY OF HOSPITAL BEDS.

Suppose that, following on a review of the bed-accommodation in the general hospitals, municipal and voluntary, of an area, the conclusion is reached that the total bed-accommodation is insufficient, what measures towards a remedy may be considered? I shall not attempt to discuss these in any systematic way; my purpose being only to outline a number of points which emerge for discussion:—

1. Measures of Alleviation.

(1) The first step obviously must be that of *the most effective use of beds already provided*. That implies—

(a) A review in each hospital of the procedure in force as to the selection and admission of patients, and as to the fullest use of each bed, with a minimum of fallow-time before and after use for any one patient. We have glanced at various directions in which improvement may be possible. Among these were (i) the delegation of responsibility for keeping beds filled to one particular individual, armed with full authority to collect all information from the medical and nursing staff needed for his task; (ii) a revision of arrangements for admission of patients, so that they shall be admitted directly through application to the hospital, and not in part indirectly through the private practice and private consultations of consultants; (iii) a scrutiny of waiting lists.

(b) A pooling and interchange of information between voluntary hospitals, and between voluntary and municipal hospitals as to methods and developments. That pooling in its turn involves an individual, a bureau, or a joint hospitals committee which shall arrange for the reception and transmission of the information. The provision of such a joint hospitals committee—I choose the most likely alternative—leads inevitably to the further stage, at which it becomes not merely a centre of information, but a centre of advice, then of general supervision and finally of control. At what stage is the activity of such a joint hospitals committee to be arrested? Opinions will vary, and those who like neat and orderly schemes will carry it through to its logical issue in the final phase of full control. Others will feel that such a solution must bring in its train difficulties which more than neutralise

its value: difficulties of loss of initiative on the part of individual hospitals, and therewith irritation, unrest and finally loss of interest: difficulties, again, of sluggish decision and action which are contrary to the best interests of the individual hospitals. Of the advantages, such as the avoidance of duplication within certain limits of special departments or specially expensive plant, I forbear to speak at length as they are sufficiently obvious. Very probably many areas will eventually reach solutions typically British in avoiding either extreme, resulting in an incomplete degree of joint control and a correspondingly incomplete degree of liberty left with each hospital board to direct its own developments.

(2) The second measure which offers itself is that of *pooling information as to waiting lists*, in order to remove duplication as between hospitals, and through the central co-ordinating committee possibly to allow of an offer of a suitable bed elsewhere to individual patients. I suspect that this is more of theoretical than of practical importance as a means of reducing the demand for beds at any particular hospital.

2. Measures of Expansion.

Suppose that in spite of all pooling of information and of beds there are still waiting lists which refuse to shrink. The alternative then may be to provide more hospital beds. But is this the only conceivable solution? Would the alternative of providing relatively cheap convalescent blocks at the hospital, or convalescent homes separately or jointly elsewhere, instead of relatively costly hospital blocks, be equally satisfactory? Would it be feasible or desirable to draw public assistance institutions for the chronic sick into the hospital scheme, using them, by appropriate extension or alteration, similarly as safety-valves into which to discharge the more convalescent patients from the hospitals at time of stress in the latter? Would it be feasible to use organised home nursing to a larger extent for these more convalescent patients? I ask these questions, and attempt no answer. I hope that discussion will throw some light on these points. Are there any other questions of a general character which still may have a repercussion, sooner or later, to show that we have been right or wrong in a decision to expand hospital accommodation? There is one to which in particular I would refer, though both its significance and its scope are at present obscure in this particular connec-

tion, and though also it cannot be said to be of immediate practical importance. The British Medical Association, as you are aware, has adopted a definite policy towards out-patient departments, and regards them as primarily consultative centres. That implies a desire on the part of the private practitioner to deal personally with his private patient, whether the latter be on his panel or otherwise. That fact may have a real significance at some not very distant future in relation to the treatment of in-patients as well as of out-patients at hospitals. It appears to me that, making all allowance for the mixture of motives inevitably involved, nevertheless this movement implies that the general practitioner is coming steadily to closer grips with the over-specialisation which has been a dominant feature of medicine during the past decade. Specialism as an aid and support to the practitioner who looks competently and carefully at his patient as an individual needing restoration as a whole is one thing; the specialism which all too readily regards him as a mere collection of tissues and organs is quite another; and the trend of modern practice, I submit, can all too easily be in the latter direction of a narrow specialism, which can almost ignore the man as a whole in its minute inspection of a few of his constituent parts. The one need not necessarily forbid the other; but experience shows that it is fatally easy to miss the wood for the trees. There is no more urgent need in medicine than that of a recovery of the broad conspectus, supported but not supplemented by the specialised investigation of individual systems. The practitioner is taking the first step towards recovery of his proper relation to the patient as a sick individual, in thus seeking to get the out-patient department into a truer perspective. To what extent may the same process apply later to the in-patient? Presumably not to any substantial degree to the surgical in-patient, but conceivably to a larger degree in the case of the medical in-patient. Even now the good-class practitioner is tending to retain at home the case of gastric or duodenal ulcer whom not long ago he would unhesitatingly have sent into hospital. No doubt such cases would be sent up for specialist examination and diagnosis; but the treatment might conceivably be carried out at home. It seems not at all impossible that twenty years hence we may find, looking back to the present stage, that in 1932 or there-

abouts we were just at the crest of a receding wave of over-specialism, swinging back into the greater stability and the more settled sanity of a medical practice concerned with the individual as a whole rather more, and with aberration of his several more minute parts rather less, than hitherto. Such an alteration of viewpoint would necessarily have its reaction on the problem of hospital bed accommodation. That reaction, blind and indefinite at present, can obviously have no practical bearing on our immediate decisions as to the provision or otherwise of hospital beds. Yet the issue, in its relation to the avowed policy of the body of private practitioners in this matter, is sufficiently important to bear in mind in such a general discussion as the present, and yet sufficiently remote to afford a halting-place for my own part in that discussion.

THE League of Nations Advisory Committee on Traffic in Opium and other Dangerous Drugs has recently issued a report containing various statistical tables showing the production, manufacture and consumption of dangerous drugs, and a summary of the annual reports for 1929 and 1930 of some forty countries and of numerous colonies, etc., dealing with the drug traffic. A table showing the considerable extent to which certain States in the Far East have, during the last ten years, decreased the percentage of their net revenue obtained from opium is, perhaps, the most interesting and instructive of all the contents of the summary. Copies of the publication (price 4s.) may be obtained from Messrs. Allen & Unwin, 40, Museum Street, London, W.C.1.

THE London County Council announce that the following temporary appointments in the hospital service have recently been made:—
L. J. Rae, M.A., M.B., B.CH., M.R.C.S., L.R.C.P., D.M.R.E.—Radiologist, St. Nicholas' Hospital; S. K. Montgomery, B.A., B.SC., M.D. (LOND.), M.R.C.S., L.R.C.P., D.R. (EDIN.)—Radiologist, Hammersmith Hospital.

THE Chair of Public Health in the London School of Hygiene and Tropical Medicine, having been endowed by the Prudential Assurance Company for a term of seven years, has been named "The Prudential Chair of Public Health."

Ut Ita Dicam.

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

The Late Professor Bostock Hill.

For me, as for many of my fellows in the Society, November was indeed a grievous month, for by death we lost, first Bostock Hill and within a few days Harold Kerr, both of them friends of practically everybody in the Society, and both of them at one time President of the Society. Of Bostock Hill I shall always have very many and very pleasant memories. In a number of ways I believe he was one of the biggest men our Society has ever known, and the longer I knew him and the longer I was associated with him the more I came to admire his wonderful energy, the extraordinary extent of his knowledge, the clarity of his thoughts and ideas, and the soundness of his judgment. The remarkable thing was that with advancing years there seemed to be no diminution in any of these things. Physically even he did not show signs of failure until comparatively recently. Sitting quietly he appeared more youthful than many who were a number of years his junior, and it was only when he was called upon to get about much that one began to note that the years were beginning to tell. His passing leaves a gap in many places and in many lives that will be difficult to fill. The Society will certainly miss him; the Royal Sanitary Institute will miss him, and all these other non-professional bodies connected with public health and other matters, who relied upon his judgment, will miss him terribly, too. Because we who were his friends are feeling his loss now and are going to miss him more and more, it is not difficult for us to believe that those nearer and dearer to him need our sympathy in the loss which they have sustained. That with all our hearts we give them.

The Late Dr. Harold Kerr.

Amongst Fellows of the Society there were few more enthusiastic in their devotion to its interests or keener to serve it, to strengthen it and increase its influence than Harold Kerr. The last thing he did practically was to prepare and have published an historical note on the Northern Branch, of which he had been the backbone for many years; which he had raised to be one of the strongest and most active of all the Branches and Groups. He was immensely proud of his Branch, and

though he felt himself a sick man and not really strong enough to carry the heavy burden of the duties attaching to the Presidency of the Society, it was, I am sure, because the members of the Northern Branch were so keen to see him there that he entered the chair. Never able to slack, conscientious to a degree, he put all he had into the work, and as a result found himself unable to keep on till the end of the session. This was a real disappointment to the very many who held him in high regard and affection; a disappointment that changed to real grief as they saw his health steadily fail in spite of the wonderful fight that he put up, and all his efforts to carry on under an overwhelming handicap. A man of many fine qualities, perhaps sincerity was the most outstanding. It was this that secured him the esteem of the council and the people of Newcastle. It was this that backed all the work he did there and on behalf of the many organisations with which he was associated. It was because he was both sincere and serious, and the work he did was sound, that he was chosen by the Ministry to represent the medical officer of health view on so many committees and conspicuously upon the Maternal Mortality Committee. And it was because they recognised his sincerity that his colleagues trusted him and had so much affection for him, were full of pity for him and his family in his suffering, and now mourn his loss with them and grieve for them in that loss.

Conference of the Central Council for Health Education.

All the several bodies who decided to hold congresses and meetings in the week commencing November 14th must have done so because they knew it was the week of the Society's dinner and of the November Council and ordinary meeting. Certainly these events brought up numbers of medical officers of health and helped to bring success to the Conference of the Central Council for Health Education, amongst others. It seems hardly possible that the Central Council should be holding its fifth annual meeting, but this in fact it was, and in the way it went and was received by those who assisted at it, it revealed itself as something quite definitely established amongst public health features. If it were not

established it is very unlikely that it would have secured as a President the Minister of Health himself (Sir E. Hilton Young), and as the opener of one of its discussions, so prominent and sought after a personage as Dean Inge.

Dean Inge on the Church and Health Education.

Amongst speakers of to-day there are few more certain of a Press that the Dean, no matter the subject of his discourse. It would seem unlikely certainly that out of a talk on "The Churches and the People's Health" there would come anything of the type that appeals to the pressman as suitable for publication. Yet there were several points to be seized upon and retailed in most of the more prominent journals, each one a gem of wit and wisdom, reflecting credit on its creator and helpful to the Central Council and the work in which it is engaged. The ground traversed in the course of the address was extraordinarily wide, and the number of subjects touched upon quite phenomenally large, but always appropriate. Justifiably, reference was made to the bedside manner, affording opportunity for pointing to similarities in the performance of the African witch doctor and his opposite number, the family physician in this and other civilised lands. Equally, mention of eugenics was appropriate, and reference to the desirability of allowing clergymen to refuse to marry deaf mutes, mental defectives and so on. There was justification, too, for condemning stupid councillors who insisted on neck to knee costumes for bathers, and for telling of the attitude of Queen Victoria towards the employment of chloroform at childbirth. In this connection I should like to say that, as a result of a letter I have received from Mrs. Aubrey Richardson, so well known in connection with the work of the Chadwick Trust, I am inclined to think the Dean has not been quite fully and accurately informed. Says Mrs. Richardson, and I simply cannot resist quoting from the letter:—"It was rather strange that Dean Inge should say that Queen Victoria never had an anæsthetic. It is possible that at first she may have been averse from chloroform, but certainly by the time the Princess Louise was born her views had changed. Dr. Snow administered it then and the mouthpiece of the inhaler he used—with other mouthpieces of Dr. Snow's—came into

Sir Benjamin Ward Richardson's possession and has been kept by the family till now."

Positive Health Campaigns.

The discussion following the paper by Dean Inge was as full as time allowed, though it was unfortunate that there was no representative of the Free Churches to give the views of these bodies on the question. As it was, the majority of the speakers were medical officers of health, most of them ready to testify to the willingness of the clergy to help in the task of teaching health to the people. On the whole, this part of the proceedings was definitely a success. No less successful was the second half when (under the chairmanship of Captain G. S. Elliston, M.P.), Mrs. Neville Rolfe and Dr. Harley Williams explained what was meant by positive health campaigns, and told us not to fill people up with fear and information about cancer and other diseases. Tell them, says they, that the local authorities have provided clinics of various sorts, that they should be medically examined in order to learn that they are quite well, and how to keep so. Both speakers, it seemed to me, appeared to be very ready to accept that nothing in the shape of education of the positive kind was being done, and that everybody at present engaged in teaching was a Jeremiah of the worst type, and that the one sure way of reducing the morbidity and mortality rates was by pretending that disease and death were not. All the same, the speeches of Mrs. Rolfe and Dr. Harley Williams were excellent; naturally, as they are both gifted and trained and experienced. And the discussion was useful, too, leaving everybody at the end with the feeling that the day had been well spent, and with a hope that next year there would be another Conference of the Central Council and as good an opportunity of hearing good speakers and of taking part in discussions on interesting subjects.

The Annual Dinner.

The annual dinner of the Society is reported as having been an unqualified success, with the President, Dr. George Pearce, playing his part with an admirable dignity, and the majority of the speakers showing consideration for all those others who had no other choice but to listen. Of recognition of the importance of the Society and of the work done by those who constitute it, there was plenty, and from the right people

—Lord Balfour of Burleigh, speaking as President of the Royal Sanitary Institute, and from Mr. Geoffrey Shakespeare, M.P., a Parliamentary Secretary of the Ministry of Health. Most gratifying of all, there were words revealing the esteem and affection in which he was held in his area from members of the councils served by Dr. Pearce, and evidence too that those in authority were proud of the honour that had been conferred upon him by his fellows in making him President of the Society. And rarely has a story been better told than that by the Chairman of the Heckmondwike Council (Mr. Councillor Crowther) of the motor-cyclist who got a cross between the express trains.

Pneumonia Research in Glasgow.

The Council meeting on November 18th was as well attended as any I have seen for a long time. Possibly this was because it was the first of the session, or because many of those who had come up for the Central Council Conference and the dinner remained for the meeting. Amongst the business done there was nothing of very great moment, and, speaking generally, it was as harmonious a meeting as any of late, with everybody ready to see everybody else appointed to the General Purposes Committee (not so much suspect this time as usual) or on this, that or the other allied body or organisation. The agenda being so light and the members generally so exceptionally inclined to stick to the point and to refrain from wandering into side issues, the meeting ended in good time with opportunity offered for exchange of view on this and that, and the councils that have cut and want to cut some more; the councils that have cut but are returning to the pre-cut salary, and the councils—best of all—that have not cut and probably never will cut. And so to the ordinary meeting in quite good numbers to hear Dr. Macgregor, of Glasgow, talk of pneumonia in that city, and the work done in connection with the typing of the causative organism. Following the opening paper, which was illustrated by slides the value of which was greatly interfered with because the screen or the lantern or both were at fault, there were interesting contributions from Dr. Cruickshank, of Glasgow Royal Infirmary, one of those engaged in the investigation, and Dr. Armstrong, of St. Bartholomew's Hospital. The discussion that followed brought up several speakers particularly interested in

pneumonia—Dr. Dunstan Brewer, of Swindon, amongst them, with views that coincided largely with those of Dr. Macgregor, and some interesting information upon the pneumonia situation in Colombo and Saskatoon. Quite a scientific evening, but very pleasant as it gave us an opportunity of hearing the President of the Scottish Branch, who, like the members generally of that Branch, far too rarely finds it possible to attend meetings at headquarters.

Sir George Newman's Harveian Oration.

I expect to die without discovering whether I like addresses of Sir George Newman better or as well as reading matter as to listen to. All I do know is that I am always glad to have them in print, though, of course, in listening there is the added attraction of having them dramatised and the visibility therefore increased. Last month I spoke of the pleasure it gave me to hear Sir George deliver his Harveian Oration, and noted how much there was that should impress not only physicians but people like ourselves in what he said on "The Debt of Preventive Medicine to Harvey and the College of Physicians." Outstandingly this was an address that I wanted to read and to commend to others. Imagine, therefore, my pleasure on receiving a copy, most delightfully printed and produced by British Periodicals, Ltd., of 19, Cursitor Street, London, E.C.4, price 1s. net. No indication is given as to where else the charming brochure can be obtained, but even if trouble is involved in getting it direct from the publishers, I advise that that trouble be taken. P.

A LECTURE (with lantern and cinematograph illustrations) on "The Flying Doctor in Australia" (an account of the first Civil Aerial Medical Service) will be given by W. D. Walker, B.Sc., M.B., B.S., F.R.G.S., F.R.P.S., F.Z.S., at the London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C.1, on Thursday, December 8th, 1932, at 5.30 p.m. The chair will be taken by Air Vice-Marshal Sir David Munro, K.C.B., C.I.E., M.B., F.R.C.S. The lecture is open to the public, and admission is free, without ticket.

THE forty-fourth Congress and Health Exhibition of the Royal Sanitary Institute will be held at Blackpool from June 17th to 24th, 1933.

On Vitamins, Rickets, Scurvy and Dental Caries.

By J. SIM WALLACE, M.D., D.SC., L.D.S.

In this paper, read at a meeting of the Yorkshire Branch, Dr. Sim Wallace discusses, forcefully and interestingly as usual, the question of drugs, etc., and re-states his views with regard to the causation of dental caries.

BEFORE the end of last century, the etiology and pathology of the diseases of the teeth attracted my attention. These diseases no doubt were increasing in number. From the knowledge acquired, more especially in my studies in science, the conclusion was forced upon me that the then current theories with regard to the degeneracy of the teeth, as an etiological factor in the prevalence of the diseases associated with them, were erroneous. About the same time the medical profession had commenced to congratulate itself on the decrease or extermination of several diseases that once were prevalent. Naturally, I did not see much of these diseases but, on the other hand, did see a great deal of those diseases which were increasing. From investigations of various kinds, it appeared to me that the increasing prevalence of dental diseases was the result of certain changes in the diet. Evidence supporting this view was put forward in my first book on *The Cause and Prevention of Decay in Teeth* (1900). A little later, it seemed to me that several other diseases which were increasing, such as "appendicitis, neurasthenia associated with gastric insufficiency, infantile diarrhoea, 'indigestion,' anaemia, rickets, and internal cancer in men," might be attributable to similar errors in diet, and I referred to the destruction or elimination of what might now well be called accessory food factors, as the cause of the unhygienic conditions which brought on these diseases.

My idea of accessory food factors, however, was not so limited as the phrase "accessory food factors" (vitamins) introduced by Sir Frederick Gowland Hopkins would indicate, for in addition to stimulating principles, which might to some extent be considered similar or co-extensive with vitamins, I referred to the physical consistency of food, acids, aromatic principles, and ballast, which all might really be considered accessory food factors. Naturally, reference was made to the incompleteness and insufficiency of the sup-

posed impregnable calorie theory, and all that nutritional "science" held to be necessary.

My views may not have been very enthusiastically taken up, but gradually more and more notice was taken of them, until they came to hold the field in the text-books on dental surgery in this country, more especially in the largest and most authoritative one, edited by Mr. (now Sir) Norman Bennett, the chapter on "The Etiology of Caries" being entrusted to me, and that on "Prevention and Oral Hygiene" to Mr. E. T. Dowsett, now President of the Odontological Section of the Royal Society of Medicine. And it may be observed that the principles of etiology and prophylaxis which are taught in the last edition (1931) remain exactly the same as in the first edition published in 1914. Those well acquainted with the subject, of course, still adhere to these views, which are now generally accepted by the leaders of thought in the dental profession, not to mention such authoritative institutions as the Society of Medical Officers of Health, the People's League of Health, the Dental Board of Victoria, and a corresponding institution in New Zealand, to which now apparently may be added the Dental Board of the United Kingdom, if we are to accept, as well we may, the broadcast address of the Chairman (Sir Francis D. Acland) which, in addition to being published in the ordinary way, was reproduced as a gramophone record by the International Educational Society with the authority of the Dental Board.

I do not mean to say that nothing has happened antagonistic to my views relative to the etiology of caries and the means of preventing the disease. Something has happened. Another school of thought sprang up, which rapidly caught the imagination of many biochemists, physiologists, medical practitioners, and the public. This was precipitantly accepted and rushed into practice. The good work that had been done was ignored and discredited except by the few who knew the

truth and kept their heads. Its origin was rather medical than dental, and I might, if I liked, claim to have been one of the first to see some little value in it. There were points where the new theory about accessory food factors seemed to agree with mine. Ignorance of the exact knowledge we had with regard to the nature and pathology of caries however, soon became a conspicuous characteristic of the researches of vitamin enthusiasts, and rickets having a totally different nature and being quite dissimilar with regard to distribution, cause, and prevention and treatment, was associated with caries by research workers as if they had a great deal in common. But when the nature, development and pathology of enamel are carefully considered, we find that rickets is no more related to or causative of caries than scarlet fever or measles. We were well aware of this fact also long before the flood of confusion between rickets and caries obscured and diverted the attention of the ignorant or the uncritical from the well-ascertained facts.

Although from time to time in the past, the idea of the correlation of rickets and caries had been suggested by dentists, the idea did not make much headway, particularly after the investigation by G. A. Carpenter and Denison Pedley², in which it was indicated that there was no special relationship between the two diseases. The view of the supposed relationship was, however, more recently taken up by Dr. Lawson Dick.³ The dental profession, however, did not appear to attach much, if any, importance to his views. About two years later (1918), Mrs. Mellanby,⁴ adopting the fat soluble vitamin A theory, claimed to show a close association between dental hypoplasia and rickets, resulting from an absence of fat soluble A in the diet of puppy dogs. This was associated with the inference that hypoplasia predisposed to dental caries. When it was pointed out that hypoplasia⁵ in the deciduous teeth was extremely rare and dental caries extremely common, the theory was modified or changed altogether, and microscopic or occult hypoplasia was substituted for hypoplasia as generally recognised by dentists. The theory that this condition (interglobular spaces in the dentine) was closely associated with predisposition to caries was adopted. This to those wholly unacquainted with the nature and progress of dental caries, which invariably commences

externally, soon became widely believed, and the quality of the tooth, or of the dentine, was blamed for the prevalence of decay. It is easy to see how this theory was quickly accepted by those who are unacquainted with the pathology of caries. They imagined if teeth decayed, surely they must be "bad." The very fact of them decaying seemed to them to be proof positive that they *were* "bad." Considerations with regard to the environmental conditions which cause decay were ignored, and the old theory of deficient calcification, which had been shown to be completely untenable by Black and Tomes, was revived. Though calcium in plenty was known to be present in the diet of young children, more especially when given cow's milk, some few advocated the giving of lactate of calcium, but the Mellanby school indicated that the chief reason for the supposedly defective calcification was a deficiency in the first instance of fat soluble A, which later was given up for a closely related vitamin provisionally called vitamin X; and lastly, these two vitamins were discarded for the totally different so-called vitamin D. All the time the benefit of cod-liver oil in producing well-calcified teeth, was insisted on, and through the agency of a wild enthusiasm for vitamins, fostered in no small measure by the Medical Research Council, the great campaign raged for the building of sound teeth which would be all but impregnable to decalcification resulting from "the undue lodgment of plaques or masses of acid-forming micro-organisms together with fermentable carbohydrates, when the acid formed is protected from the action of the saliva by the impermeability of the mass."⁶

In recent years the lamentable results of this vitamin campaign, obscuring the beneficent results attained during the earlier years of this century, and even encouraging positively harmful practices, have become fairly evident. Thus Sir George Newman in his Annual Report on *The Health of the School Child* for the year 1929 says: "There is no evidence of any decrease in the incidence of dental disease among the entrants. On the contrary the reports of some school dentists seem to suggest a deterioration in the condition of the teeth of 5-year-old children. In this connection a graph given in the Cambridge Borough report for 1929 is of special interest, as it indicates the percentage of carious temporary

teeth in the 5-year-old group of children in the Borough from 1909 to 1929 inclusive. Between 1917 and 1922 this percentage fell steadily from 35 to 12, while from 1922 onwards it has been rising again and now stands at 21. Mr. Grandison makes the following comments: "This very interesting graph indicating the percentage of decay present in the 5-year-old group of children at inspection has produced many theories but none more reliable than that connected with the problem of diet during and immediately following the war period. Whether by the blood circulation (internal metabolism) or by direct action on the enamel of teeth, it seems probable that the children who were five years old in 1922 and whose temporary teeth showed decay amounting to only 12.2 per cent. benefited to no small extent by the rationing process, scarcity of sugary foods, etc.'"⁷

Further evidence of these disconcerting results has come to hand. Among others, for example, we may note that "many school dentists report that the incidence of caries in school entrants has increased in recent years and is still increasing. Mr. F. E. Gillieron, L.D.S., in Dr. Morison's latest report to the Cumberland Education Committee, gives the following percentage of school entrants suffering from dental caries: 1921, 60 per cent.; 1922, 77 per cent.; 1923, 84 per cent.; 1930, 93 per cent. These rates are exceptionally high, but many other school dentists give records which are nearly as bad, and most remark on the increase of caries during the last five years."⁸ Further reports may yet come to hand which probably will not show such an increase of caries in the pre-school child. Some medical officers may have seen the folly of giving cod-liver oil and malt extract to infants and young children. They were certainly warned of the dangers and those who can show that in the districts under their jurisdiction the pernicious effects of the consumption of sugar and malt extract and cod-liver oil have not been allowed to take place, are likely to draw attention to the fact. It is highly regrettable that although during this vitamin campaign repeated attention has been called to the erroneous inferences made by vitamin enthusiasts, and although the experimental evidence itself on careful analysis revealed the fact that deficiency diets did not even predispose to caries in dogs, which were specially selected in the attempt to show that

deficiency diets do predispose to caries, the vitamin enthusiasts continued to ignore the facts that had been elucidated in earlier years.

Further reference may here be made to rickets, which medical men have so frequently introduced in their arguments with regard to caries, notwithstanding the fact that the pathology of these diseases is totally different. There has been much rejoicing that the vitamin school of thought had reconciled their differences with the environmental school which held (and still holds) the view that rickets is not by any means simply due to a deficiency of vitamin D in the diet. It will be remembered that Leonard Findlay, Noël Paton, and A. Watson⁹ made certain experimental investigations evidently showing that dogs could be reared on a diet designed to exclude the fat soluble vitamins. There is much more evidence brought forward by Findlay and others to show that the fat soluble vitamin theory is quite unsatisfactory, and as far as I know even yet the objections brought forward to this theory have never been answered. But this is not all. Recent work showing that sunlight prevents and cures rickets has *not* been harmonised with the vitamin deficiency theory. Cod-liver oil, irradiated ergosterol, and ultra-violet light may prevent and cure the disease, but it does not follow that any substance in cod-liver oil is a *vitamin*, for "vitamins have one important property in common in that only vegetable life can synthesise them."¹⁰ Irradiated ergosterol is, however, synthesised so readily by animals that almost every part of their skin is protected from the action of the sun's rays, and even then they instinctively keep in the shade if the rays of the sun are strong. Further, it may be observed that in the case of many animals the young are kept for a time after birth in dark or relatively dark burrows or holes. Even then, whatever the diet of the mother, rickets is peculiarly rare. Experimentally, it has been shown too, that when sows are kept on a rachitogenic diet the little pigs seem to develop quite well, though the mother should suffer from the unsatisfactory diet.¹¹ It has been specially noted that the bones and teeth appear to be normal, and it is not until the alimentary canal of the little pigs may become deranged and disease contracted that the developing teeth are liable to be affected. With regard more especially to the teeth, I

do not say that irradiated ergosterol will not cause obliteration of interglobular spaces in the dentine any more than I would say that it does not cause calcification of the medulla and tubules of the kidneys in children, but there is no more reason to say that interglobular spaces in human dentine are to be regarded as abnormal or an indication of hypoplasia than in other genera of mammalia in which interglobular spaces are normal; and, moreover, such interglobular spaces are no more the cause of, or a cause of, a predisposition to caries in man than in other mammals, in which caries never takes place. The fact that interglobular spaces were caused or believed to be caused by lack of vitamin D in dogs but never caused caries, is shown by Mrs. Mellanby's experiments on dogs. She makes a hypothetical explanation of the "causation of low calcium content" in teeth as if this necessarily predisposed to caries, but as we have long known from reliable chemical analysis, the molars which become carious so frequently have a higher calcium content than the incisors which so generally remain relatively caries free.

Recently Dr. C. G. Simpson, F.R.S., Director of the Meteorological Office, in the course of an address said: "Owing to the layer of ozone in the upper atmosphere there was very little ultra-violet light in solar radiation; and Nature seemed to have found it necessary, moreover, to protect the animal surface by pigmentation from such active chemical rays as got through. What he could not understand was why it was considered good to get all the ultra-violet radiation possible out of sunshine, when Nature herself declared unmistakably that it was not good for us."¹³ The biochemist may go into ecstasy because he can synthesise and produce in crystalline form what Nature makes so easily, and, indeed, goes to some trouble to prevent its being made. He may be justified, since we cannot blame a man for being proud of his craft, but this does not justify his thrusting on the public a product which is 100,000 or even 150,000 times as potent as what is contained in milk, the ideal food for the infant, if, indeed, this contains any irradiated ergosterol at all.

Then again, apart from these considerations, our newer knowledge indicates that irradiated ergosterol, being synthesised in the skin, is surely to be regarded as of the nature

of a hormone which belongs to "quite another group of chemical substances, which 'the animal body' makes for itself."¹³ Vitamins and hormones are quite different. It is no doubt possible to get similar results from this particular hormone, whether it is ingested or produced in the skin. Be this as it may. It would appear that the two schools of thought have not harmonised their views at all, but that the vitamin school has given up the *vitamin* idea in regard to rickets altogether, for vitamins are "in the nature of an organic complex (or of complexes) which the animal body cannot synthesise."¹⁴ We now clearly note the fact that the *vitamin* theory of the cause of rickets is dead, and "vitamin" D only a label which obscures the fact that the early vitamin enthusiasts had badly blundered.

Let us now give consideration to the way in which attention has been distracted from appreciating the value of suitable foods and rational dieting by booming and boosting vitamins and dangerous drugs. This is well illustrated in Sir Frederick Gowland Hopkins' recent broadcast.¹⁵ He begins with a long and gruesome picture of the ravages associated with scurvy at home and abroad, in peace and in war, making the appeal to our sentiments poignant by referring to young children in the following words: "No discussion of the history of the malady can so impress one with its severity at its worst as does the sight of infants with acute symptoms. So painful to them, for instance, is the effect of the slightest movement, that you may see terror in their eyes when they expect to be lifted from their cots."¹⁶ He recognises that "settled communities living at satisfactory economical levels see but little of these deficiency diseases,"¹⁷ though he does not fail to refer to scurvy having "plagued the population" shut up in Paris during the siege of 1870-71, or the trouble with Indian troops at Kut-el-Amara in 1916. He knows and admits that "an error in food, and an error in kind, not in quantity, has led not only to individual sufferings here and there, but to results which have been a scourge to humanity throughout the ages."¹⁸ But he certainly does not bring out with any emphasis the fact that for many years before vitamins were thought of, the cause and the cure of this scourge had been so well established that the disease was practically unknown in this

country. Further, the knowledge of the dangers which might arise when communities, for different reasons, ran short of fresh foods, was always kept in mind, for example, on long voyages, and on Arctic expeditions the requisite antiscorbutic foods were available. As regards scurvy, indeed, and for that part any of the so-called vitamin deficiency diseases, the introduction of the word vitamin and all associated with it, is almost wholly of academic interest, while the broadcasting of the wonderful virtues of these substances has actually done much harm. We have already referred to the increase of caries in school entrants. Regarding rickets, for example, in relation to vitamin D, Chalmers Watson suggests with reasons which could be multiplied easily, that "modern medical research was leading the clinician astray in the following directions: (1) in its depreciation of the profound value of ultra-violet rays, both as a curative agent and as to the direction for its most effective study; (2) in its pronouncement as to the unfavourable influence of oatmeal on rickets and rachitic disorders in children; and (3) in its claim as to the intimate and constant relationship of vitamin D to the state of the teeth."¹⁹ Bringing forward the subject as Hopkins does—and this seems now to be the stereotyped way of presenting it—has done incalculable harm. The word vitamin itself is misleading, and the lay press, no less than the dental and medical, has been flooded with exhortations which have misguided people with regard to the *ordinary* requirements of their foods. It was recognised shortly after the word "vitamine" was introduced that the latter part of the word, namely, -amine, was misleading, and to correct this the final e was omitted. The really misleading part of the word was vita-. The majority of people knew that this latter was Latin for "life." It was this part of the word that caught the imagination of the public, and the commercially disposed were not slow to recognise this. Almost immediately we had them referring to their "vita-wheat," "vita"-bread, "vita" glass, "vita" this, and "vita" that, and, of course, we now have sugar in the form of "vitasac." Vitamins were hailed as the life-giving spark. Now biochemists and diet experts pretty frequently estimate the value of foods according to the amount of their vitamin content, and even speak of dangerous drugs, such as

cod-liver oil, as valuable "foods." Yet the amount required is "infinitesimal," while the substantial and nutritive part of the food is so large that it can hardly but contain the infinitesimal amount of vitamin required twice or ten times over. And anyhow, a diet planned on the lines we advocate is admittedly "not only adequate in vitamins but lessens the possibility of carbohydrate stagnation."²⁰

After having made our flesh creep and caused us to ponder over our symptoms, which very frequently are the result of eating too much of everything, including vitamins, Hopkins portrays the serious effects of complete or extreme deficiency of vitamins, though we know an ordinary mixed diet contains an altogether unnecessary amount to prevent scurvy or other deficiency diseases. Surely Hopkins himself showed that animals completely deprived of vitamins, and which on that account showed serious signs of ill-health, could be restored to health by the addition of an extremely small amount of vitamin-containing foods, so small indeed that the effect of this infinitely little startled the imagination of the unwary, or at least of those who did not recognise that absolute abeyance of function gradually gave rise to atrophy of the glands which are primarily concerned with the maintenance of health or hygiene of the alimentary canal. But Hopkins is not satisfied with the picture he draws of diseases non-existent in this country; he claims that "less definite conditions of ill-health follow on such deficiencies even when they are only relative."²¹ We may, however, take it for granted that the amount of vitamin required in the food by those who are not suffering from deficiency diseases is certainly not greater than the amount required to cure the disease after it has been initiated, and that our instincts make sure we get it, except when the city in which we live is besieged or we are otherwise prevented from getting anything like a free chance of satisfying our instincts. Then Hopkins refers to the dramatic effect of vitamin C. He refers to a case of scurvy which he saw in his student days. Two sailors suffering from the disease were admitted to hospital. One of them was given a few oranges, and made a dramatic recovery. The other sailor made a relatively very slow recovery. Long before this date, however, the value of oranges in the prevention of

scurvy was well recognised. Unfortunately for the sailor who made the slow recovery, the doctor in charge had biochemical or drug-prescribing tendencies, and gave his patient potassium citrate, instead of the unpurified products of Nature, which could have been so easily and pleasantly supplied in the form of oranges. Hopkins then refers to the value of experiments on animals. These appear frequently to give rise to most confusing inferences. In the case of vitamin C, for example, rats seem to get on perfectly well without it. Guinea-pigs, on the other hand, though not remotely related to rats, are very susceptible to a vitamin C deficiency. "Milk, as an exclusive food, will cause anaemia in rats; onions, anaemia in dogs; cabbage, goitre in rabbits, and oatmeal or atta will cause stone in rats."²² So that in all cases it comes to this: when we want to know the value, or otherwise, of any particular food or drug, the only animal that can supply the answer we want is, ultimately, man.

Failing to find true vitamin deficiency diseases at home, since scurvy is practically non-existent, and rickets may rather be regarded as a disease of darkness, over feeding, unsuitable food, or other environmental factor, Hopkins voyages away to foreign lands. He refers to beri-beri as "a fell disorder which has taken toll of thousands among peoples whose basal food is rice." But as beri-beri appears to be an epidemic disease, and in the interval between epidemics the people living on the "deficiency" diet keep free from the disease, we are justified in believing that even beri-beri is not an example of a true deficiency disease. Hopkins refers to what he thinks is a misapprehension, and calls attention to it in the following words: "Quite recently a colleague, whose tastes and avocations are literary, said to me with a naïveté which literary men are apt to assume when referring to scientific matters, but also, to say the truth, with a touch of malice, 'I hear that after having made so much of these wonderful vitamins, you and others have since found that they are present in ordinary foods and that we consume them at every meal.' My colleague is an historian who had got this little bit of history wrong, and it would have been easy to set him right."²³ I do not know why he suggests that there is a touch of malice in this historian's remarks. What his colleague said is widely believed not only by

"some few others" but I think by the great majority of thoughtful people who have been paying some attention to the subject. Vitamin champion of the first order though he be, Hopkins admits that at present "settled communities living in normal circumstances at satisfactory economical levels see but little of these deficiency diseases as they are now called."²⁴ And he fails to show that what his literary colleague said was not true. Perhaps in his following sentence, Hopkins thinks he does, when he says: "Be sure, however, that less definite conditions of ill-health follow on such deficiencies even when they are only relative; when, for instance, there is some, but not enough, of a vitamin in the food."²⁵ However, as on the same page he says the amount required "is infinitesimal," this reply is rather unsatisfactory. Some few years ago when the quantitative requirements of food were under discussion, it was commonly stated that the minimum was the optimum, or that burdening the system with more than was required threw unnecessary work on certain excretory organs and even tended to let disease flourish, if all things were not working too well. If we do not see scurvy in the land, and the specific attribute of vitamin C is the prevention of this disease, why should we be asked to believe that "less definite conditions of ill-health follow" if the amount taken fulfils its specific purpose? Is it likely that the less virulent viruses or toxins, which only cause indefinite conditions of ill-health, are less easily restrained in their activities than the more virulent? What scientific evidence have we that an amount which is capable of preventing a specific disease is not equally able to prevent less definite conditions of ill-health? Certainly, Hopkins does not give us this evidence, and we might remind him with regard to this part of his discourse, of his own words which read: "The world has always been full of people who hold baseless views concerning the exotic qualities of certain foods and preach the gospel of salvation by strange dietaries. The food faddist is the commonest of all faddists, justly earning that name because his teaching is seldom or never based upon evidence."²⁶

With regard to the possible ill-effects of "these agencies so potent in small amounts," Hopkins looks upon them in a peculiarly light-hearted way. No doubt he has read of death resulting from overdosage of "vitamin D"

in experimental animals; possibly he has heard of harm to, or the death of, a child resulting from the administration of cod-liver oil or of irradiated ergosterol. In a case reported,²⁷ "pathological examination showed the presence of calcium deposits in the medulla of the kidneys resembling those found in experimental animals." Perhaps as the natural result of enthusiasm, he makes the statement that "as a matter of fact, the human body is among those which seem to be specially sensitive to vitamin deficiency." He does not note that contrariwise the human body may be among those which seem to be specially sensitive to hypervitaminosis. Others possibly with much more clinical experience and knowledge of the pathological effect of overdosage hold a very different view. Thus Dr. Rolf Hallgren says: "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 autopsy," and he concludes by saying that "on no account should the doses recommended in current pharmacological text-books be given during any considerable length of time."²⁸

Food faddists may be a nuisance but drug faddists may be much worse, and the vitamin D faddists have given an impetus and opportunity to them to foist their potent drugs on the public such as they never had before. Those who are commercially interested have taken excellent advantage of this. We can hardly blame them, any more than we can blame the lovers of chemicals in pure or crystalline form, who boom sugar as an article of diet, particularly for children. Scientists were supposed to have proved its great value beyond doubt. The question of overdosage hardly entered their heads, yet harm can be done with an extremely small amount under certain circumstances. If, for example, a child or an adult makes the practice of going to bed sucking even one small piece of toffee, may harm not result? Is not the sucking bag containing sugar, sometimes given to young children to soothe them and send them to sleep, a well-known method of producing rampant dental caries? Similarly, if children are allowed to play in the open, and get their normal quota of daylight and sunshine, and are supplied with food which has not been deliberately "purified" for experimental purposes, are even strictly regulated thera-

peutic doses of vitamin D justifiable? Indeed, we may ask if it would not have been better if potent "vitamins" or hormones taken by the mouth had never been foisted on the community? On the other hand, if physiologists and biochemists had only recognised that the alimentary canal was provided with mucous glands and phagocytes to keep it in a hygienic state, and that certain principles in the food which stimulated the glands of oral and alimentary hygiene were required, what a vast amount of research for supposedly mysterious life-giving factors would have been saved. Surely it should be recognised that the mouth and alimentary canal are or may be kept in a healthy state by physiological means, and that stimulating principles to this end are to be found in ample amounts in natural foods that supply the requisite nutrition.

Finally, let me say that some day I hope the principles of biology will prevail, and dreams of purified synthetic foods, supplemented by standardised amounts of an alphabet of vitamins or drugs, may give place to a rational diet based on scientific knowledge of foods and not therapeutic remedies. The desirable qualities based on these principles are easily understood by those, at least, who have taken an interest in the evolution of man and the correlated story of the foods which have served him in good stead for countless generations.

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AN AMERICAN LETTER.

Our correspondent speaks of the Washington Meeting of the American Public Health Association—the "Ten Star Final" Health Work and Economy Cuts and Outbreaks of Infantile Paralysis and Psittacosis.

The Annual Meeting of the A.P.H.A.

The sixty-first annual meeting of the American Public Health Association has just been held in Washington, D.C. The attendance was good, though short of what was hoped for, owing largely to the depression. Some 300 papers were presented, and nearly 100 new authors were on the programme. Needless to say, almost every topic of interest to public health workers was covered. The prevention of diphtheria and a symposium on milk, especially activated or fortified milk, in the prevention of rickets, attracted much attention, as did a new item, "Public Health Ten Star Final," consisting of reports by persons representing the ten different sections of which our Association is made up. Each author gave a summary of what had been done, stressing the achievements since the last meeting.

The Presidential Address.

The address of the President was optimistic, though he did not neglect the troubles from which we have suffered. The year has been an exceptionally good one in regard to health. Infant mortality, communicable diseases of children, tuberculosis and pneumonia have continued to decline. The author pointed out the favourable meteorological conditions of the year and the absence of widespread epidemics,

such as influenza. He felt that less over-drinking and less over-feeding have been factors in producing good conditions. There is no question that accidents have been less frequent, but this is not a cause for congratulation on the whole, since it is due to the enormous amount of unemployment, now estimated at 12 million men. Some of us believe that we have escaped marked ill-effects so far through organisations built up in the past, most of which have been able to function, some without any crippling whatsoever, but all with a certain degree of efficiency.

Health Personnel and Economy.

During the past two years 1,242 health workers have been dropped from departments of health on account of the cutting of funds, which has amounted to 11 per cent, in 228 departments. Unfortunately, there is a prospect of further cuts in a number of these units. Cities, particularly those with 500 000 or more population, have suffered most. Some of our richest cities, such as Detroit, Pittsburg, and Baltimore, have been most severely affected. Rural health work has also been hard hit, as, broadly speaking, the farmers are not earning enough to pay their taxes. In one very prosperous county in South Carolina, a budget of \$91,000 in 1931 was cut to \$7,000 in 1932. In other places in

California and Oregon the budgets have been reduced about 33 per cent. We are spending about one dollar per capita for health work throughout the country in both official as well as private agencies, which is little more than one-third of what is generally estimated to be a fair amount for good work.

The Association's New Officers.

During the past year we have enjoyed the services of Louis I. Dublin, PH.D., F.A.P.H.A., Third Vice-President and Statistician of the Metropolitan Life Insurance Company, as President. He has now been succeeded by Dr. John A. Ferrell, of the Rockefeller Foundation. Dr. Haven Emerson, formerly Health Commissioner of New York City, and now Professor of Public Health at Columbia University, was made President-Elect. What we need for our Association to enable it to pursue its objects without break is a permanent endowment fund. We understand that this will be one of the prime objects of our new President during the Association year upon which we have just entered.

The Sedgwick Memorial Medal.

It is pleasant to report that the Sedgwick Memorial Medal was given to Dr. William H. Park, who is almost as well known in England as he is in this country. The National Institute of Health has been continuing its studies on typhus fever, two types of which are recognised, the endemic and the epidemic. Unfortunately, Dr. R. E. Dyer, one of our soundest workers, has had an attack of the endemic type, contracted in his laboratory work. He is fortunately convalescent.

Infantile Paralysis in Philadelphia.

During the summer and fall of 1931, a serious outbreak of infantile paralysis was observed, the peak being in September. Connecticut had the highest case-rate—70 per 1,000. New York came next, followed by Massachusetts, Minnesota, Vermont, Rhode Island, Wisconsin, New Jersey, Michigan, New Hampshire and Maine. The wide distribution and the lack of physical connection between these States will be noted at once. During the summer and fall of 1932, Philadelphia suffered a serious outbreak beginning about July 1st. There have been to date 708 cases, with 82 deaths. The epidemic has practically ceased at present, no deaths having occurred since October 25th, though during

that month there were 68 cases, against 296 in September.

Bootlegging the Parrot.

Psittacosis continues to give us considerable anxiety, almost all the cases having originated in California, in which State there are a number of breeding establishments for birds of the psittacine family. The birds are bootlegged by some 3,000 people. (Note what prohibition has done. The term "bootleg" is now applied to milk, the sellers of which have evaded the inspection laws, to the sale of birds against which a quarantine has been declared, etc.) On September 30th, our U.S. Public Health Service ordered an inter-State quarantine, and on October 6th the Director of Public Health of California ordered the isolation of all birds of the psittacine family on the premises where they were then located, the area to be determined by the local health officer. No birds under isolation are allowed to be moved without the written permission of the health officer. Quarantine of all birds of this family located on premises where infection has occurred was also included in the order. The necessity of this drastic step was brought about by the fact that birds not showing symptoms of disease yield cultures of the causative organism.

MAZYCK P. RAVENEL, M.D.

THE Winslow Health and Hygiene Charts, published by Messrs. George Philip & Son, Ltd., 32, Fleet Street, London, E.C.4, provide a scientific and up-to-date basis for a clear and effective presentation of the fundamentals of anatomy and physiology in their relation to personal health and hygiene. The series consists of thirteen wall charts (44 in. by 32 in.) printed in colour, each accompanied by an explanatory leaflet, edited by Professor V. H. Mottram, M.A., King's College of Household and Social Science, University of London, giving a brief exposition of the facts and theories illustrated, together with a bibliography for reference purposes. These charts should prove a valuable aid in the teaching of hygiene in elementary and secondary schools, in hospitals for the training of nurses, in physical training colleges, and in other educational institutions. Detailed particulars and prices of this new series of classroom studies may be obtained from the publishers.

The Society.

Reports, Proceedings and Announcements.

ANNUAL DINNER.

The Annual Dinner of the Society was held at the Hotel Victoria, Northumberland Avenue, London, on Thursday, November 17th, 1932, when the President (Dr. G. H. Pearce) and Mrs. Pearce received over 140 members and guests. Sir John Simon (Foreign Secretary), Sir E. Hilton Young (Minister of Health), and several other distinguished persons who were also invited, were unfortunately unable to attend, but Mr. Geoffrey Shakespeare, M.P., recently appointed Parliamentary Secretary to the Ministry of Health, was a most welcome Government deputy, and Lord Balfour of Burleigh honoured the Society by his first attendance, as President of the Royal Sanitary Institute, on an occasion of this kind.

The President was supported by the following:—

Past-Presidents.—Dr. W. G. Willoughby, Dr. G. F. Buchan (Hon. Treasurer), Dr. E. H. Snell, Dr. J. J. Buchan, and Dr. C. Killick Millard.

Members of the Council.—Dr. A. F. Cameron (President, Metropolitan Branch), Dr. James Fenton, Dr. J. B. Howell, Dr. R. P. Garrow, Dr. H. Gibbons Ward, Dr. R. H. H. Jolly, Dr. R. Veitch Clark, Dr. F. T. H. Wood, O.B.E., Dr. R. H. Wilshaw, Dr. James Mair, Dr. T. N. V. Potts (President, Yorkshire Branch), Dr. W. Paterson (B.M.A. representative), Professor W. W. Jameson, Professor J. Johnstone Jervis, Dr. H. J. Milligan, M.C., Dr. E. H. T. Nash, and Dr. R. M. F. Picken.

Branch and Group Presidents.—Dr. D'Arcy Ellis (Midland), Dr. A. S. M. Macgregor, O.B.E. (Scottish), Dr. E. W. Goodall, O.B.E. (Fever Hospital Medical Service), and Dr. Margaret Emslie (Maternity and Child Welfare).

H. E. Bampton, Esq., L.D.S., Mrs. Bampton; Lord Balfour of Burleigh (President of the Royal Sanitary Institute); Dr. H. L. Barker; Dr. N. R. Beattie; Dr. Margaret Bergin; W. F. Beard, Esq., M.A., M.Sc.; Dr. C. A. Bignold; Dr. Vynne Borland, Mrs. Borland; Dr. Hilda M. Price Bond; W. Leigh Breese, Esq., L.D.S., Mrs. Breese; Frederick Breese, Esq., L.D.S., Mrs. Breese, R.R.C.; Dr. M. S. Brodie; Mrs. G. F. Buchan; Mrs. J. Buchan; Dr. H. A. Bulman, Mrs. Bulman; Dr. W. H. Butcher,

Mrs. Butcher; Mrs. A. F. Cameron; Dr. Alfred Cox, O.B.E.; Dr. W. J. Cox; Mr. T. Crew; T. W. Crowther, Esq., J.P. (Chairman, Heckmondwike U.D.C.); Sir W. Dalrymple-Champneys, Lady Dalrymple-Champneys; Dr. A. Davidson, Mrs. Davidson; Dr. Grace Davidson; Dr. Helen P. Dent; Capt. E. Dolleymore, M.C.; Dr. C. J. Donelan; Mrs. J. Fenton; Dr. J. Ferguson, Mrs. Ferguson; Gay French, Esq., M.S., F.R.C.S.; Mrs. R. P. Garrow; L. G. Gill, Esq.; Dr. T. Gibson, Mrs. Gibson; Dr. J. R. Goddall; Dr. D. R. Hamilton, Mrs. Hamilton; Dr. Betty C. Hamilton; Dr. E. H. R. Harries, Mrs. Harries; Dr. A. Hawley, Mrs. Hawley; Dr. R. J. Maule Horne; Mrs. J. B. Howell; Dr. Mary E. Howie; Mrs. J. Johnstone Jervis; Mrs. R. H. H. Jolly; Dr. J. H. Jones; R. C. Jones, Esq.; Dr. F. Leonard Keith; Dr. Mary Kidd; Dr. Lydia Leney; Dr. M. M. Lilley; Dempster H. Lister, Esq.; Dr. D. M. Livingstone, Mrs. Livingstone; J. J. Lockwood, Esq., J.P.; Mrs. A. S. M. Macgregor; Miss Norah March, B.Sc.; Dr. A. Massey; Mr. and Mrs. Miller; Mrs. H. J. Milligan; Dr. A. A. Mussen; Mrs. E. H. T. Nash; A. J. R. Neale, Esq.; Dr. Martin Norris; Lt.-Col. G. S. Parkinson, D.B.O.; Mrs. W. Paterson; Mrs. Spencer Pratt; Miss E. Potts; Arthur Purkis, Esq.; Maj. M. J. Quirke, I.M.S. (Ret.); Dr. J. T. C. Roberts; J. W. Dudley Robinson, Esq., M.Sc., Ph.D. (Secretary, Royal Sanitary Institute); Dr. F. W. Roques, Mrs. Roques; B. B. Samuel, Esq., L.D.S.; Dr. E. V. Saunders-Jacobs; Geoffrey Shakespeare, Esq., M.P. (Parliamentary Secretary to the Ministry of Health), Mrs. Shakespeare; Dr. Carol Sims; Mrs. E. H. Snell; Miss Stooke, L.D.S.; Dr. Jean Sutherland; W. E. Tanner, Esq., F.R.C.S.; Dr. J. Tate, Mrs. Tate; Miss Elsie G. Taylor (Mayor of Batley); Arnold Thorne, Esq., Mrs. W. Ross Thorne, D.D.S.; Dr. V. T. Thierens; Dr. G. E. Vilvandre; Dr. J. Sim Wallace, Mrs. Wallace; Dr. W. H. S. Wallace; Mr. and Mrs. P. M. Walker; Dr. C. G. Welch, Mrs. Welch; Dr. C. F. White, Mrs. White; Dr. Whitehead; W. D. Wills, Esq., M.P.; Miss Wilshaw; Ald. Hugh Woods, J.P., Mrs. Woods; Dr. C. Isabel Wright; Captain G. S. Elliston, M.C., M.P. (Consultant Secretary, Society of Medical Officers of Health); and the Executive Secretary.

The loyal toast, proposed by the President, was enthusiastically honoured.

Mr. Geoffrey Shakespeare, M.P. (Parliamentary Secretary, Ministry of Health), in submitting the toast of "The Public Health," said that in spite of the country's troubles and difficulties the health of the nation not only remained unimpaired but showed steady progress in every direction. In an historical survey of public health and its growth, he dealt first with the period 1850 to 1900, and referred to the pioneer environmental work of the part-time medical officer of health. In the

second period, commencing at the beginning of the present century, personal health became more and more the concern of the State, the public health authorities and the medical officers of health, and attention was increasingly directed to specific diseases—tuberculosis and venereal diseases, for example—and to the question of infant and maternal mortality. The tuberculosis death-rate had been halved, and infant mortality had been reduced by 100 per 1,000. Maternal mortality was still an obstinate problem, but it was significant that in certain areas where the recommendations of the special committee had been adopted the rate (an average of 4 per 1,000) had been brought down to 1.5. That period had also seen the establishment of many schemes, including school medical inspection, national health insurance and the provision of maternity and child welfare centres—all authorised by the State and working through medical officers of health or panel practitioners. Thus in the course of a few short years there had been enormous progress, the extent of which the public had probably failed to realise. The third era was marked by the Local Government Act, 1929, which placed additional responsibilities upon medical officers of health, who, with all the strings now in their hands, were performing silently and patiently work of incalculable value to the community which often went unrecognised and unappreciated by the public. When the need for economy became urgent and many public services had to be cut, the Ministry of Health made it clear that there must be no economy in the essential services of health. To the three periods mentioned he would, greatly daring, add a fourth. The noise and speed associated with life at present, and particularly the conditions of modern industrial life in factory, mine and workshop, were creating a new type of nervous disorder responsible for much of the trouble in post-war life. Industrial discontent and industrial ill-health were closely related, and there appeared to be a tendency more and more to mass hysteria. Nothing was more contagious than neuroses and mental discontent. Human mechanism seemed unable to stand the strain of modern life, and the whole problem offered a field of investigation for the medical officer of health in order that methods of relieving the strain of those engaged in industrial life throughout the country might be suggested. With great pride he coupled with the toast of "The Public

Health" the name of Professor Jameson. Professor W. W. Jameson (Professor of Public Health, University of London), in response, said that the present year was the anniversary of one of the most noteworthy events in the history of popular government in this country. A century ago England was on the verge of a revolution. In the north, workmen were drilling an army; in the south, ricks were burning night after night; unemployment and starvation were everywhere prevalent; and, to add to the miseries of the time, cholera was paying its first visit to these shores. Out of that trouble was born the Reform Act of 1832, which ended the long struggle in England for the sovereignty of the people. Within five years of the reform of Parliament, the government of the day had reformed the municipal institutions; had passed the new Poor Law Act and the first effective Factory Act, and had established the General Register Office. Those reforms paved the way for public health and its wonderful progress in the nineteenth century. In the earliest years the story was largely of the lives of a small number of men of outstanding greatness and personality, including Chadwick, Simon, Lord Shaftesbury, and John Snow (who conducted a detailed investigation into cholera and proved that the condition was a water-borne disease). The nation owed a great debt to those pioneers; other countries had taken their works as a model to follow, and the more their lives were studied the better difficulties could be faced to-day. Life in those times was less complex and less strenuous, and men had time to think and to develop their ideas. Since the war much attention had been paid to the administrative machinery of public health, which had so greatly improved that those using it were almost unable to recognise it. Had the public themselves benefited in proportion as the machine had been perfected? Surely they had. Whether the turmoil of the twentieth century was preferable to the pastoral life of other centuries he did not know, but for good or ill this country had become industrialised and urbanised; moreover, nature had permitted men to adapt themselves to the new environment. That they had been able so to adapt their mode of life was due to those who had devoted their lives to the promotion of the public health. The establishment of a health section in the great new international machine was significant of the keen interest shown by the people

of all countries in public health, and he ventured to suggest that the health work of the League of Nations met with more general approval than any other of the activities of the League, and played as important a part as any in promoting peace among the nations of the world. One of the great assurance corporations in this country had seen fit to endow a chair of public health, and he was proud to be the first holder. There was little doubt that the gift of the Prudential Company had been prompted as an acknowledgment of the improvement that had taken place in the public health, and in the hope that that improvement would continue in the years to come. Progress, he felt sure, would lie along the lines of education. A somewhat different outlook in regard to medical practice, both public and private, and a greater pooling of resources for the benefit of the public, was necessary. To achieve those objects there was needed, as Dr. Crowley had so well put it, a rather different type of medical practitioner—a man trained less along pathological lines and a little more along biological lines; one who would fit himself more readily into the great social medical service that had grown up in the past twenty-five years. For this a radical alteration in the scheme of medical education was essential, and there were signs that such alteration might take place in the not too distant future. No less necessary was an alteration of educational methods in the schools and in the teachers' training colleges, for without an understanding and receptive public, progress in public health would be a very slow and difficult business.

The Right Hon. Lord Balfour of Burleigh (President, Royal Sanitary Institute), in proposing the toast of "The Society of Medical Officers of Health," referred to the excellent relationship which had always existed between the Society and the Institute, and the many links which bound their interests together. The Institute obtained its members from a wider circle, but the work of both bodies was intimately concerned with the public health. They had in common a large number of men who had, by their work both in the Society and the Institute, earned the gratitude of all those for whom they had laboured. One name would find a place in many hearts—that of their old friend, Professor Bostock Hill, who had passed out only a few weeks ago. Many years of his life had been spent in furthering the interests of the Society and of the Royal

Sanitary Institute, and he had left a memory which would be long and honourably cherished. Lord Balfour paid a warm tribute to the medical officers of health up and down the country, who were carrying out difficult duties often in the face of discouragement, and congratulated the Society on its excellent work in connection with the securing of proper remuneration for members of the public health service. Dr. Pearce was a notable example of those who had earned the esteem both of the Society and of the Institute, and in giving "The Society of Medical Officers of Health" it afforded especial pleasure to couple his name with the toast.

The President, returning thanks on behalf of the Society, referred to the great loss suffered by the deaths of Sir Eustace Hill, Professor Bostock Hill, Dr. Francis J. Allan, and Professor Harold Kerr (who occupied the chair at the last dinner two years ago), and added that Mrs. Kerr had that evening sent him a telegram wishing success during his Presidency. The excellent work of those men was their monument, and the Society would not forget it. The President gave an interesting *résumé* of the conditions existing at the time the Society was founded in 1856, and claimed that in the many improvements which had taken place, the Society—representative of the public health service throughout the British Empire—had played an important part. Touching on a variety of subjects intimately associated with the public health, Dr. Pearce drew special attention to the work of the committee (under the chairmanship of Dr. Savage) appointed to enquire into the actual position regarding the milk supply of this country, and particularly to its findings relating to the mortality, invalidity and suffering caused by the tubercle bacillus of the bovine type. A deplorable state of affairs had been revealed by the investigations, and no apology was needed for bringing the subject once more to public notice. The time could be foreseen when there would be little or no tuberculosis; no scarlet fever, because it could now be prevented; no diphtheria as a result of the immunisation of school children; no typhoid fever, and, of course, nobody need suffer from smallpox. Concluding, the President urged that one of the great essentials for securing the health and well-being of future generations was the instruction of the children from their earliest years in the elementary principles of hygiene and healthy living.

Dr. R. Veitch Clark (Medical Officer of Health, City of Manchester), in proposing the toast of "The Guests," paid a special tribute to the work of Dr. Cox on behalf of the public health service, and in the name of the Society welcomed him with a very real affection.

Dr. Alfred Cox, O.B.E. (lately Medical Secretary to the British Medical Association), replying, said that the medical officer of health, with his training, was first and foremost a citizen with a keen desire not only to carry on his medical work to the best of his ability, but to promote the public health in all its aspects. It had given him great pleasure for many years to work in conjunction with members of the Society, and before long he would probably be in a position to enter a sphere in which he hoped to be brought again into friendly contact with them.* If he had to begin his career again, he thought he would rather be a medical officer of health than anything else—except a general practitioner or Secretary to the B.M.A.!

Miss G. Elsie Taylor (Mayor of Batley), in the course of a charming response, congratulated the Society on the honour of having Dr. Pearce as its President. The people of Batley valued very highly the services of Dr. Pearce, and were proud to have him as their medical officer of health.

Mr. W. D. Wills (Member of Parliament for Batley and Morley), and **Mr. T. W. Crowther, J.P.** (Chairman of the Heckmondwike Urban District Council, to which Dr. Pearce is also medical officer of health), brought an enjoyable evening to a close with witty replies to the toast.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on Friday, November 18th, 1932.

The President (Dr. G. H. Pearce) was in the chair, and there were also present Drs. T. W. N. Barlow, G. F. Buchan, J. J. Buchan, A. F. Cameron, J. A. Charles, R. Veitch Clark, James Fenton, R. P. Garrow, C. Herington, J. B. Howell, W. W. Jameson, J. J. Jervis, A. Joe, R. H. H. Jolly,

*This no doubt had reference to the acceptance by Dr. Cox of the position of Secretary to the British Health Resorts Association, upon which to him and to the Association sincerest congratulations are offered.—Ed., P.H.

G. W. N. Joseph, James Mair, C. Killick Millard, H. J. Milligan, W. A. Muir, E. H. T. Nash, A. H. Nicoll, W. Paterson, R. M. F. Picken, Charles Porter, T. N. V. Potts, T. P. Puddicombe, E. H. Snell, V. F. Soothill, P. H. Stirk, J. A. Stirling, D. J. Thomas, E. Ward, H. Gibbons Ward, R. H. Wilshaw and F. T. H. Wood.

Apologies for absence were received from Sir Francis Fremantle, Dr. G. C. M. M'Gonigle, Mr. A. E. Baker and Dr. A. J. Laird.

Before proceeding to the business of the day the President reminded the Council that the Society had suffered within the last few days the loss of two Past-Presidents, Professor Bostock Hill and Professor Harold Kerr, both of whom had been so intimately known and respected by their colleagues that there was no need to speak at length about them at that time; he asked the Council to stand in silence as a mark of the sorrow felt at these grievous losses.

The minutes of the last meeting having been approved and signed, the President extended a welcome to new members of the Council, viz., Drs. A. F. Cameron, J. A. Charles, A. J. Laird, T. N. V. Potts and V. F. Soothill.

Dr. George Millson.—The Council regretfully accepted Dr. Millson's resignation of his Trusteeship of the Society's funds, which he felt unable to continue owing to advancing years. The special thanks of the Council were extended to Dr. Millson for the zealous manner in which he had undertaken this responsibility on behalf of the Society for some years past.

Short Time Appointments of Resident Medical Officers.—An enquiry was received from the Public Health Committee of the British Medical Association asking the Society's views as to the desirability of extending to two years the period of one year provided in Section 1 of the Memorandum of Agreement on Salaries for the convenience of areas where there is a large variety of hospitals, e.g., in London. The Council decided to reply that in their view it might be expedient to extend the period to two years in order to give young graduates desirous of gaining a variety of experience or of studying for a post-graduate qualification, e.g., the D.P.H., an opportunity of holding temporary posts for a longer period than one year, provided that it were possible to provide adequate safeguards against such an alteration being

abused by local authorities in order to secure cheap professional service. The Council were of opinion that the initiative should not be taken by the British Medical Association at the present time towards making any alteration in the Memorandum of Agreement on Salaries, which in the ordinary course would operate until 1935, and from year to year thereafter unless one of the contracting parties desired amendment. In case, however, a move might be made by other parties to the agreement it was decided to convey to the B.M.A. the view of the Society expressed above in regard to short-time appointments.

Dr. R. M. F. Picken.—The Council extended hearty congratulations to Dr. R. M. F. Picken on his election as Chairman of the Public Health Committee of the British Medical Association for 1932-33, he being the first medical officer of health to hold this position.

Mastery of Midwifery.—A letter and memorandum were received from the Registrar of the Society of Apothecaries of London referring to the Diploma of Mastery of Midwifery recently instituted by that Society. The Registrar asked that Medical Officers of Health should encourage officers holding posts in ante-natal and infant welfare clinics to acquire this diploma as a special qualification for this department of midwifery. The Council instructed the Executive Secretary to reply that they had given the matter careful consideration and that publicity had already been given to the diploma in PUBLIC HEALTH. They felt, however, that at present they could not recommend medical officers of health to let candidates for such posts understand that holding this diploma or otherwise would in any way affect their chances of appointment.

Local Government Areas.—It was reported that the memorandum had been acknowledged by the Minister of Health, the Committee on Local Expenditure and the Association of Local Authorities. Further copies had been supplied to the Committee on Local Expenditure and the Urban and Rural District Councils' Associations.

Central Midwives Board.—It was reported that the County Councils' Association had considered the Society's resolution of May last, and had requested the Central Midwives Board so to amend their rules as to allow local supervising authorities, should they so desire, to undertake the direct presentation of cases before the Board.

Life Memberships.—Letters were received from the North-Western and Yorkshire Branches recommending certain members for the status of fully-paid life membership. It was referred to the General Purposes Committee to report on the general question of such membership.

The Metropolitan Branch.—Dr. Fenton (Hon. Secretary, Metropolitan Branch) explained the complicated position that had arisen in London owing to the necessity of appointing advisory bodies of metropolitan medical officers of health in connection with the London County Council and the Metropolitan Boroughs Standing Joint Committee; it had been thought proper to form these advisory bodies independently of the Society, and the following resolutions which had been passed unanimously by the Metropolitan Branch, were submitted to the Council for information:—

(1) The Metropolitan Branch should agree to appoint a Special Purposes Committee for dealing with problems of London health administration.

(2) This Committee should consist of all Metropolitan Borough Medical Officers of Health who are members of the Society, and that it should have power to co-opt Metropolitan Borough Medical Officers of Health who are not members of the Society, and also to co-opt Departmental Officers for particular purposes.

(3) This Committee should have power to appoint the Advisory Body to the Metropolitan Boroughs Standing Joint Committee.

(4) Permission should be sought from the Council of the Parent Society to hold meetings of the Special Purposes Committee at the House of the Society.

(5) The Special Purposes Committee and the Advisory Body should have power to appoint their own Chairman and Honorary Secretaries; and

(6) The Branch should make appropriate delegations to the Special Purposes Committee and the Advisory Body.

The Council, having considered the resolutions, expressed the view that the points raised were entirely of domestic concern, and advised that they should be dealt with by the Branch at its own discretion.

Bovine Tuberculosis and the Milk Supply.—The Council considered the report on Bovine Tuberculosis of the special committee appointed by the People's League of Health, and resolved to urge upon the Ministers of Health and Agriculture that the following policy should be adopted:—

(a) To initiate, and to put into operation, as circumstances permit, measures directed to diminish and ultimately to eliminate tuberculosis amongst our dairy herds.

(b) To encourage the establishment of herds certified free from tuberculosis.

(c) To promote legislation necessary to give permissive powers to the larger Urban Areas to require the efficient pasteurisation of all milk sold within their areas which is not drawn from tuberculosis free cows.

Report of the General Purposes Committee.—Dr. G. F. Buchan (Chairman) asked the Council to regularise the report dated October 21st, since the Committee for 1932-33 had not then been appointed. The Council concurred, and the report was adopted as follows:—

Correspondence with Dr. C. V. Craster, Newark, New Jersey.—Dr. Craster hoped to obtain assistance from the Rockefeller Foundation to enable him to make a tour of Great Britain lecturing on "Diphtheria Immunisation," during the winter, 1933-34. The Committee suggest that the Executive Secretary should approach Medical Officers of Health of large towns, also the Hon. Secretaries of Branches, in order to ascertain the prospects of arranging such lectures for the general public, and for audiences of medical men, school teachers, etc.

Yorkshire Dental Sub-Group.—The Committee considered a letter forwarded via Dr. Pearce from the Hon. Secretary, Yorkshire Dental Sub-Group, stating that the Sub-Group had had a successful first year and was filling a definite need for provincial public health dental officers, and suggesting that such sub-groups might be formed in other Branches. The Executive Secretary was directed to write to Mr. Townend asking him to get a definite recommendation on these lines to be forwarded by the main Dental Group or the Yorkshire Branch.

Dr. J. T. Neech.—A letter was received from Dr. Neech saying that he proposed in the near future to purchase for the Society a further £50 of 3½ per cent. War Loan in order to keep up the value of his annual prize to the same figure as before the recent War Loan Conversion. The Committee directed the Secretary to acknowledge with many thanks Dr. Neech's offer.

Milk Supply.—A further letter was received from Col. C. Waley Cohen asking that the Society should delegate one or two members to co-operate with representatives of milk producers and later, perhaps, distributors, with a view to working out a system by which the right article may be provided for the public. The Committee directed the Secretary to reply that the Council would no doubt be willing to nominate one or two representatives if Col. Waley Cohen could promote the formation of a Committee including both milk producers and distributors. An alternative suggestion was that Col. Waley Cohen might be asked to read a paper on his proposals at a Sessional Meeting of the Royal Sanitary Institute. Col. Waley Cohen had also asked the Committee's opinion as to the need for investigation with a view to getting some quicker and sounder method of discovering tubercle in milk than the present biological test. The Secretary was asked to inform Col. Waley Cohen that a Special Committee at the London School of Hygiene was at present investigating the

general question of the bacteriological examination of milk.

Articles of Association and By-Laws.—The Committee further considered the proposed revisions and reviewed the By-Laws for the regulation of Ordinary and Council Meetings. Final drafting of the revisions was deferred until the next meeting.

Dr. Buchan stated that after one further meeting the Committee would be able to present the complete materials in connection with the amendment of the Articles and Bye-Laws. The Committee, after consultation with the President, recommended that the next Council meeting be held on January 20th next; the Extraordinary General Meeting for adopting the revised Articles might be held on May 19th, 1933. The Council agreed.

Election of Vice-President and General Purposes Committee, 1932-33.—It was resolved to ask Dr. J. Howard-Jones to continue as a Vice-President for 1932-33 in place of Dr. Harold Kerr.

The General Purposes Committee for 1932-33 was elected as follows:—The President, Vice-Presidents, Hon. Treasurer and Editor, with Drs. Barlow, Fenton, Jolly, Joseph, Mair, Milligan, Picken, E. Ward and Wood.

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

London School of Hygiene and Tropical Medicine, Court of Governors: Dr. J. J. Buchan, for three years commencing January 1st next.

Joint Tuberculosis Council: Professor W. W. Jameson.

Central Council for Health Education: Professors H. R. Kenwood and W. W. Jameson, Drs. T. W. N. Barlow, G. F. Buchan, A. F. Cameron, W. A. Daley, James Fenton, J. Macmillan, C. Porter, M. Radford, E. H. Snell, E. Ward, H. G. Ward, F. T. H. Wood and Captain G. S. Elliston.

Industrial Health Education Society: Dr. R. P. Garrow.

Salary Deductions.—A resolution was received from the East Anglian Branch protesting against the whole principle of salary cuts and asking the Society to take steps to prevent further cuts and also to have all salaries restored to the normal level. The Council's view was that present circumstances were not favourable for a move in this direction, but they would be ready to press for an amelioration as soon as the national situation justified this.

Memoranda from the Tuberculosis Group.—It was reported that the Metropolitan, Northern, North-Western, Yorkshire, Welsh, and West of England Branches had replied favourably in connection with the above memoranda circulated last session by instruction of the Council. The East Midland Branch had not been prepared to offer any definite observations.

The Council agreed to forward the following resolutions to the Minister of Health:—

(a) That Local Authorities be encouraged to employ tuberculous ex-patients on their sanatorium staffs wherever possible.

(b) That adequate clerical assistance is essential for tuberculosis officers and that each whole-time clinical tuberculosis officer should be provided with at least one clerk.

Superannuation.—In reply to an enquiry from the County District Group, it was stated that the Society's evidence before the Departmental Committee on Local Government Officers had stressed the importance of (1) the general adoption of superannuation schemes by local authorities so that previous service should always count for superannuation purposes upon transfer to another appointment, and (2) of medical officers having the right to add the time taken to qualify to their period of service. The Council would continue to press for these points as and when legislation came forward.

A further enquiry as to the payment of superannuation allowances to the widows or dependents of deceased officers was referred to the General Purposes Committee for consideration.

The Council then adjourned.

ORDINARY MEETING.

An ordinary meeting was held at the house of the Society on Friday, November 18th, 1932. The President (Dr. G. H. Pearce) was in the chair and there was a good attendance of members.

The minutes of the last meeting having been approved and signed and sundry apologies for absence received, it was announced that the assessors had unanimously decided that the Neech Prize for the best paper read by a member before a Branch or Group of the Society during the session 1930-31 be awarded to Dr. W. F. Haigh, assistant medical officer of health, Derby, for his paper on "The

Ventilation of Cinema Theatres," read before the East Midland Branch on March 12th, 1931, and published in *PUBLIC HEALTH*, September, 1931, p. 374.

The following candidates, having been duly proposed and seconded, were elected members of the Society:—

As Fellows:—

Connal, Andrew, O.B.E., M.D. (GLASG.), D.P.H., D.T.M. & H.; Coughlan, William Joseph, M.B., B.Ch. (N.U. IRE.); Irvine, Margaret L., M.B. (BELF.), D.P.H.; Keddie, John Thomas Chalmers, M.B., Ch.B. (MANCH.), D.P.H.; Mackay, James Davidson, M.B., Ch.B., D.P.H. (ABERD.); Page, George Foster Braithwaite, M.D., Ch.B. (EDIN.), D.P.H.; Penistan, Arthur Henry, M.B., B.S. (LOND.), M.R.C.S., L.R.C.P.; Rushworth, James Arthur, M.R.C.S., L.R.C.P.; Saunders-Jacobs, E. Virginia, M.A. (CANTAB.), M.B., B.S. (LOND.), D.P.H.; Sleigh, James Charles, M.B., Ch.B., D.P.H. (ABERD.).

A number of nominations were received for the next election.

Dr. A. S. M. Macgregor, medical officer of health for the City of Glasgow, then opened a discussion on "Some Epidemiological Features of the Pneumococcus and its Types," in which he gave some exceedingly interesting information resulting from the examination of some 1,500 cases in Glasgow. Among those contributing to the discussion were the President, Drs. R. Cruickshank (by letter), R. R. Armstrong, Dunstan Brewer, A. K. Chalmers, R. Veitch Clark and A. Joe.

A hearty vote of thanks to Dr. Macgregor for his opening paper was proposed by Professor W. W. Jameson and carried by acclamation.

A full report will be published in a forthcoming issue of *PUBLIC HEALTH*.

The meeting then adjourned.

THE next Annual Congress of the Royal Institute of Public Health will be held at Eastbourne from Tuesday, May 30th, to Whit-Sunday, June 4th, 1933, under the Presidency of the Right Hon. The Viscount Leverhulme.

DR. HENRY STANLEY BANKS, Medical Superintendent, City Isolation Hospitals, Leicester, has been appointed Medical Superintendent of the Park Fever Hospital (London County Council), Hither Green.

THE Royal College of Physicians have appointed Sir George S. Buchanan, of the Ministry of Health, to be Milroy Lecturer for 1934.

Central Council for Health Education.

FIFTH ANNUAL CONFERENCE.

THE Fifth Annual Health Education Conference, arranged by the Central Council for Health Education, was held on Thursday, November 17th, 1932, in the Lecture Theatre of the London School of Hygiene and Tropical Medicine, where there assembled a large number of delegates representing county councils, county borough councils, municipal corporations, metropolitan borough councils, urban district councils, education committees, insurance committees, friendly and approved societies, affiliated health associations, and other bodies engaged in the work of health education.

Dr. Charles Porter (Chairman of the Editorial and Publicity Committee of the Central Council) referred at the outset of the proceedings to the grievous loss sustained by the Central Council for Health Education by the death of its Chairman, Professor A. Bostock Hill, and the audience stood in silence as a mark of respect.

The President of the Conference (The Rt. Hon. Sir Edward Hilton Young, P.C., G.B.E., D.S.O., D.S.C., M.P., Minister of Health), introduced by Dr Porter, said in the course of his opening address that the meeting afforded opportunity for the many constituent bodies of the Central Council to get together for the interchange of ideas; to summarise the work of the past, and to prepare and co-ordinate further health propaganda measures for the future—purposes for which the highly representative Council existed. It was essential that the work of those engaged in the nation's health services should be accompanied by a continuous activity to make known the facilities which existed for the treatment and prevention of disease, and to stress the duty which lay on each individual to play his part in producing a healthy nation. The realisation of the particular importance of that part of the work rested on the impressing of a social conscience upon the individual and of his sense of duty towards the cause of national health. The country possessed a splendid health organisation, in which the citizen should increasingly take a pride. Exigencies in the financial situation would probably prevent for some time costly experiments of doubtful immediate practical value in the health service. The private citizen naturally

desired to be satisfied that the expenditure at present incurred on national health services was well spent, and that the services were administered as economically as possible. While there was a pause in expenditure there need be no pause in effort. It was essential that local authorities should keep the administration of their health services constantly under review to ensure that there was no waste and no duplication. By means of the surveys of the local health services, now being undertaken by the Ministry, it was frequently found possible to make suggestions for the improvement of administration in the interests of the public health and of the economic interests of the times. There was an urgent need for letting the people know what public health facilities existed, and a few extra pounds spent on appropriate forms of advertising would remove much of the public ignorance on the matter. This country lagged behind modern conditions in methods of publicity more than any other, and very often money was wasted on a form of mechanical repetition more appropriate to the middle ages. He uttered a warning against using a form of publicity which might fill people with alarm at the dangers which lurked in wait for them. They must not create a nation of hypochondriacs, but must remember that if they wanted to tell the public anything to-day they must burn it into their brains with electric light and shout it into their ears. The Minister wished the Central Council all success and further vigour in its most useful work.

Sir William Hart, O.B.E. (National Association of Insurance Committees), in proposing a vote of thanks to the Minister, said that the Central Council appreciated the references to the work which was being done. Sir Edward thoroughly understood the problem of health education, and had taken the opportunity of obtaining first-hand knowledge of the conditions under which the people lived by paying personal visits to the poorer quarters in various parts of the country.

Councillor Bond (Willesden) seconded, and the vote was carried unanimously.

Sir Edward Hilton Young briefly replied.

The Dean of St. Paul's (The Very Reverend W. R. Inge, K.C.V.O., D.D.), in opening a discussion on "The Churches and the People's

Health," referred to the remarkable achievements of the public health service. The death-rate had been halved, and certain diseases practically exterminated. Health was enormously important, and there was nothing in Christianity which contradicted the love of good health and beauty. He had no sympathy with the vagaries of the nudists, but the exposure of the skin to the sun and air was the most valuable part of open-air bathing. The churches had no sympathy with those squeamish town councillors who wished to insist that all persons entering the water ought to be fully clothed from neck to knee. Referring to faith healing and auto-suggestion, he said that the efficacy of such treatment depended very largely on the belief of the patient that his adviser, whether physician or priest, possessed powers which he did not really possess. There was a certain amount of well-meant humbug in the medical profession. That was the secret of what was called a good bedside manner. What constituted a good bedside manner differed very much in various countries. In West Africa a good bedside manner consisted in dancing in the patient's hut and beating a tom-tom. In civilised countries the method was quieter, but the intention was the same. Turning to missions of healing, he said that the less the churches had to do with any kind of imposture the better. It went completely against his feelings that any clergyman should pretend to possess supernatural or occult powers of healing. A great deal of harm was done by persuading the patient to have recourse to those mysterious and occult remedies instead of consulting a qualified physician. For the honour of the church he wished that their rulers, the bishops, would speak a great deal more plainly regarding the mischief that was being done by missions of healing. Though a great deal might be done by spiritual means, it should be done in consultation with proper medical men. Let there be no hocus-pocus or pretence to be able to work miracles. The church should actively support the eugenics movement and discourage the prejudice which existed against it. A clergyman should be legally allowed to refuse to solemnise a marriage between deaf mutes, or between an epileptic and a feeble-minded person. The church ought to condemn that kind of marriage as wrong. If married persons believed that their children were likely to be diseased in body or mind it was right and

not wrong, for them to prevent the conception of those children—he was not speaking of abortion. Every effort should be made to bring to an end that commercialised vice which was a disgrace both to the manhood and womanhood of a civilised country. In conclusion, Dean Inge said that the churches were, and ought to be, on the side of public health.

Dr. C. Killick Millard (Medical Officer of Health, Leicester) said he completely agreed with all that Dean Inge had said, and paid tribute to his services in the cause of progressive medicine. He had been particularly gratified that a good word had been put in for eugenics. It was well that the subject should be kept in the forefront, as so much depended in the next generation on what was done in this generation.

Dr. W. G. Savage (County Medical Officer of Health, Somerset) said that formerly the support of the clergy was more readily obtained for the relief of the sick and suffering than for preventive measures which were more far-seeing. The church was now taking a greater interest in public health work, and he held that the duty of the clergy was to lift the spiritual potential of the surroundings of the people in order that they might have their outlook so raised that they would not endure the things they were now quite callous about, and would realise that insanitary conditions were not to be tolerated.

Dr. R. Veitch Clark (Medical Officer of Health, Manchester) held that in churches of all denominations the keenest interest was taken in preventive medical work. After all, a great proportion of the members of the medical profession itself had little idea of what preventive medicine meant. Most medical men were trained almost entirely in curative medicine, and in the early days, at any rate, there was a considerable degree of inertia amongst medical students and practitioners.

Dr. T. Drummond Shiels, M.C., M.P., said that one of the most important changes in regard to the attitude of the church had been the realisation that mankind had got the power and the opportunity to bring about to a very great extent its own salvation. The prejudice of the church against certain classes of disease had largely gone, but still lingered in relation to the venereal diseases.

Dr. J. M. Mackintosh (County Medical Officer of Health, Northampton) said that

gratitude was due to certain of the churches for the excellent educative work they had done, and for the literature they had helped to prepare, on the question of preparation for marriage. In his view, medical officers of health and others would do well to give more prominence to that subject.

Mr. Ernest C. King (Urban District Councils' Association) moved a vote of thanks to Dean Inge for his interesting and enlightening address.

Professor J. Johnstone Jervis (Medical Officer of Health, Leeds) seconded, and the vote was carried by acclamation.

Dean Inge briefly replied.

Captain G. S. Elliston, M.A., M.P. (Consultant Secretary to the Society of Medical Officers of Health, and a Member of the Central Council for Health Education) occupied the chair at the afternoon session, and in an introductory address said that the work of the Central Council was an economy movement, endeavouring at very small cost to urge the public to take advantage of the health services provided for them, and tending to promote the well-being of the community and to save public expenditure. A dividend on the extremely limited amount of money expended would be shown in a marked improvement in health and a saving under many headings of national expenditure. A large percentage of the mothers were not making use of the clinics provided for them, and in other ways the public had yet to know how to take full advantage of the services available. In the past people were too much apt to think in terms of *disease*; there was an urgent need for teaching medical people and others to think in terms of *health*. Considerable progress had been made in the United States in the matter of periodical health examinations. The great assurance companies had found it a business proposition to persuade their policy-holders to submit themselves from time to time to a medical examination. If it paid them, how much more might it pay the State to arrange for insured persons to submit themselves to their panel doctor for an annual overhaul? Captain Elliston made a strong appeal to members of local authorities to secure the support of their corporations for the Central Council for Health Education. The work of the Council should result in a saving of public money, but only a very small proportion of local authorities had supported the work, and the Council at present was working on very inadequate funds.

Mrs. C. Neville Rolfe, O.B.E. (British Social Hygiene Council), opening a discussion on "**The Positive in Health Campaigns**," said that if she were a dictator she would make it compulsory to introduce into the whole of the educational system a thorough grounding of the biological sciences; link up immediately the insurance service and the local health service; make every panel practitioner a part-time preventive health officer, so that half of his time at least was devoted to securing the healthy behaviour of his patients; increase the emoluments of the members of the public health service so that they could compete successfully with the emoluments of the medical profession generally; and create prizes and social distinctions for the successful attainment of health conditions in industrial and other undertakings. Twenty-five years hence they would expect to find an entirely different outlook. Health would be valued, and fitness recognised as an asset. It was really a matter of altering values; of catching up the time lag between knowledge and application. Twenty-five per cent. of one generation were the parents of the next, and it was essential that that 25 per cent. should be fit. What could be done in the practical field now? They could still re-assess the value of results obtained from present expenditure; the field of health education for the younger generation could be mapped out, and steps taken to see that the foundations of the biological sciences were laid in the mind of every child attending school. There was a lack of planning in the work of health education, and much haphazard work that used up much effort and brought relatively meagre results. Mrs. Neville Rolfe suggested a regular continuous programme of health education planned out three years ahead to reach the whole of the population for which the local authority of an area was responsible. She urged a revolution of the services under the national health insurance scheme, which represented a heavy economic burden on the nation. The opportunity had not been taken to educate the public in matters of health. It should be the duty of every medical practitioner to educate members of his panel, and every girl or youth coming on to the panel should receive a course of six to eight lectures on the essentials of healthy living. A bonus might be given to those showing the least sickness in their panel. There was a need for the keynote of general health education to be far more positive.

Periodical health examinations should be in the forefront of the scheme, and more should be done to develop the responsibility of citizenship. One of the most urgent things at the moment in regard to the health education of school children was to secure the provision of the schools throughout the country with sound cinema equipment. The health campaign was taking a definite place in the affairs of the nation, but unfortunately a relatively small one. It was essential to bring to the notice of the public certain definite information both about health and disease, to stress the economy value of health and the preventability of disease, and to ensure that the work should be carried on throughout the 52 weeks of the year.

Dr. J. H. Harley Williams (Medical Commissioner, National Association for the Prevention of Tuberculosis) said that health education must be more positive in construction. The public were changing, slowly but inevitably, and it was necessary to pay great attention to the consideration of the health plan and programme to be put before the people, and to explain in simple language the objects to be achieved by the health service. The Ministry of Health should give a lead in a positive health campaign, and there appeared to be no reason why there should not be a legitimate department of the central health authority, with the appointment of some person to stimulate all agencies engaged in health educational work. Public health and insurance authorities were authorised by statute to engage in health teaching: why should there not be a counterpart in the central organisation? The suggestion to separate medicine into preventive and curative medicine was a mischievous one; the distinction was arbitrary and artificial. A great deal of the knowledge of what was called prevention had been acquired in the cure of disease—in tuberculosis and diabetes, for example—and there was no great distinction between prevention and treatment. The whole future of preventive medicine rested in the hands of the local authorities, and it was their duty to be in advance of public opinion. Speed in health matters was too apt to be that of the ignorant elector. The voluntary societies, who had shown the way long before local authorities were allowed by statute to take up the work, were remarkably efficient but full advantage was not taken of their work. **Dr. Harley Williams** concluded with a plea for post-

graduate teaching for health visitors, nurses and other officials concerned in health work. Local authorities, with few exceptions, were not exploiting that idea nearly as much as they might.

Dr. Dunstan Brewer (Medical Officer of Health, Swindon) said that while money could be secured for hospital work, it was very difficult to obtain funds for health propaganda. He urged the teaching of biological principles in schools.

Dr. W. Paterson (British Medical Association) considered periodical medical examinations would do good, but the work would need to be done thoroughly and properly, and would entail a great deal of time and expense. A more important thing was to educate the people on the lines indicated by previous speakers, and to show them how they could take advantage of the medical services available for the public. The people were gradually realising the importance of the national health insurance scheme and were taking advantage of the services of the panel doctor, who, he asserted, was doing preventive medicine, and a great deal of it.

Dr. Ernest Ward (Tuberculosis Officer, South Devon) moved a vote of thanks to Mrs. Neville Rolfe and **Dr. Harley Williams**.

Dr. J. B. Wilkinson (Medical Officer of Health, Oldham) seconded, and the vote was carried unanimously.

Mrs. Neville Rolfe and **Dr. Harley Williams** briefly replied.

At the conclusion of the Conference the audience were shown a sound film, "The Mystery of Life," loaned for the occasion by Wardour Films, Ltd., with a commentary prepared under the direction of Professor Julian Huxley.

As evidence of the interest taken and the importance attached to the Conference, it may be noted that at the entrance to the meeting hall, displays of propaganda material had been arranged by, amongst others, the Health and Cleanliness Council and the Food Education Society; while Messrs. H. K. Lewis & Co., Ltd., the well-known medical publishers, had on exhibition a wide selection of literature having a special appeal to those engaged in preventive medicine and health education.

A special word of praise is due to Mr. T. Crew (Organising Secretary) and Mr. G. L. C. Elliston, M.A. (General Secretary of the Central Council), who spared no effort to ensure the success of the Conference.

Branch and Group Reports.

THE METROPOLITAN BRANCH.

President: Dr. A. F. Cameron, Medical Superintendent, River Hospital, Berkeley, London County Council.

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 September 30th, 1932, the President occupying the chair. Eighteen other members of the Council were present. **Dr. Oldershaw**, the recently appointed Medical Officer of Health of Hampstead, was formally welcomed by the President, and appointed to serve on the Council.

The Council adopted the following nominations of Group representatives for service on the Council during the session 1932-33: **Dr. C. Herington** (County District Group), **Dr. J. Blake** (Fever Hospital Medical Service Group).

The annual report of the Branch Council for the session 1931-32 was received.

It was decided to nominate **Drs. Annis and Hewat** as Hon. Auditors of the Branch for the current session.

The Hon. Secretary read a letter from **Dr. Radford** in regard to the Ministry of Health pink enquiry card relating to cases of cerebro-spinal fever admitted to hospital. It was stated that these cards were frequently forwarded by the medical superintendents concerned direct to the Ministry, with the result that medical officers of health had no information as to the bacteriological findings, etc. **Dr. Daley** of the London County Council promised to take up this matter with the medical superintendents.

It was reported that the Branch had asked the Council of the Society to consider making representations to the Board of Education in favour of the attendance of school children at infant welfare centres for Schick testing and immunisation being regarded as school attendance, as is done in the case of attendance at school treatment centres and cleansing stations. The Hon. Secretary stated that he had received a reply from the Society to the effect that their General Purposes Committee agreed that representations were desirable, but felt that action in this connection should be

taken by the Branch itself, as the difficulty had arisen mainly in London. It was decided that the recommendation should refer not only to infant welfare centres, but to all places where Schick testing and immunisation are carried out, and the Hon. Secretary was directed to communicate with the Board of Education accordingly.

The Council gave detailed consideration to the possibility of simplifying the machinery now in operation in connection with the work of metropolitan medical officers of health. The Hon. Secretary pointed out that there were in existence for dealing with matters relating to health officers in London the Metropolitan Branch and Branch Council, the Metropolitan Tuberculosis Sub-Group of the Society, the Metropolitan Borough Medical Officers of Health Group, and the Advisory Body to the Standing Joint Committee, and that the Advisory Body have power to call meetings of all London borough medical officers of health. It was mentioned that the Branch might be in danger of losing prestige amongst its own members, and particularly in the eyes of outside bodies and local authorities, by reason of this multiplicity of organisations and consequent overlapping. Moreover, many persons had found considerable difficulty in knowing to which body any particular item of business should be referred. The suggestion was put forward that the Branch should appoint a Special Purposes Committee consisting of all metropolitan medical officers of health in the Society, with power to co-opt. It was pointed out that this Special Purposes Committee might appoint the Advisory Body to the Standing Joint Committee, and that the Special Purposes Committee and the Advisory Body might appoint their own chairmen and hon. secretaries. The result would be that all outside bodies anxious to obtain the views of metropolitan medical officers of health on any question could write to the Hon. Secretary of the Branch, who would refer the communications to the Branch, the Branch Council, the Special Purposes Committee or the Advisory Body, as the case might be, and the decisions arrived at would be communicated to the outside bodies concerned in the name of the Metropolitan Branch. In certain cases the decisions of the

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Special Purposes Committee or the Advisory Body might need the approval of the Branch, and in certain other matters the Branch might probably give these bodies authority to arrive at decisions on their behalf.

It was decided to communicate with the Council of the Society, the Group, and the Advisory Body giving an outline of the proposals, and asking that they should be considered.

There was a short discussion on the London County Council (General Powers) Act, 1932, and Dr. Daley dealt with one or two doubtful points in regard to Section 5 thereof.

The Hon. Treasurer reported that he had arranged for the conversion of the War Loan belonging to the Branch into the new $3\frac{1}{2}$ per cent. Loan, and the Council approved this action.

It was decided to ask Drs. Connan and White to seek an interview with the appropriate officer at the Ministry of Health with a view to ascertaining whether that department can exercise influence with the Ministry of Agriculture in favour of certificates of medical officers of health replacing those required from London County Council veterinary inspectors in regard to animal casings intended for export.

Consideration of the draft London County Council drainage by-laws was postponed until after the Royal Sanitary Institute discussion on the one-pipe system of drainage had been held on October 11th.

Dr. Vynne Borland was nominated as Assistant Hon. Secretary of the Branch, and it was decided to refer the amendment of the by-laws of the Branch to a sub-committee consisting of the President, the Hon. Secretary and Dr. Borland.

A meeting of the Branch followed the Council meeting. The President occupied the chair, and thirty-six other members were present.

The Branch accepted the Council's nominations of Hon. Auditors, Group representatives, etc., referred to above.

Dr. Cameron delivered his Presidential Address entitled "**The Preventive Treatment of Smallpox.**" In the course of the discussion which followed, consideration was given to correspondence from the Town Clerk of Lambeth in regard to the procedure in connection with outbreaks of variola minor in

London. The question of the form of reply to be sent to this correspondence was adjourned until the next meeting of the Branch Council.

Sir Weldon Dalrymple-Champneys proposed a vote of thanks to Dr. Cameron for his excellent Address. This was seconded by Dr. Daley, and carried unanimously. (The Address appeared in the November issue of PUBLIC HEALTH).

The Hon. Secretary submitted a report of the proceedings of the Council at their meeting held earlier in the afternoon, which was approved with one amendment, namely, that Dr. Thompson of Lambeth and Dr. I. S. Thomson of Westminster should also be asked to serve on the sub-committee in regard to the by-laws of the Branch.

THE EAST ANGLIAN BRANCH.

President: Dr. W. B. Christopherson, T.O., Norfolk County.

Hon. Secretary: Dr. V. F. Soothill, M.O.H., Norwich.

A meeting of this Branch was held at the Guildhall, Norwich, on October 26th, 1932. There were present Drs. A. P. Agnew, W. B. Christopherson, V. F. Soothill and A. M. N. Pringle.

Discussion took place as to whether the Branch should be continued, and it was resolved that an effort be made to keep it alive. Dr. Christopherson was elected as President of the Branch for the ensuing year. Dr. Pringle, Hon. Secretary, Treasurer and Representative of the Branch, intimated his intention of resigning these positions, and Dr. Soothill was appointed in his place as Hon. Secretary, Treasurer and Branch Representative on the Council of the Society.

There was a discussion upon the attitude of the parent Society on the question of salary cuts, and the Hon. Secretary was instructed to write to the Society protesting against further cuts, and advocating that salaries should be restored to their original position.

The accounts of the Branch were presented and passed for payment, and Dr. Soothill was authorised to draw cheques on behalf of the Branch.

On the invitation of Dr. Agnew, it was decided that the next meeting of the Branch should be held, probably in February, at Wymondham.

THE MIDLAND BRANCH.

President: Dr. H. D'Arcy Ellis, M.O.H., Amblecote and Brierley Hill Urban Districts.

Hon. Secretary: Dr. R. H. H. Jolly, M.O.H., Wolverhampton.

Visit to Ham and Bacon Factory.—On November 10th, 1932, some thirty members of this Branch paid a visit to the factory of Messrs. Marsh and Baxter, Ltd., Brierley Hill.

At the conclusion of the lunch provided in the firm's sports pavilion, Mr. Ernest Marsh proposed the health of the President, with whom he had been long associated. Dr. Ellis replied to the toast in suitable terms.

A short business meeting followed, at which the President referred to the great loss sustained by the Society owing to the recent deaths of two of its most prominent members, Professor A. Bostock Hill and Professor Harold Kerr. The members present expressed their sympathy by standing in silence.

The party were then conducted over the factory and saw the actual preparation of the various products, including hams, bacon, sausages and pork pies. Of special interest was the demonstration of stunning pigs prior to slaughter by the new electrical method (S.R.V. Electrothaler). This method was observed to be instantaneous in action, and it was stated that pigs stunned in this way bled even better than those stuck without previous stunning. Moreover, there was complete absence of any "splashing" of the flesh. Another interesting portion of the works was that set aside for the treatment of pig bristles and the manufacture of shaving-brushes and hair for upholstery.

Tea was served at the conclusion of the visit, when the President proposed, and Dr. Snell seconded, a very cordial vote of thanks to Mr. Ernest and Mr. Walter Marsh for their kindness in inviting the Branch to visit their works and also for their hospitality. In his reply Mr. Ernest Marsh referred to their new method of stunning pigs and said he considered that they had at last found something which was completely satisfactory from a commercial point of view as well as being entirely humane and devoid of any cruelty.

Dr. Jolly proposed, and Dr. Hawley seconded, a vote of thanks to the officials of the firm who had so kindly conducted the party round the works and had been at such pains to demonstrate the various processes.

THE EAST MIDLAND BRANCH.

President: Dr. Cyril Banks, M.O.H., Nottingham.

Hon. Secretary: Dr. J. A. Stirling, M.O.H., Chesterfield.

A meeting of this Branch was held in the Guildhall, Nottingham, on October 13th, 1932, Dr. H. C. Jennings occupying the chair. Nineteen members were present, and the Chairman also welcomed eighteen dental officers as visitors.

Dr. Jennings referred to the serious illness of the President, and the Hon. Secretary was instructed to convey the sympathy of the Branch to Dr. Banks and to express the hope that he would soon be fully restored to health.

The Hon. Secretary was instructed to call a special meeting of the Branch Council to consider the memorandum of the Society on the "Redistribution of county areas under the Local Government Act of 1929," such special meeting to precede the next ordinary meeting of the Branch.

Dr. Jennings was congratulated on his appointment as County Medical Officer for Oxfordshire, and he responded suitably.

Dr. W. M. Ash was unanimously appointed President-Elect in place of Dr. Jennings, and Dr. G. G. Buchanan was elected to fill the vacancy on the Branch Council.

Mr. D. E. Mason read a paper on "**The Dental Officer and Dentistry in Public Health Work.**" He was cordially thanked for his interesting contribution, which promoted many questions and a very keen discussion.

THE NORTH-WESTERN BRANCH.

President: Dr. T. W. Naylor Barlow, M.O.H., Wallasey.

Hon. Secretary: Dr. J. E. Spence, M.O.H., Eccles.

An ordinary meeting of this Branch was held on November 11th, 1932, at the Public Health Laboratory, York Place, Manchester, the President occupying the chair. Twenty-four members and two visitors were present.

The President referred to the recent loss by death of two distinguished Past-Presidents of the Society—Dr. A. Bostock Hill and Dr. Harold Kerr—and on his proposition, seconded by Dr. G. W. N. Joseph, it was resolved that the Hon. Secretary be requested to convey to Mrs. Bostock Hill and Mrs. Kerr the sympathy of the members of the North-Western Branch with them in their bereavement.

A letter from Dr. W. Hannah was read, expressing his pleasure on hearing that his name had been recommended by the Branch as an honorary life-member of the Society.

Professor H. B. Maitland, who was introduced by the President, gave a most interesting and enlightening paper, illustrated with lantern slides, on "**Smallpox and Vaccination.**" A very cordial vote of thanks to Professor Maitland was proposed by Dr. Bennett and seconded by Dr. F. T. H. Wood. Other speakers were Drs. Joseph, MacDonald, and the President. While Professor Maitland's paper was concerned almost entirely with the pathological aspect, several interesting clinical questions were raised during the discussion.

THE YORKSHIRE BRANCH.

President: Dr. T. N. V. Potts, M.O.H., West Riding of Yorkshire.

Hon. Secretary: Dr. James Mair, M.O.H., Harrogate.

A meeting of this Branch was held at the Hotel Metropole, Leeds, on October 28th, 1932, the President occupying the chair. Thirty members were present.

Dr. H. T. Bates, the retiring President, invested Dr. T. N. V. Potts, County Medical Officer of the West Riding of Yorkshire, with the badge of office and installed him in the presidential chair for the session 1932-33. Dr. Potts returned thanks for the honour conferred on him by his colleagues.

A vote of thanks to the retiring President was moved by Dr. Bertram Hill, seconded by Dr. G. H. Pearce, and carried unanimously.

The recommendation of the Branch Council that Drs. Tattersall and Vallow be appointed representatives to serve on the Tuberculosis Group Committee was confirmed.

The formation of a Maternity and Child Welfare Group within the Branch was considered and approved, and the Hon. Secretary was instructed to convey to Dr. Gladys Russell the thanks of the Branch for the trouble she had taken in the matter.

Dr. Potts delivered his presidential address on "**The Public Milk Supply.**" A vote of thanks to the President was proposed by Dr. J. J. Buchan, seconded by Dr. T. Gibson, supported by Drs. G. H. Pearce, Barr, B. Hill, and carried by acclamation.

The meeting was preceded by the annual luncheon of the Branch at the Hotel Metropole.

The President presided, and over fifty members and guests were present. The guests included Dr. G. H. Pearce (President of the Society) and Mrs. Pearce; Captain G. S. Elliston, M.P.; Dr. McAdam (Hon. Secretary of the Yorkshire Branch of the British Medical Association), and Mr. G. L. C. Elliston (Executive Secretary of the Society).

After the loyal toast, that of "The Society of Medical Officers of Health" was proposed by Councillor Brett, Deputy Chairman of the Leeds Health Committee, and responded to by Captain Elliston.

The President proposed the health of Dr. and Mrs. Pearce and, on behalf of the Branch, presented Dr. Pearce with a wireless set, a silver cigar case, and a set of dress studs and links, in recognition of his long and valuable services as Hon. Secretary of the Branch. Dr. and Mrs. Pearce replied and expressed their warm appreciation of the gifts.

A very enjoyable function concluded with the toast of "The Retiring President," proposed by Dr. Potts, and responded to by Dr. Bates.

Veterinary Group.—A meeting of the Veterinary Group of the Yorkshire Branch was held on September 30th, 1932, at the Leeds Public Health Department. Fourteen members were present.

Major D. S. Rabagliati was unanimously re-elected Chairman, and Mr. W. T. MacGregor, Hon. Secretary.

Colonel Dixon opened a discussion on "**Milk Pasteurisation,**" dealing with the subject in a full but concise manner. A lively discussion ensued in which most members voiced their views. The general consensus of opinion was that while the Group recognised certain economic advantages from pasteurisation, it had many disadvantages which should not be lost sight of. It was felt, however, that should pasteurisation ever become general in any special area the veterinary profession should urge that this should not lead to any slackening off of measures to be taken for the production of a clean milk supply and one free as far as possible from tuberculosis. It was also urged that pasteurisation should only be permitted in premises specially licensed for the purpose, and that such premises should be subject to much greater control than is often the case at present.

Votes of thanks were passed to Colonel Dixon for his introductory remarks, and to the Medical Officer of Health of Leeds for so kindly placing a room at the disposal of the Group for the meeting.

THE NORTHERN BRANCH.

President: Dr. A. Stuart Hebblethwaite, M.C., M.O.H., Sunderland.

Hon. Secretary: Dr. J. A. Charles, Deputy M.O.H., Newcastle-upon-Tyne.

The annual meeting of this Branch was held at the Medical Institute, 7, Windsor Terrace, Newcastle-upon-Tyne, on October 28th, 1932, Dr. Howard Morrison occupying the chair. Twenty-five members were present.

The retiring President, in asking Dr. A. Stuart Hebblethwaite, M.C., to take over the Presidency of the Branch for the year 1932-1933, said he felt sure that the members would receive good guidance during his year of office. Dr. Morrison expressed his thanks to Dr. Charles, the Hon. Secretary, for the help that he had received from him during the past session.

Dr. Hebblethwaite said his first duty was to move a hearty vote of thanks to Dr. Howard Morrison for the excellent manner in which he had performed the duties of President. This was carried by acclamation.

The President referred to Dr. G. C. M. M'Gonigle having obtained the degree of D.Hy. (Dunelm), and it was agreed that the Hon. Secretary forward to him the hearty congratulations of the Branch.

Dr. Hebblethwaite urged the members to use their influence in getting men and women in the public health service to join the Society.

The following were elected members of the Branch:—John R. Beal, M.D., D.P.H., T.M.O., Sunderland; James C. B. Craig, M.D., D.P.H., Asst. M.O.H., Carlisle; Isaac S. Jones, M.R.C.S., L.R.C.P., D.P.H., Asst. M.O.H., Cumberland C.C.; and Dorothy M. Taylor, M.B., Ch.B., D.P.H., M.O. (M. & C.W.), Sunderland.

The annual report of the Council for the session 1931-1932 was read by the Hon. Secretary and unanimously adopted.

The following were elected as members of the Branch Council for the year 1932-1933:—Drs. James Bannerman, G. A. Dawson, W. H. Dickinson, Chas. Franks, C. A. Harvey, Mary E. Howie, Harold Kerr, R. MacLeod, G. C. M. M'Gonigle, J. W.

Howard Morrison, A. F. G. Spinks, George Wilson, and, *ex-officio*, the President (Dr. A. S. Hebblethwaite), the Vice-President (Dr. J. O. Murray), and the Hon. Secretary (Dr. J. A. Charles).

Dr. Hebblethwaite delivered his Presidential address on "**Some Observations on Milk.**" Drs. James Hudson, Dawson, Dickinson and McKeggie took part in the discussion which followed.

On the motion of the President, duly seconded, it was agreed that the following resolution be forwarded to the Council of the Society for its consideration:—

"That there should be a bacteriological standard of milk before it is allowed to be pasteurised."

The meeting concluded with a hearty vote of thanks to the President for his address.

THE WEST OF ENGLAND BRANCH.

President: Dr. R. H. Parry, M.O.H., Bristol.

Hon. Secretary: Dr. P. H. Stirk, M.O.H., Exeter.

A meeting of this Branch was held at St. Peter's Hospital, Bristol, on October 28th, 1932. Twenty-six members were present.

Prior to the meeting, the majority of the members present lunched together at Hort's Restaurant, Broad Street, Bristol.

The retiring President (Dr. W. Horton Date) resigned the chair to Dr. Parry, Medical Officer of Health, Bristol, who gave his presidential address on "**Cancer as a Public Health Problem.**" The paper was of great interest, and, the President having expressed the wish that his address should be discussed, an excellent discussion took place, in which Drs. Savage, Dunstan, Brewer, Remmett, Weaver, Wilson, Ward, Horton Date, Phillips and Morrison took part.

A hearty vote of thanks was accorded to Dr. Parry for his extremely able and thoughtful address, which will be published in an early number of PUBLIC HEALTH.

The Hon. Treasurer presented his report and balance sheet for the year, which was accepted, subject to audit. Drs. Ward and Date kindly undertook to audit the accounts.

It was decided to place again on the agenda for each meeting the report of the Council representative.

It was resolved to hold the next meeting in January, 1933, at Bristol, and at 6 o'clock in the evening.

Votes of thanks were passed to the retiring President, and to the Hon. Treasurer and Hon. Secretary for the work they had done during the past year.

Dr. W. Horton Date was also heartily thanked for his kindness in entertaining the members at tea after the meeting.

A vote of thanks was passed to the Bristol Public Assistance Committee for kindly placing the room at St. Peter's Hospital at the disposal of the Branch.

THE WELSH BRANCH.

President: Dr. E. Lewys-Lloyd, County M.O.H., Merionethshire.

Hon. Secretary: Dr. D. J. Thomas, Deputy M.O.H., Rhondda.

The first meeting of the session of this Branch was held at the Institute of Preventive Medicine, Cardiff, on October 28th, 1932. In the absence of the President, Dr. Picken occupied the chair. Sixteen members and visitors were present.

Drs. D. A. Powell, W. A. Murphy and W. F. W. Betenson were elected as additional members on the Branch Council.

A symposium followed on "**Outdoor Medical Services under the Local Government Act, 1929.**" Dr. Mervyn Jones (District Medical Officer, Cardiff) opened the discussion with a paper in which he described the various duties which were allocated to a district medical officer under the Cardiff Public Assistance Committee. He noted that the work had become more arduous during recent years owing to increasing economic distress and greater readiness on the part of the community to utilise the facilities provided by means of public assistance. The medical work was mainly confined to children and persons between 50 and 80 years of age; there was greater hope of permanent good work amongst the former group, whilst in the latter the treatment was often merely palliative in nature. In Cardiff they were fortunate in obtaining the assistance of the Queen's Jubilee Nursing Institute for domiciliary nursing, and prescriptions were economically dispensed in a central dispensary. The distribution of extra medical foods and comforts was also of immense value. Cases requiring medical attention were often discovered and referred by health visitors, and the greater co-operation

with the health department brought about under the Act rendered the facilities for the prevention of disease more readily accessible to those persons who were in greatest need of them.

Dr. Melbourne Thomas (Medical Superintendent, Llwynypia Hospital) dealt with the functions of out-patient departments attached to municipal hospitals in relation to the outdoor medical services. Such departments would be able to provide after-care for patients discharged from the hospitals in the convalescent stage, facilities for consultations regarding cases under the observation of the district medical officers, and such treatment as could not be provided by means of a domiciliary service, such as for orthopaedic and aural cases. The intelligent application of after-care through the medium of an out-patient department would allow of the quicker release of the beds available in a municipal hospital.

In the discussion which followed, Drs. Armstrong (Cardiff Royal Infirmary), Jeffery Jones (Bridgend Hospital), Whitman, Colston Williams, T. Evans, Bruce Low (Welsh Board of Health), A. G. M. Severn, W. A. Murphy, and R. M. F. Picken took part, and the opening speakers replied to various questions raised. Some of the points discussed included the inadequate payment for the services rendered by district medical officers under present conditions; the development of an out-patient department as a necessary and essential adjunct to the work of a municipal hospital, and its function as a "filter" whereby it could be ensured that patients who were not suitable for in-patient treatment would be disposed of otherwise than by admission; the statutory barriers imposed on the work of municipal hospitals and the consequent limitations upon their utilisation for the general public; and the value and desirability of co-ordination between the public assistance and public health services.

A hearty vote of thanks was accorded to the opening speakers.

The first meeting of the session of the *Assistant Medical Officers' and School Dentists' Sub-Group* of the Welsh Branch was held at the Institute of Preventive Medicine, Cardiff, on November 9th, 1932, when Dr. C. J. McSweeney, the retiring Chairman, occupied the chair. Thirteen members and three visitors were present.

It was reported that the Hon. Secretary (Dr. W. G. Crosbie) had resigned on obtaining the appointment of Medical Superintendent of Alder Hey Hospital, Liverpool. The Committee's action in appointing Dr. D. P. Holmes as Acting Hon. Secretary was confirmed.

The following officers were elected for the session 1932-33:—

Chairman.—Dr. D. P. Holmes, Assistant Medical Officer of Health, Glamorgan County Council.

Hon. Secretary and Treasurer.—Dr. W. P. Phillips, Assistant Medical Officer of Health, Cardiff.

Assistant Hon. Secretary.—Mr. J. Young, B.D.S.

Committee.—The Chairman, Hon. Secretary and Assistant Hon. Secretary, and Drs. Anderson, Gordon, Lawrence and Mervyn Jones.

Professor E. L. Collis, Talbot Professor of Preventive Medicine, Cardiff, delivered a lecture, illustrated by slides, on "**Industrial Dermatitis**," dividing dermatitis into two main groups—exogenous and idiopathic—and describing their characteristics. He classified the irritant substances capable of producing occupational dermatitis as follows:—

(1) Detergents, such as oils and substances dissolving palmitin and stearin from the skin, causing dryness and subsequent infection.

(2) Dehydrants, such as potassium bichromate, chrome salts, copper arsenite and common salt.

(3) Carcinogenic, such as pitch, soot, mineral oils and aniline dyes.

(4) Sensitising agents, such as ammonium persulphate, which he thought played a large part in the production of the lesions in "baker's itch."

A discussion followed in which Drs. McSweeney, Holmes, Anderson and Gordon took part. Professor Collis answered several questions, and was accorded a hearty vote of thanks on the proposition of Dr. McSweeney, seconded by Dr. Holmes.

THE TUBERCULOSIS GROUP.

President: Dr. George Jessel, T.O., Lancs. C.C.
Hon. Secretary: Dr. Ernest Ward, T.O., South Devon

A meeting of the Group Committee was held at the house of the Society on October 21st, 1932, Dr. Blackmore occupying the chair. Seventeen members were present.

The Hon. Secretary and Council Representative announced:—

(a) That the Midland Branch had appointed a new representative member, Dr. R. J. Cyriax, who, present for the first time, was cordially welcomed by the chairman.

(b) That the Central Council for Health Education had informed him that, through an oversight, a representative of the Welsh National Memorial Association had not previously been invited to the Conferences arranged by them, but the error had now been rectified.

(c) That he had been unsuccessful in his candidature as President of the Society, but thanked members of the Group for their very kind efforts on his behalf.

(d) That up to the present no material modification in the Constitution of the Society had been passed by Council, and although bye-laws were still under consideration there seemed no prospect that a better representation of departmental officers would be secured.

The work of the Public Health Advisory Committee was described, and the Council Representative was asked to express the disappointment of the Group Committee with the constitution thereof.

The nomination of Group officers for the ensuing session was confirmed.

The constitution of the Group was considered and deferred to the next meeting.

The Committee confirmed the action of the Hon. Secretary in forwarding to the Metropolitan Branch the name of Dr. Blackmore, selected by the Metropolitan Sub-Group, to represent the Group on the Metropolitan Branch Council.

Friday, January 20th, 1933, at 10.30 a.m., was the date and time fixed for the next meeting.

The annual general meeting of the Group was held at the house of the Society on October 21st, 1932, twenty-five members being present.

The Hon. Secretary announced that under the aegis of the Tuberculosis Association a tuberculosis library and information bureau was now in existence, and was directed by Dr. Roodhouse Gloyne, the Editor of *Tubercle*.

Dr. George Jessel was elected President of the Group for the Session 1932-33; Drs. Peter Edwards and H. G. Trayer, Vice-Presidents; and Dr. Ernest Ward, Hon. Secretary and Council Representative.

Dr. Jessel, on taking the chair, thanked the members for the honour they had done him in electing him President, and proposed a hearty vote of thanks to Dr. Peter Edwards for his

THE JOINT TUBERCULOSIS COUNCIL.

A meeting of the Joint Tuberculosis Council was held at the house of the Society of Medical Officers of Health, 1, Upper Montague Street, Russell Square, London, W.C.1, on October 22nd, 1932. Dr. G. Lissant Cox occupied the chair, and twenty-four members were present.

The Hon. Secretary explained that the memorandum of the Refills Committee had not been ready to circulate until July was well advanced; and that he had then written the convener suggesting that, without material delay and with great saving in expense, it might be circulated with the Institutions memorandum now to be considered. The convener generously agreed to this course, which was approved by the Chairman.

The Council had been invited by the Lord Mayor of London to send a representative to a meeting held at the Mansion House on July 11th, to consider the People's League of Health report and recommendations on tuberculosis and the milk supply. After consultation with the Chairman, Dr. Burrell was invited to represent the Council, and would no doubt report in due course.

The survey of tuberculosis of bovine origin, produced by the People's League of Health, was discussed, and the Council resolved that: "The Joint Tuberculosis Council cordially endorses the conclusions and recommendations contained in this report, and that a copy of this resolution be sent to the Ministry of Agriculture, the Ministry of Health, and the People's League of Health."

Dr. Lissant Cox was nominated Chairman for 1933; Dr. Ernest Ward, Hon. Secretary; Dr. G. Jessel, Hon. Treasurer; and Dr. D. P. Sutherland, Hon. Auditor.

Consideration was given to the report of the Institutions Committee. The Chairman thought highly of the report, but wondered if it were possible to improve the planning and to focus attention more closely upon important matters. He also pointed out that surgical tuberculosis in adults had not been considered. The report was gone over paragraph by paragraph, and Dr. Blackmore offered to present it again at the next meeting, modified as far as might be expedient in accordance with the criticisms expressed.

On behalf of the Artificial Pneumothorax Committee, Dr. Trail announced that individual members of his Committee had read many of the published results of artificial pneumothorax, and no basis of comparison could be found. It was therefore decided to draw up criteria on which to base the results in this country, and to circularise all institutions asking for their results up to the end of 1932, the returns to be received by the end of 1933. The Committee hoped that the Council would realise that they could not hope to conclude their work before 1934.

Dr. Tattersall explained that the report of the Children's Committee was not yet ready.

The proposed investigations at Papworth, Preston Hall, and Barrowmore Hall were considered. The medical directors of all three institutions had expressed their willingness to co-operate in every way possible. The Hon. Secretary was asked to prepare and submit to the next meeting a plan of campaign.

Dr. Brand announced that a successful post-graduate course had been held in Germany during the summer, and had been attended by eleven members of the tuberculosis service. Hamburg, Stettin, and Berlin had been visited. A course lasting a week would be held in December at Brompton Hospital and promised well. Dr. Burrell would deal with empyemata, and Dr. Melville with films, and attention would be directed to the more complex operative procedures as well as to artificial pneumothorax and lipiodol. Evening lectures had been suggested, but to this he was opposed. There was a possibility that some continental workers might desire to attend a course in this country, in which case he was prepared to do all he could to help them. The Council expressed very high appreciation of Dr. Brand's work.

The Hon. Secretary drew attention to the publication on tuberculosis in South African natives issued by the South African Institute for Medical Research, and to a publication by Dr. Blacklock on tuberculosis in children, issued by the Medical Research Committee.

Saturday, January 21st, 1933, at 10 a.m., was the date and time fixed for the next meeting of the Council.

The Literature of Preventive Medicine.

International Studies. Prevention and Treatment of Disease. Conducted for the Milbank Memorial Fund by SIR ARTHUR NEWSHOLME, K.C.B., M.D., F.R.C.P. Vol. 3. England and Wales, Scotland, Ireland. London: George Allen & Unwin, Ltd., 1931. pp. 558. Price 21s. net.

These International Studies were undertaken at the instance of the Trustees of the Milbank Memorial Fund for the purpose of ascertaining the extent to which public health work might interfere with the legitimate professional aspirations of the private medical practitioner.

The first two volumes dealt with the medical services of fourteen European countries. Volume 3 deals with British medical practice in all its forms and inter-relationships.

After describing the general structure of government, local and central, and the organisation of the medical profession, the author gives an account of the general and special medical services of the country as a whole. Then follow descriptions of these services in selected areas.

Throughout the volume the author has kept ever in the forefront his main theme—namely, the relation between the general practitioner of medicine on the one hand and the public health and voluntary hospital services on the other.

His unique experience of all aspects of the subject has enabled him to present to his readers an accurate account of the medical machine as it works in Britain at the present day.

Medicine and the State. The Relation between the Private and Official Practice of Medicine, with Special Reference to Public Health. By SIR ARTHUR NEWSHOLME, K.C.B., M.D., F.R.C.P., with foreword by William H. Welch, M.D., LL.D. London: George Allen & Unwin, Ltd., 1932. pp. 300. Price 7s. 6d. net.

This book is a sequel to the author's "International Studies," which appeared in three volumes.

It surveys the entire field of modern medical practice, private and public, in Britain at the present day, and discusses possible lines of evolution for the future.

Each chapter is followed by a summary of

its contents in brief paragraphs, numbered in sequence throughout the volume.

The work is a masterpiece of clear thinking and lucid exposition, and should be read by everybody interested in the future development of the medical services of the country.

Protective Legislation for Shop and Office Employees. By J. HALLSWORTH, Industrial General Secretary, National Union of Distributive and Allied Workers. London: George G. Harrap & Co., Ltd., 1932. pp. 211. Price 5s. net.

The author of this book being, amongst other things, the industrial secretary of a large and important trades union, is entitled to be heard with respect. His intention in preparing the volume, he claims, was, first, to give in a simple manner an outline of legislation at present in force by means of which the working conditions in offices, shops, warehouses and other commercial establishments are regulated, and of the administration of such legislation; second, to survey the existing situation in the places named, with the object of ascertaining how far the present labour laws particularly concerning them fall short of serving admitted needs; and, third, to suggest the amending or new legislation most urgently necessary, so that non-manual and commercial employees shall be afforded in principle and practice not less favourable treatment than the best applicable to or contemplated for industrial workers. The claim he makes Mr. Hallsworth has carried out in a thorough and admirable manner. Writing with knowledge and skill, he has produced a book wonderfully interesting and valuable to a wide circle of readers, amongst whom most certainly must be included health workers.

In the Annual Reports.

ADVANTAGES OF SLIMMING DIETS.—Much is heard of the evils of malnutrition, but this only applies to children, adolescents, expectant and nursing mothers, and far more disease in later life is due to over-nutrition; the population as a whole eats far too much, especially carbohydrates (starchy and sugary foods), causing obesity, diabetes, high blood pressure, arterial degeneration and gall bladder diseases. . . . Prevention of these degenerative conditions is quite simple and consists in eating less,

particularly as regards such carbohydrate foods as bread and potatoes. If as much attention were focussed upon the dangers of over-nutrition in middle-aged and elderly people as is directed to the problems of malnutrition in the young, many lives would be saved and the death-rate from cerebral hæmorrhage and its allied conditions much reduced. Many derogatory things have been written and said about the present tendency of women to keep themselves thin by "slimming" diets, but it is quite likely that they will benefit by it as they get older, and will avoid arterial degenerative diseases.—*Dr. W. E. Roper Saunders, Rowley Regis.*

SLOW COMBUSTION STOVES.—Stoves of the slow combustion and water heating type are becoming very popular and are being installed in existing buildings without provision for the efficient discharge of the products of combustion. This often gives rise to a nuisance due to offensive and noxious odours. The usual method of installation is simply to stand

the unit on a floor and carry off a flue pipe, generally made of iron or asbestos composition, to the roof. In a very short time this pipe becomes a miniature coal tar distillery. The practice of carrying off flue gases in such a manner is undesirable, since a stack of such description must of necessity remain comparatively cold. A consideration of combustion at this part will explain the reasoning. Coal burns to CO₂ and during the process other gases are evolved from what are known technically as volatile matters. They are many, but our interest is centred in the compound "ammonium sulphide," a condensate easily obtained and possessing a characteristic pungent odour. This substance condenses on the sides of the flue and trickles down to the base and under certain conditions is again volatilised, producing a noxious odour. The conversion back to gas of these liquors is intermittent and the odour is sometimes wrongly associated with foul drains. In future legislation, regard might be given to this matter.—*Dr. F. Garland Collins, West Ham.*

Correspondence.

The Editor does not accept responsibility for the opinions of correspondents.

A FINANCIAL PROBLEM OF MUNICIPAL HOSPITAL POLICY.

To the Editor of PUBLIC HEALTH.

SIR,—I have read with interest the very admirable paper, entitled "A Study of Hospital Policy," given by Dr. Massey at a meeting of the Midland Branch of the Society, and reprinted in the September issue of PUBLIC HEALTH.

Dr. Massey is reported to have made the statement that "in the case of an appropriated hospital, no legal power of recovery from outside authorities is available in respect of patients from the areas of those authorities."

Certain local authorities have already, in pursuance of Section 95 of the Public Health Acts Amendment Act, 1907, appropriated the poor law hospital for the purposes of the Public Health Acts and the Local Government Act, 1929, but only a few of this number have made a "declaration" under Section 5 of the 1929 Act to the effect that certain assistance, including hospital services, would be provided exclusively by virtue of the appropriate Acts (Public Health Act, 1875, etc.) and not by way of poor relief. It is generally agreed that authorities who have made such a "declaration" under Section 5 have no legal power of recovery from outside authorities, as indicated by Dr. Massey, but the inference to be drawn from the paper in ques-

tion is that all appropriated hospitals (whether a "declaration" has been made or otherwise) are likely to suffer financially in respect of "out-patient" cases.

I happen to be closely associated with the administration of an appropriated hospital (without "declaration" under Section 5 of the Local Government Act, 1929) to which patients, whose residence is in some other area, are occasionally admitted.

These cases have been reported to the local authorities concerned and successfully dealt with under Section 80 and/or Section 95 of the Poor Law Act, 1930, without resort to legal proceedings.

The acceptance of financial responsibility or of a transfer of the patient by the authorities concerned appears to confirm the opinion that, where a local authority has not made a "declaration" under Section 5 of the Local Government Act, 1929, to the effect that hospital treatment would be provided under the Public Health Acts, the powers conferred by the Poor Law Act, 1930, still apply.

It would be interesting to have the views of other readers on this subject.

I am, Sir,

Yours faithfully,

F. SCHOFIELD.

Public Health Department,
Rochdale.

November 2nd, 1932.

PUBLIC HEALTH

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Editorial.

The Health of the School Child: What it Costs.

AS he did in his report to the Minister of Health "On the State of the Public Health," so again in his "Health of the School Child" Report,* Sir George Newman makes reference to finance and to economy. From the figures given it appears that the items of the current expenditure on the school medical service are equivalent to 5 per cent. of the public expenditure on education, and for purposes of comparison it is shown that the average cost per capita for that part of the service which concerns medical inspection and medical treatment is 8s. The variations from this figure in individual cases are extraordinarily wide, one district returning only 3s. 2d.,

* Being the Annual Report of the Chief Medical Officer of the Board of Education for the year 1931. H.M. Stationery Office, 1932. Price 2s. 6d. net.

while another goes up to 21s. 10d. What this may mean it is difficult to say; though, as a matter of fact, it may mean nothing very much. That it may mean that there are opportunities for severe economies and cuttings down is by no means certain. The report itself does not say so, and having regard to the statement made that the subject of expenditure has been under consideration of the Board for some time past, it is probable that, had there been universal and uncontrolled expenditure at the root of the figures grossly exceeding the average, they must have been discovered and the attention of the authorities concerned directed to the need for an overhaul of practice and procedure.

Even in the present report, which appears at a moment when there is something of a spate of publications all critical of governmental and municipal expenditure and exhorting economy, there is little of fault-finding

and very little of what can be described as a strong and strikingly hopeful indication as to the directions in which cuts might be made. True, it is asked if there might not be possibilities of saving on special schools, on school meals, on medical treatment, tonsils and adenoids operations and the cleansing of children. Mostly, however, it is explanation of how the increase in expenditure has come about and justification of the growth and of the spending that is found necessary. The general body of the contents, indeed, properly read and understood, can bring no other conclusion than, on what is done, the expenditure is remarkably small, and for the benefits actually secured the cost is so infinitesimal as to be almost ridiculous. With a sum of round about four million pounds, the nation not only obtains medical inspection and treatment for just under three million children, but provides special schools, play centres, nursery schools and meals in schools, organises physical training, and makes contributions under the Teachers' Superannuation Act.

The benefits obtained in the year under review are as clear and definite as those shown year by year in Sir George Newman's reports. Even more definite, however, and clear to see and to understand, are the benefits that have accrued as a result of the work done throughout the years since the service began: "The fact that each child, sick or well, comes individually into the hands of a doctor and a school nurse three times in its school life, that the health and well-being of each child is supervised, is of fundamental moment. A new kind of self-respect has grown up, a *health conscience*. Of this there is abundant and undisputed evidence—the children as a whole are cleaner, better in physique, better fed, better clothed, better nurtured, than they have ever been since we possessed records of them, and this evidence is clinched by the simple fact that their parents have themselves been through the same hygienic discipline, and *know its value* The death-rate of persons between school age and forty has shown a steady and uniform decline. In 1922 the percentage of all the deaths under fifty years of age was 42.1 of the total deaths; in 1931 this percentage had fallen to 32.8." Faced with such a statement coming from such a source, and backed with such information as the report sets out so convincingly and, in many instances, so fascinatingly, it is not sur-

prising that the Committee on Local Expenditure, so full of ardour as it was, found so little in this connection upon which it considered saving might legitimately be made. Nor will it be surprising if, having read Sir George Newman's report, they proceed to recant, withdrawing what they said by way of criticism of the expenditure on dental work and the possibility of saving a few pounds on tonsil and adenoid operations and the salaries of school nurses.

The 1931 report of the health of the school child, valuable as it is from the point of view of the economist, is even more valuable as a contribution to the body of knowledge with regard to school medical work and the health of school children. As such it will be studied, referred to and quoted by all who are interested in matters affecting childhood, the means of protecting and maintaining the health of the child in school, and the results obtaining from the application of methods adopted and followed in the best organised and most progressive service of the kind in the world.

Epidemiology: Historical and Experimental.

I HAVE long outlived the belief—if I ever entertained it—that truth and what I think I can prove to be truth are identical."

This passage in Professor Major Greenwood's Herter Lectures for 1931, which have just been published in this country* under the title of "Epidemiology—Historical and Experimental," illustrates the highly critical spirit permeating these fascinating lectures, a spirit which is all the more refreshing for its rarity in these days of pseudo-scientific garrulity. But it would be a great mistake to conclude from this evidence of scientific asceticism that there is anything dry or stilted in the author's presentation of his facts and conclusions. On the contrary, this story of the birth and early childhood of the new science of experimental epidemiology is, even for those who are unable to follow the author in all his statistical manipulations, so strongly lit by the steady light of a powerful imagination, and so clearly marked out by the firm strokes of a practised pen, that the reader, as he progresses, experiences all the excitement of

* London: Humphrey Milford, Oxford University Press, 1932. Pp. 80. Price 9s. net.

reaching the summit of a mountain pass from which a new land is seen spread out beneath his feet. Much of this new land is still hidden by the morning mists and our guide, as he carefully cuts and tests each step in the ice, warns us of the care with which we must feel our way till visibility improves.

The first lecture is devoted to a masterly account of the history of epidemiology, a task which, though often attempted, has never resulted in a more illuminating and helpful exposition. It is rather the fashion in this iconoclastic age to neglect or reject with contempt the teachings and experiences of our predecessors, but as Professor Greenwood scornfully remarks, "he who neglects the teaching of their experience, who despises even the errors of the past, is in truth deceiving and deceived," and for such a man there could be no more salutary reading than the work under review.

The remaining two lectures are devoted to a description and discussion of the work done by the author, in conjunction with Professor Topley, Dr. Joyce Wilson, Dr. Ethel M. Newbold, Mr. W. J. Martin, Dr. Isslerlis and Dr. Bradford Hill, on mice.

To attempt an analysis of this portion of the lectures would be beyond the scope of this short notice, and might conceivably have the deplorable effect of satisfying curiosity rather than exciting it, and so deprive some readers of this journal of an intellectual and scientific feast, which is most inadequately described by the author in the following words: "I have communicated to you no discoveries the immediate application of which might lessen the sum of human misery, no methodological principles which might swiftly revolutionise human thought. I have only, very unskilfully, described a biostatistical technique, which, so far, has yielded little but a confirmation of the harsher inductions from human epidemiological experience, those which suggest that the conquest, or control, of some of the commonest of herd sicknesses is far distant."

As an example of such inductions from human epidemiology which have been confirmed by experiments with mice may be mentioned the rôle played by imported healthy non-immunes in precipitating an epidemic of an apparently extinct disease. From the behaviour of his mouse communities and from a consideration of the 1911 epidemic of foot and mouth disease in Holland, Professor Green-

wood concludes that if a community has had past experience of some infectious disease, even the most rigid exclusion of infected individuals and *materies morbi* is not sufficient to prevent the development of an epidemic, unless healthy non-immunes as well as suspected carriers are wholly excluded. Moreover, "the manner of recrudescence of epidemic sickness within a community recruited from healthy non-immunes seems to be a function of the rate of addition"; and again, "the slower the addition rate, the longer the interval between successive waves of disease."

In the third lecture the author describes and discusses experiments with mice designed to throw light on the relative importance of the parts played by acquired immunity and the killing off of susceptibles in the lowering of the rate of mortality which occurs in these mice communities. Though unable to reach any definite conclusions on this point, he considers, however, that "the balance seems to incline in favour of immunisation rather than weeding out as the more important source of advantage to the tested mice." Moreover, as the result of further experiment, he arrives at this interesting decision: that "under the conditions of herd life, no method of artificial pre-immunisation against the particular infections studied (*Pasteurella* and *B. Aertrycke*) would be likely to render animals infection-proof." With regard to pre-immunisation, Professor Greenwood draws the important distinction between the case of individuals exposed to special risk of infection through a limited period and then restored to a relatively non-infective environment, and that in which the unfavourable environment is maintained in perpetuity. In the first case, which applies to soldiers going to war, pioneers in unhealthy lands, etc., the advantage of pre-immunisation is immense, but in the second case this method must wholly fail to control the disease. In other words, pre-immunisation can never replace environmental hygiene and, as the author remarks, "it is fortunate for the world that pre-immunisation against the typhoid group was not discovered in the days of *laissez faire*; had it been, many thousands more would have died of typhoid than actually did."

These few indications of the contents of this small but important volume may suffice to show what a wealth of evidence and suggestion it contains for all students of epidemio-

logy. In fact, no epidemiologist can afford to neglect this new presentation of work which has opened the frontiers of an unknown land, and is already sure of a most honourable place in the history of social pathology.

Acute Poliomyelitis.

IN a memorandum on acute poliomyelitis (166 Med.*), issued towards the end of the year, the Ministry of Health brings up to date the note with regard to this disease first published by the Local Government Board in 1911, and subsequently issued in a revised form in 1917.

Almost coincidentally with the publication of the memorandum there appeared in *The Times* a letter from the Headmaster and Medical Officer of Stowe School, setting out the reasons that influenced the decision to close the school following the occurrence recently of two cases of the disease amongst the boys. From this it would seem that the school authorities are convinced that the line followed was the correct one, though it is also noted that in effect it is stated that if a decision to close had not been arrived at, closure would have taken place almost automatically on account of withdrawals of pupils by their parents.

The view of the Ministry is entirely opposed to that of the Stowe School authorities, the suggestion being, more or less, that there is no necessity for or advantage in pursuing a course in residential schools different from that followed in elementary and other day schools. The happenings in the case of other public schools than Stowe seem to suggest that there is room for more than one opinion. The fact that he has the Ministry behind him if he decides against closure is, of course, a very real help to the medical officer of health, if the school authorities, in fact, seek his advice.

The memorandum contains much of other information and suggestion that will prove of value to the health officer and his local authority in the unfortunate event of the occurrence of an outbreak of this disease, which like other communicable conditions affecting the nervous system, is so apt to prove treacherous and distressing. The notes on the epidemiology of the disease, its clinical and pathological aspects, are sufficiently full to provide the information and guidance that the health officer

• H.M. Stationery Office, 1932. Price 2d. net.

requires, though naturally it is in paragraphs dealing with prophylaxis and prevention that he will find the suggestions of outstanding importance. Amongst precautions against infection, the necessity for strict isolation of the infected for at least six weeks is stressed. Those in immediate contact and engaged in nursing are recommended to use gargles and nasal douches. Adult contacts, it is suggested, need not be interfered with so far as their employment is concerned, though school children in affected households should be excluded for at least three weeks after removal of the patient into isolation. This is necessary on account of the risks from mild and unrecognised cases, as well as from carriers of the infection.

The action to be taken by the medical officer of health on receipt of notifications or on learning of suspected cases of poliomyelitis is very fully set out. Largely the course is one that the officer would more or less automatically set for himself. Nevertheless, it is useful to have in black and white the support of the Ministry for suggestions to be offered that may involve expenditure. It is useful, too, to have the details of procedure set out for reference in order that the possibility of neglecting anything that might advantage those unfortunately attacked, or that might protect others, may be avoided. The special notes on treatment by human convalescent serum, and on the need for orthopaedic treatment being fully available, are definitely not out of place and will be marked by medical officers of health generally.

DR. ALAN C. GAIRDNER has been appointed Medical Superintendent of the St. George-in-the-East Hospital of the London County Council.

IN reply to a number of enquiries regarding the booklet on the history of the Northern Branch of the Society, prepared by Dr. Harold Kerr not long before his death, we are asked to state that a copy of this interesting illustrated publication will be sent to any member who cares to have one, on application being made to Dr. J. A. Charles, Town Hall, Newcastle-upon-Tyne. A penny stamp should be forwarded to cover the cost of postage.

Some Epidemiological Features of the Pneumococcus and its Types.

By A. S. M. MACGREGOR, O.B.E., M.D., D.P.H., F.R.F.P.S., GLAS., Medical
Officer of Health, City of Glasgow.

The pneumonia researches now in progress in Glasgow have attracted and are attracting great attention, and the findings, wide acceptance. This note by Dr. Macgregor, submitted at an ordinary meeting of the Society held in London on November 18th, 1932, will prove extremely useful as a record, and is certain to receive frequent reference and quotation.

THE type-infecting organisms in lobar pneumonia have been studied in Glasgow during the past three years at the Royal Infirmary and at the hospitals for infectious diseases as part of a comprehensive scheme of clinical and bacteriological investigation under the general guidance of Dr. John M. Cowan, Consulting Physician to the Infirmary, and of Dr. Robert Cruickshank, on the bacteriological side. Two papers¹ have been published by these authors along with others. The second embodies the results of the treatment of 137 cases of lobar pneumonia by Felton's serum at the Royal Infirmary, and includes a study of the types of pneumococci recovered from a series of 737 patients, most of whom were admitted during the period to Belvidere Fever Hospital under Dr. James Montgomery. Other investigations by Dr. Ian Christie² at Knightswood Fever Hospital, and by Dr. Thomas Anderson³ at Ruchill Fever Hospital, into the incidence of the various types of pneumococci in acute lobar pneumonia, in convalescent patients and in contacts, are in various stages of progress or are in course of publication. These results of typing, when collected together, furnish a considerable volume of evidence bearing on type incidence in lobar pneumonia, and I have, at the suggestion of Dr. Cowan and with the consent of these investigators, borrowed certain of their results in order to discuss them as a whole in

relation to some of the general epidemiological features of lobar pneumonia in the city. The information available about the behaviour of the pneumonias is partial, and many of the following observations are therefore of a tentative character.

Case Mortality of Lobar Pneumonia.—Lobar pneumonia in Glasgow is most prevalent and as a rule most severe during the first six months of the year, particularly in February, March and April, which is apparently its period of choice. About half the patients reported are admitted to the hospitals for infectious disease, and a further considerable proportion to the general and voluntary hospitals. In the absence of an accurate knowledge of its incidence, we are dependent on hospital data for information as to the general characteristics of the disease throughout the year. Statistics furnished by the medical superintendents of the three larger fever hospitals, Belvidere, Ruchill and Knightswood, have been used to calculate the case mortality of patients treated in hospital since January, 1930, and the figures may be taken to represent about one-half of the cases of lobar pneumonia occurring in the city. Table I gives these hospital cases and deaths arranged in four-monthly periods.

It is the common experience in Glasgow that the most severe cases occur during February, March and April, and this is borne out by the mortality figures of 21.1 and 20.3 for the first

TABLE I.

LOBAR PNEUMONIA, GLASGOW.—CASE MORTALITY OF HOSPITAL PATIENTS IN FOUR-MONTHLY PERIODS.

[illegible]

four months of 1930 and 1931. On the other hand, in 1932 there was a high incidence, but with a low mortality of 13.6 per cent. The comparative mildness of the pneumonia of the early part of 1932 may have been due in part to a lessened prevalence of the more severe type II infections in the city (Cowan, Harrington, Cruickshank, Cuthbertson and Fleming⁴—see page 119). In the first six months of 1930 there were admitted to hospital 598 cases with 108 deaths, in the second six months 411 cases and 60 deaths; the figures for 1931 were 692 cases and 130 deaths, and 476 cases and 48 deaths respectively. Thus lobar pneumonia has a distinct predilection for the early months of the year. Again, the hospital case mortality may differ considerably when similar periods of successive years are compared. How much of this difference may be due to change in type incidence and how much to altered age incidence are points still to be determined.

Incidence of Types among Infecting Organisms.—Table II shows the classification into types of the pneumococci recovered from 1,077 patients admitted to various hospitals as

above, over the period from January, 1930, to the middle of this year. The numbers are sufficient to form a fairly representative sample of acute lobar pneumonia occurring in the city between these dates, although it must be remembered that grouped statistics of this kind may conceal variations in individual years or parts of a year due to seasonal influence, age incidence or severity, and may cover dissimilar phases of the epidemic picture presented by lobar pneumonia.

The combined results show that pneumonia of types I and II together formed 74 per cent. of all the cases, and that these two types occurred in almost equal proportions, i.e., 38 and 36 per cent. Type III organisms were present in 4 per cent., while the remainder, or 22 per cent., fell into group IV. These relative proportions varied within small limits in each of the series, but the numbers in series 2, 3 and 4 are too few to be conclusive as to change of type frequency over the periods studied. With regard to this point, however, Cowan, Harrington, Cruickshank, *et al.*,⁵ in their larger series (No. 1) found some evidence of variation in the incidence of types I and II

TABLE II.
GLASGOW.—TYPE-INFECTING ORGANISMS IN LOBAR PNEUMONIA.

Series.		Numbers and Mortality Rates.				Total.	Period of Investigation.
		Type I.	Type II.	Type III.	Group IV.		
1	Royal Infirmary and Belvidere Hospital (Cruickshank)	277	255	31	174	737	February, 1930, to April, 1932. (137 cases had serum treatment)
	Percentage of Total	37.6	34.6	4.2	23.6	100.0	
	Deaths	26	47	14	15	102	
	Case Mortality per cent. .. .	9.4	18.4	45.2	8.6	13.8	
2	Knightswood Hospital (Pratt)	38	35	4	23	100	February to June, 1930.
	Percentage of Total	38.0	35.0	4.0	23.0	100.0	
	Deaths	3	3	1	2	9	
	Case Mortality per cent. .. .	7.9	8.6	25.0	8.7	9.0	
3	Knightswood Hospital (Christie)	50	44	2	22	118	November, 1931, to July, 1932.
	Percentage of Total	42.4	37.3	1.7	18.6	100.0	
	Deaths	12	11	2	1	26	
	Case Mortality per cent. .. .	24.0	25.0	100.0	4.5	22.0	
4	Ruchill Hospital (Anderson)	45	54	5	18	122	October, 1931, to July, 1932.
	Percentage of Total	36.9	44.3	4.1	14.7	100.0	
	Deaths	3	15	1	2	21	
	Case Mortality per cent. .. .	6.7	27.8	20.0	11.1	17.2	
Total Cases		410	388	42	237	1,077	
Percentage of Total		38.1	36.0	3.9	22.0	100.0	
Total Deaths		44	76	18	20	158	
Case Mortality per cent. .. .		10.7	19.6	42.9	8.4	14.7	

from year to year. For instance, "In the period February-August, 1930, the incidence of types I, II, III and group "X" was 32, 45, 2 and 19 per cent.; in the period September, 1930—August, 1931, 37, 32, 5 and 24 per cent.; in the period September, 1931—April, 1932, 42, 29, 4 and 24 per cent."† They conclude that type II was less prevalent in the past winter, a point in keeping with the relative mildness by which the disease was then characterised, as shown by the hospital mortality figures previously quoted.

Variation in Type Frequency.—There was, however, no marked tendency for either of the first two types to assume enhanced responsibility for the pneumonias of any one year to anything like the extent that has been noted elsewhere. It appears that variations in type incidence may occur as between one locality and another, and in the course of time in the same locality. In Edinburgh the proportions found by Alston and Stewart⁶ in 186 cases in 1929-30 were:—type I, 29; type II, 40; type III, 4; and group IV, 27 per cent. These authors remark that "It is interesting to compare our findings with those of Davidson and McLachlan, who found during 1924-25, type I in 60 per cent. of cases, and type II in only 12 per cent.," a considerable change during the past five years. F. Griffith⁷ notes a similar alteration of type incidence between 1920 and 1927, finding that, while type I remained fairly constant, type II diminished from 32.6 to 7.4 per cent., group IV increasing from 30 to 53.7 per cent. A tendency for the more severe type II to vary widely in incidence from year to year would be a matter of considerable epidemiological importance, but could only be settled by much more extensive and prolonged local investigations.

The type frequency figures found in this investigation are, on the whole, similar to those obtained elsewhere in Britain, which show that 60 to 70 per cent. of the pneumonias are related to types I and II. F. Griffith⁸ summarises the general experience in these terms: "Though variations are observed from year to year in different districts of the same country and in one country as compared with another, the following figures represent the

* Group "X" is synonymous with group IV.

† Dr. Cruickshank has since furnished me with the more complete figures for the period September, 1931—August, 1932, which are: type I, 37; type II, 30; type III, 4; group "X," 29 per cent.

approximate proportions of the various types in Great Britain and the United States of America, viz., type I, 30-40 per cent.; type II, 20-30 per cent.; type III, 0-16 per cent.; type IV, about 30 per cent." In the Glasgow series, type II (36 per cent.) was rather higher than this average. Dr. Griffith remarks: "It is a fact of considerable interest, from the epidemiological standpoint, that the incidence of the chief types of pneumococci in lobar pneumonia is so nearly the same in countries with similar climatic and social conditions." It may be concluded that the pneumococci of types I and II, which were found in three-quarters of the Glasgow cases, were the principal infecting organisms and, therefore, of most epidemiological significance.

Case Mortality according to Type.—The case mortality of the four series combined (which includes 137 patients treated by serum in the Royal Infirmary*) was 14.7 per cent.; that of type I being 10.7 per cent.; type II, 19.6 per cent.; type III, 42.9 per cent.; and group IV, 8.4 per cent. These figures are in accord with the general experience that type II pneumonia is more severe than that of type I, that type III is the most fatal of all, but is fortunately infrequent, and that those falling into group IV are relatively mild. Pneumonia in the United States is more severe than this. Type I has a general case fatality of 25 per cent.; type II, 32 per cent.; type III, 4.5 per cent.; and group IV, 16 per cent. (Craster⁹). When the different series composing the table are compared, it will be observed that the individual case mortalities varied from 9 per cent. in the second series to 22 per cent. in the third series, and that the figures for types I and II varied in a similar manner. This may be attributable to the accident of admission to hospital of patients of differing age-groups and severity of the affection, as well as to the small numbers included in each series. The evidence is insufficient to show to what extent the seasonal incidence and severity of lobar pneumonia may be due to a heightened virulence of the prevailing types. These hospital mortality figures for different periods indicate that great caution must be exercised in appealing to case mortality rates

* These serum-treated patients comprised five cases and one death untyped. The remainder were as follows: Type I, 44 cases with 2 deaths; type II, 45 cases with eight deaths; type III, six cases with five deaths; group "X," 37 cases with four deaths.

in endeavouring to estimate the clinical results of specific treatment. Controls should be provided for simultaneously with the cases whose treatment is being investigated.

Case Mortality of Lobar Pneumonia according to Age and Type.—Table III has been prepared to show for the complete series of cases (except series 2) the incidence and severity of the several types in relation to the age of the patient.

Whatever the infecting organism, the mortality increases rapidly with age. At ages from 5 to 15 pneumonia has a negligible mortality, at 15-25 the fatality is small at 6 per cent., at 25-35 it is 15 per cent., at 35-45 it reaches 26 per cent., and is highly fatal at later ages. Type II infections have a slightly greater predilection for older persons, while, generally speaking, they are about twice as fatal as those of type I. Type III has a low incidence, is more common in later years, but is the most severe infection of all. Group IV infections occurred more frequently at ages under 15 and over 45, and were the least serious, being less fatal than type I at all age-groups except between 15-25 years. The rapid increase of fatality with age is a striking feature, and raises a number of important epidemiological issues. To what extent does this depend on predisposing causes such as the general state of health, the vague condition

implied in the term "constitution"? Do certain occupations provide greater opportunities for infection? What is the relationship between age and heightened susceptibility during the early months of the year? Does age incidence differ as between more northerly and more southerly parts of the country, and what is the influence of climatic conditions? Is an attack of pneumonia preceded by some recognisable alteration in the state of health of the individual? These are etiological problems which bacteriological and biochemical investigation, combined with field studies, may assist in solving.

General Considerations.—The bacteriological investigations show that the winter epidemic prevalence of lobar pneumonia is associated with increased activity of the first two types of pneumococci. These types tend to maintain their own degree of virulence. The epidemiological picture of the disease, while it may be influenced to some extent by variation in the relative prevalence of these types, is probably even more dependent upon the greatly enhanced susceptibility to infection as age advances and upon the influence of environment in determining the age incidence and severity of the disease. The results obtained suggest these broad generalisations; they are, of course, subject to the limitation that they cover the short period of three years

TABLE III.

GLASGOW.—AGE DISTRIBUTION OF CASES AND DEATHS ACCORDING TO TYPE OF ORGANISM.

Age-Groups.	Type I.	Type II.	Type III.	Group IV.	Totals.
5-15 Cases	59	31	6	46	142
Percentage of Age-Group	41.6	21.8	4.2	32.4	100.0
Deaths	1	1	—	—	2
Mortality per cent.	1.7	3.2	—	—	1.4
15-25 Cases	111	123	6	69	309
Percentage of Age-Group	35.9	39.8	1.9	22.4	100.0
Deaths	4	9	2	4	19
Mortality per cent.	3.6	7.3	33.3	5.8	6.1
25-35 Cases	93	73	7	35	208
Percentage of Age-Group	44.7	35.1	3.4	16.8	100.0
Deaths	10	18	2	2	32
Mortality per cent.	10.7	24.7	28.6	5.7	15.4
35-45 Cases	72	77	5	22	176
Percentage of Age-Group	40.9	43.8	2.8	12.5	100.0
Deaths	14	24	4	4	46
Mortality per cent.	19.4	31.2	80.0	18.2	28.1
45+ Cases	37	49	14	42	142
Percentage of Age-Group	26.1	34.5	9.9	29.5	100.0
Deaths	12	21	9	8	50
Mortality per cent.	32.4	42.9	64.3	19.0	35.2

Note.—Series 2 not included; table includes the serum-treated cases.

and are not sufficiently extensive to enable a more minute examination to be made of the precise function assumed by the types of pneumococci in relation to the prevalence and severity of lobar pneumonia at different periods of the year. The question, however, arises—does the further elucidation of the epidemiology of the disease resolve itself into a separate study of the intimate behaviour of each of these types and even of the numerous components of group IV on the basis that the known serological types at any rate are stabilised and unalterable? Discussion sometimes proceeds on this assumption, but it is impossible to disregard the significant fact established by F. Griffith¹⁰ that transmutation of type does occur under experimental conditions, or to ignore the possibility that the same conversion may also take place in the human body, although it must be admitted that this has not so far been proved. It would seem to be necessary, therefore, to reserve judgment and to exercise caution in attributing to types I and II a paramount importance in the spread of pneumonia until this and other questions are definitely answered. Again, are these serological types specific in a strictly genetic sense, i.e., does the implantation of type I or II pneumococci into a respiratory tract previously free from them, and the resulting development of lobar pneumonia in consequence, represent the correct sequence of events? Answers to these questions would add an important contribution to knowledge of the epidemiology of the disease.

Transmission of Infection.—Certain of the investigations in Glasgow have been directed to this problem. As regards the predominating types I and II, two sets of observations may be mentioned: (1) These organisms may persist during and long after convalescence, though as a general rule they tend to disappear and to be replaced by a group IV strain (Griffith¹¹). Cruickshank and Montgomery¹² found, in 250 cases examined at varying periods after the crisis, that 61 per cent. were positive up to four days, 50 per cent. up to 16 days, and 35 per cent. up to 24 days. The duration of persistence may be much longer, however, since these observers found that the organism was, in fact, recoverable 6 to 12 months later in 12-15 per cent. of the cases. Christie¹³ found that 24 per cent. of his patients were positive on discharge from hospital. The carrier condition may thus be-

come well established. (2) Contacts with patients in the same hospital ward, whether other patients or nurses in attendance, are liable to harbour these pneumococci in the respiratory passages. For instance, Cruickshank and Montgomery¹⁴ obtained positive results in 18 per cent. of 189 contact nurses and in 17 per cent. of 156 contact patients. Christie found 13 positive in a series of 80 examinations of contact nurses; the duration of infection was evidently transient, as a persistent positive result was obtained in only one of these ward contacts. Out of 148 examinations of nurses in the same hospital but not in pneumonia wards, the results were negative for types I and II, although organisms of group IV were present in 40-60 per cent. and type III in 6 per cent. This corroborates the American results among contacts of Avery, Chickering, Cole and Dochez (1917), and as more recently reported by Heffron.¹⁵ The former also found that the room dust of wards in which pneumonia patients were being nursed contained type I and II organisms in over 30 per cent. of samples examined.

Accordingly, the general experience is that organisms of type III, and, to a much greater extent, of group IV, are commonly present in the nasopharynx of healthy persons, whereas those of types I and II seldom occur except in those convalescent from an attack of pneumonia, or in contact with pneumonia patients. On theoretical grounds, therefore, it is inferred that the occurrence of the pneumonias of group IV are explicable on the basis of auto-infection, and that those of types I and II are spread directly or by carriers. It is impossible, however, at this stage of investigation, to say what epidemiological significance attaches to the carrier condition, because (a) nurse contacts rarely contract the disease and as rarely appear to infect their colleagues in hospital; (b) convalescent carriers discharged from hospital do not give rise to "return" cases; and (c) pneumonia wards where patients are concentrated do not appear, as a rule, to act as disseminators of infection, although certain striking exceptions to this have been recorded in the form of highly infectious institutional outbreaks. It may be concluded that there is a wide susceptibility to the carrier state, but a low susceptibility to the disease itself. These features resemble, though more obscurely, those associated with the meningococcus. It is possible,

however, that field studies accurately conducted may show that direct contact plays a more definite part in the spread of lobar pneumonia than is generally supposed. Several instances of this have been collected by Cruickshank and Montgomery.

Epidemiology of the Acute Pneumonias.—

The hospital data given above suggest that lobar pneumonia has a wave of increased incidence during the early months of the year. Is it possible to separate lobar pneumonia from the mass of pneumonic affections in the population with sufficient accuracy to enable some idea of its epidemiological characters to be obtained? How far do such vital statistics as are available enable the behaviour of lobar and broncho-pneumonia to be contrasted? This is an extremely difficult problem for many obvious reasons. The pneumonias are a highly composite group. Apart from the fact that the respiratory affections which are notifiable under the generic term "acute primary pneumonia" include both lobar and broncho-pneumonia, difficulties of diagnosis between broncho-pneumonia and acute bronchitis, and the secondary pneumonias in young children and the aged, render accurate studies impossible. Even if all cases were faithfully notified* these difficulties would remain. Although notification data lose most of their value for detailed study because of their incompleteness and liability to error, they serve the purpose of revealing the general mass movement of these acute diseases of the lungs. For instance, in the statistical picture of winter incidence based on notifications, those referable to younger children, and in a less degree to the aged, may be taken to represent the movement of acute broncho-pneumonia, while pneumonia in the intermediate ages may be regarded, in the absence of influenza, as mostly lobar in type.

As regards death certification, it has been a growing practice for medical practitioners to distinguish between the pneumonias in completing the death certificate. In this respect a distinct advance has recently been made. The International Classification of Causes of Death, which came into operation throughout the country in January, 1931, makes provision for discarding the use of the term "pneumonia," which is listed as an "indefinite"

* Probably not less than 76 per cent. of acute pneumonias are notified in Glasgow.—C. M. Smith, *Journal of Hygiene*, April, 1926.

and "undesirable" term to be avoided in the certificate, the further information asked by the Registrar-General, if available, now being—Was the case one of lobar or of broncho-pneumonia? This insistence on better classification of the cause of death should in time assist in distinguishing the fatal lung infections more accurately than has hitherto been possible, and enable such etiological factors as age and sex incidence in different localities to be ascertained.

These difficulties impose a considerable barrier to an accurate study of the epidemiology of the acute pneumonias. As regards their incidence, the only material available is furnished by the general volume of notified cases, which, of course, embraces pneumonia of all kinds. It is possible, however, to differentiate roughly between lobar and broncho-pneumonia on the basis of death certification. The extent to which these conditions are separable in practice for statistical purposes is shown in table IV, which gives for 1931 the deaths certified as broncho-pneumonia and as lobar pneumonia, along with those "not otherwise defined."

It will be observed that broncho-pneumonia is, in the main, an affection of the very young and the very old, and is relatively uncommon as a cause of death at intermediate ages, and that most of the undefined pneumonias refer, as might be expected, to the extremes of life. Between the ages of 10 and 55 undefined pneumonia creates least confusion. For instance, between these ages there occurred 253 deaths from lobar pneumonia, 63 from broncho-pneumonia and 56 undefined, a figure which forms 15 per cent. of the total deaths at these ages. It is clear that death certification is not yet very accurate, but an attempt has been made to obtain some idea of the seasonal incidence of deaths from lobar pneumonia as contrasted with broncho-pneumonia by using the data referable to the age group 10-55, where there is least dubiety as to the cause of death. The available material by which the behaviour of these two affections may be contrasted is set out in chart I on page 124, which has been constructed to show for the period January, 1930, to June, 1932, the general mass movement in weeks of the notified pneumonias, along with the recorded deaths. Graphs are included showing the course of the weekly mean temperature and the weekly rainfall in Glasgow. The lower

part of the chart shows the deaths certified from week to week as lobar and broncho-pneumonia between the ages of 10 to 55 years. This attempt to dissociate these two affections reveals quite definite differences in the seasonal course of the respective curves of the deaths throughout the period studied.

Incidence of Pneumonia as a Whole.—The incidence of the pneumonias as a whole is at its lowest in August and September. The highest points occur between November and April, and during this period high epidemic prevalence may be reached either before or after the end of the calendar year. In fact, the acute respiratory experience of the city differed in each of the three years under review. In 1929-30 the winter prevalence took the form of a sustained fluctuating curve falling gradually from April to July. (The relative portion of the chart for 1929 has been omitted.) The curve remained unaffected during a period of cold, foggy, dry weather in February. In 1930-31 an abrupt ascent took place in the middle of November, reaching epidemic proportions (320 to 360 notifications and 60 to 70 deaths per week) during the first three weeks of December. This incident coincided with a falling mean temperature associated with intermittent foggy weather and variable rainfall. A secondary peak occurred towards the end of February. In 1931-32 the salient feature was the onset of a sudden explosive incidence lasting for ten weeks from the end of February to the beginning of April. In each of the three weeks ending February

20th and 27th and March 5th there occurred 360 to 370 cases and 90 to 100 deaths. This episode coincided with the lowest mean temperatures of the year and an absence of rain or fog, i.e., during the cold, dry clear weather of February.

Incidence of Lobar Pneumonia.—Taking the curve in the lower portion of the chart, which represents deaths from lobar pneumonia between 10 and 55 years of age, it will be observed that the weekly incidence of deaths proceeds throughout the year in a manner which betrays little relationship to the much more decisive and steep fluctuations of acute broncho-pneumonia. For instance, during the period of high epidemic prevalence in November-December, 1930, which was due to broncho-pneumonia, there was no corresponding movement of lobar pneumonia, the latter remaining little affected. Again, during the similar high incidence of cases and deaths in February, 1932, lobar pneumonia, although prevalent, was comparatively mild in character. In each of the three years a definite rise in the incidence of the deaths from lobar pneumonia took place in the early months of the year, in particular during those of February-April, and there was little tendency to fluctuate at other periods. To make these points clearer, a second chart (No. II) has been prepared to show the contrast between broncho-pneumonia and lobar pneumonia (a) at all ages, and (b) at ages between 10 and 55 years. These curves indicate that during the period studied, lobar pneumonia has tended to pur-

TABLE IV.
GLASGOW.—DEATHS FROM PNEUMONIA, 1931.

	Broncho-Pneumonia.			Lobar-Pneumonia.			Pneumonia (not otherwise defined).		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
-1 year	216	106	322	10	10	20	43	28	71
-2 years	123	87	210	4	3	7	22	11	33
-5 "	45	36	81	5	5	10	14	8	22
-10 "	13	13	26	7	1	8	2	4	6
-15 "	1	—	1	6	3	9	3	2	5
-20 "	4	1	5	10	2	12	1	—	1
-25 "	1	—	1	10	4	14	3	1	4
-35 "	6	7	13	39	12	51	6	4	10
-45 "	9	11	20	63	23	86	9	9	18
-55 "	12	11	23	67	14	81	11	7	18
-65 "	20	11	31	51	20	71	17	14	31
-75 "	24	38	62	34	20	54	18	10	28
+75 "	15	29	44	6	7	13	2	9	11
Totals	489	350	839	312	124	436	151	107	258

CHART I.

GLASGOW: PNEUMONIA 1930-1932

Diagram showing weekly No. of (1) Cases of Primary Pneumonia Registered (2) Deaths (3) Temperature F° (4) Rainfall in inches

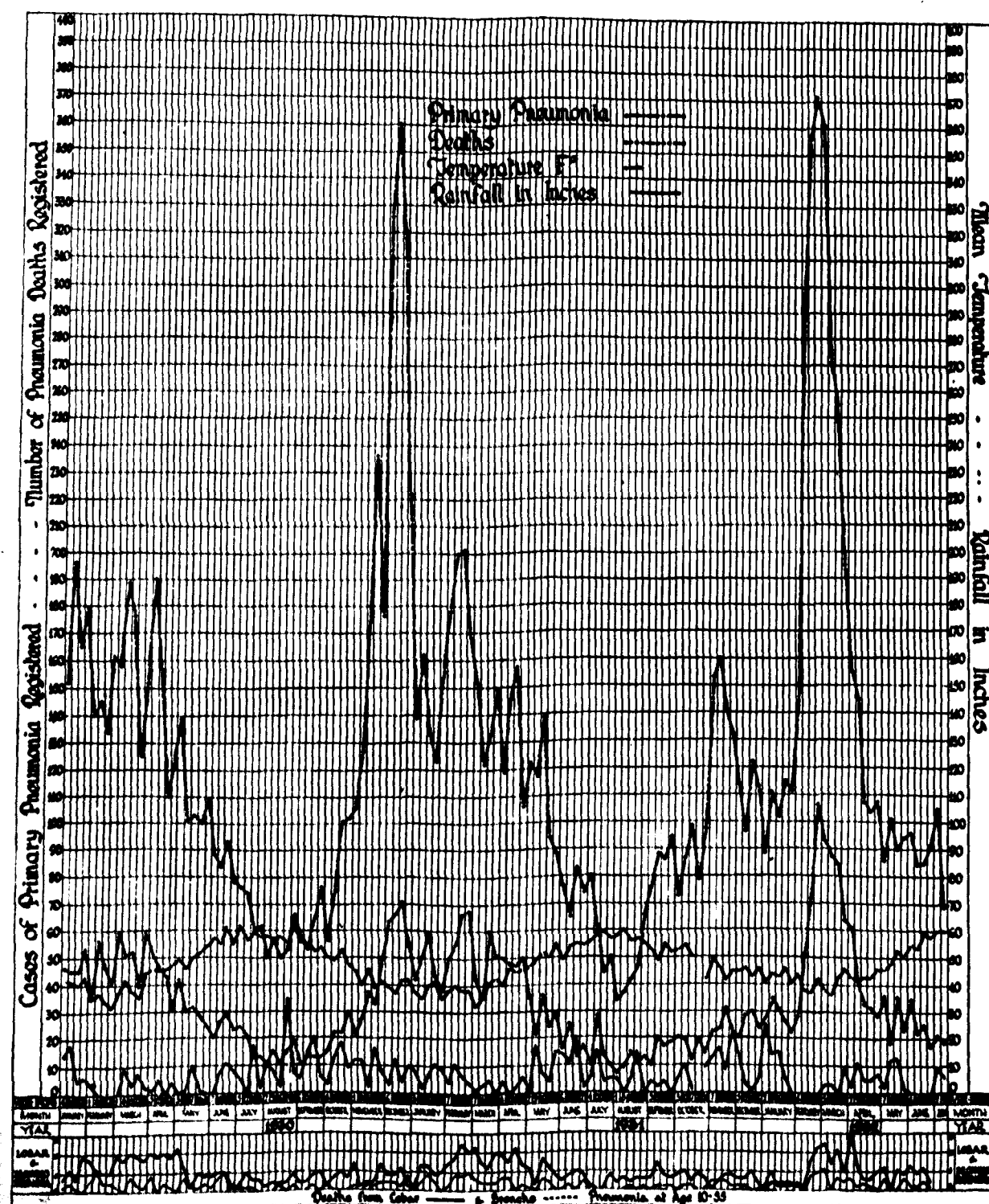
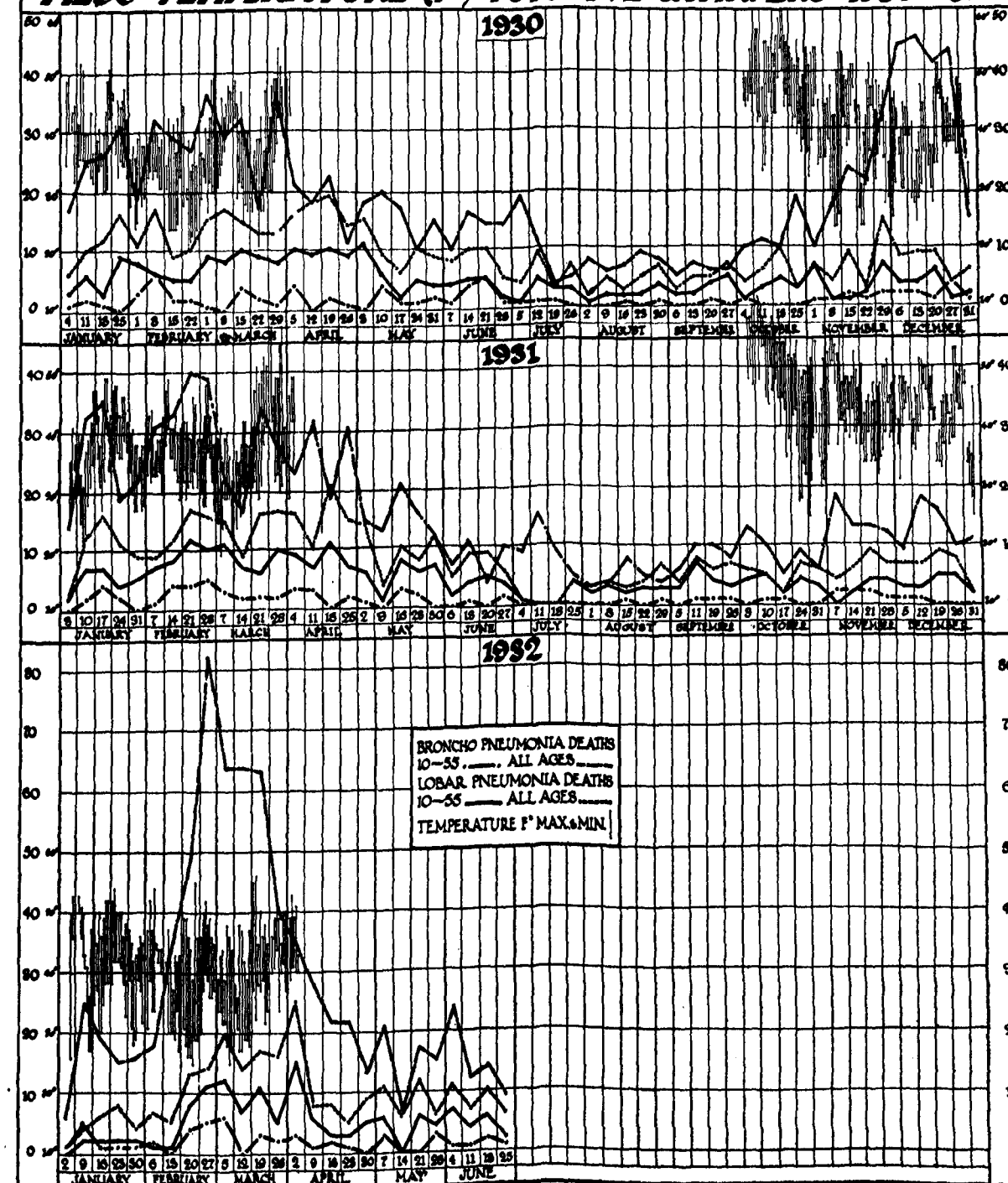


CHART II.

GLASGOW DEATHS FROM LOBAR & BRONCHO PNEUMONIA 10-55 YEARS & OTHER AGES ALSO TEMPERATURE (F°) FOR FIVE QUARTERS 1930-32



sue a regular and undeviating seasonal course, scarcely at all influenced by such conditions as have caused broncho-pneumonia to exhibit irregular and wide fluctuations. This attempt to dissociate the incidence of lobar pneumonia from that of broncho-pneumonia is, of course, based on rather imperfect data, but permits of the suggestion that lobar pneumonia has distinct epidemiological characters of its own.

Relation of Broncho-pneumonia to Weather Conditions.—The weekly mean temperatures have been inserted in chart I and the daily maxima and minima in chart II for the first three months of each year. These graphs indicate, in a general way, that the pneumonias as a whole tend to rise in incidence as the mean temperature falls, especially when it descends below 40°F. It is not, of course, possible from these data to make a critical study of the weather conditions which promote pneumonia. This has been investigated very fully in Glasgow by Matthew Young¹⁶, as regards the acute lung affections in children under five years of age, using the combined statistics of 54 years from 1857 to 1910. Keeping in mind the fact that what is now called broncho-pneumonia was commonly certified as bronchitis in former years, he preferred to group the statistics for the two diseases combined as affording the more accurate data for mathematical correlation. His conclusions were that a definite inverse relationship exists between the mortality from respiratory disease, or bronchitis and pneumonia summed together, and the mean temperature, especially that of the preceding week. The mortalities from bronchitis and pneumonia in children are not influenced in any consistent manner or degree by the amount of rainfall. His separate studies as regards children under five in London, Glasgow, Edinburgh, Aberdeen and Dundee yielded similar results.

While low mean temperatures and high mortality in acute respiratory disease in young children may be accepted as being definitely related, the incidence of the deaths from the pneumonias as a whole during the three years, as shown by the charts, cannot be explained entirely on this basis. The very dissimilar movements of broncho-pneumonia were not accompanied by equally dissimilar variations in the course of the mean temperature. It may be found on more critical and detailed examination that broncho-pneumonia is highly sensitive to finer diurnal temperature

variations. Some such association is hinted at in chart II (where the daily maximum and minimum temperatures are plotted out) as regards the first three months of 1930 and 1931. On the other hand, the epidemic curve of broncho-pneumonia during the same period of 1932 much exceeds what might have been expected if the influence of temperature had been alone responsible. It is more probable that some unknown epidemiological factor, other than weather conditions alone, comes into play in determining the incidence of broncho-pneumonia from year to year.

The total pneumonia curve comprises two distinct components, the one the curve of broncho-pneumonia, which pursues an erratic course, rising and falling at irregular periods; the other the curve of lobar pneumonia, which shows an orderly progress, rising early in the year and remaining high till April, thereafter persisting at a lower level for the remainder of the year.

SUMMARY

(1) The incidence of the various types of pneumococci in lobar pneumonia has been ascertained during the past three years in 1,077 hospital patients. Pneumococci of type I were present in 38 per cent., type II in 36 per cent., type III in 4 per cent., and group IV in 22 per cent. These figures are much the same as those found elsewhere in this country, except that type II is higher than the general average.

(2) The case mortalities were: type I, 10.7 per cent.; type II, 19.6 per cent.; type III, 42.9 per cent.; and group IV, 8.4 per cent.; the total mortality being 14.7 per cent. This also is in accord with the general experience. Whatever the infecting organism, the case mortality rises rapidly with age, while type II is almost twice as fatal as type I at all ages. Group IV infections are least serious, and occur most frequently in the young and the old. Type III is more common in later years, and is the most severe infection of all. The age of the patient is the most important factor in mortality, a feature which raises a number of epidemiological questions not yet settled.

(3) Case mortality varies considerably at different periods of the year and also when the same periods of successive years are compared. How much of these differences may be due to change in type incidence and how much to altered age incidence are points still to be

determined. Alterations in type frequency to the extent noted elsewhere have not been observed.

(4) The more severe type II infections were less prevalent during the winter of 1931-32, but the data are insufficient to enable a minute estimation to be made of the precise function assumed by types I and II in relation to the seasonal prevalence and severity of lobar pneumonia. What epidemiological significance is to be attached to these types? It is doubtful whether the known serological types are to be regarded as stabilised and unalterable, in view of the experimental evidence that transmutation of type does occur. The possibility that this may also take place as regards human infections suggests caution in attributing to types I and II a paramount importance in the spread of pneumonia.

(5) As regards transmission of infection, the results obtained corroborate those of other observers. Pneumococci may persist in the nasopharynx of convalescent patients for long periods. They are also readily found in nurse and patient contacts in hospital wards. The carrier condition is thus readily established. On the other hand, there is little evidence of direct infection by carrier patients or by contacts. It may be concluded that there is a wide susceptibility to the carrier state and a low susceptibility to the disease itself.

(6) The epidemiology of the pneumonias as a whole is discussed and a comparison made between the behaviour of lobar pneumonia and broncho-pneumonia in so far as the available data permit. It would appear that lobar pneumonia shows a periodic peak seasonal incidence from February to April, remaining at a lower level during the rest of the year, while broncho-pneumonia tends to pursue an erratic course and to exhibit irregular and wide fluctuations. This attempt to dissociate the incidence of lobar pneumonia from that of broncho-pneumonia is, of course, based on rather imperfect data, but permits of the suggestion that lobar pneumonia has distinct epidemiological characters of its own.

This description of pneumonia in Glasgow is based on the work of others, whose generous contributions to it are mentioned in the text. I am, in addition, indebted to Dr. John M. Cowan, Dr. Robert Cruickshank and Professor C. H. Browning, for their advice and assistance. Acknowledgment is also due to Dr. Thomas Archibald, Dr. William Elliott and

Dr. William Dow, the superintendents of the fever hospitals, for analyses of hospital data, and to Mr. William McKean, on the epidemiological side.

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DISCUSSION.

Dr. Robert Cruickshank (Royal Infirmary, Glasgow) in a written communication, said:—

Until recently the classification of the pneumococcus into its numerous serological types has been regarded as a matter of academic interest to the bacteriologist rather than of practical significance to the physician or public health officer. The advances made in the treatment of lobar pneumonia by specific anti-pneumococcus serum have, however, focussed attention on the serological typing of the pneumococcus, and with it there has developed a new interest in the epidemiology of pneumococcal infections. Most of our knowledge on the subject comes from America, and Dr. Macgregor's communication is, therefore, to be welcomed as the first serious attempt in Britain, since Griffith's pioneer work, to discuss certain epidemiological features of pneumonia in the light of our newer knowledge.

Before commenting on certain points in Dr. Macgregor's paper, I should like to say a word about the technique of the serological typing of pneumonia. The method is not difficult, and much of it can be done by a careful technician. Advantage is taken of the fact that the pneumococcus is highly virulent for the mouse; a fresh specimen of sputum from the pneumonia patient is injected into the peritoneal cavity of a mouse by a qualified medical man holding a license, and in 8-24 hours the animal is dead of a pneumococcal peritonitis. The peritoneal exudate is washed out with saline and the practically pure emulsion of pneumococcus is tested for its agglutinability with the anti-pneumococcal sera for types I, II and III, which sera can now be obtained commercially. The Sabin "stained slide" method, where the agglutination is demonstrated microscopically on the

Ut Ita Dicam.

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

The December Meeting.

It is easy to find explanation of why the attendance at the final ordinary meeting of the year was so small. In the first place, there was no Council meeting to bring a certain number of people to headquarters; also the date of the meeting was too near Christmas, and there were counter-attractions in the shape of the meeting of the Court of Governors at the new School, and of the examiners, or some of them, at the Royal Sanitary Institute. The subject for discussion, "The Recent Trend of Cerebro-Spinal Fever," was one that more or less suggested that there might be a goodish attendance: more, at any rate, than eighteen or twenty, falling away to about a dozen. Of those who remained at the end of the paper, that took over an hour to read, several made further contribution; one in particular used the opportunity for making a number of pertinent observations on the question of paper-reading and discussion-opening in general. Apparently what he objected to mainly was the attempt made, by the less experienced especially, to cover too much ground: failing to recognise that if people attended meetings at all for the purpose of listening to papers, they were not prepared to listen for long. The fact is, when people get to a certain age—not so great an age, either—they do not go anywhere to listen: they go to be critical and to talk: not to hear of the experiences of others, but to tell their own. For the young and the enthusiastic this is rather pitiful. It is so very hard to learn that the real secret of writing papers is not putting things in, but leaving things out.

On the Opening of Discussions.

As regards opening discussions, the attitude should be: "I am not here to argue with you; nor even to tell you anything. My object is to provide you with an opportunity for telling me what an awful lot you know about my subject." The time occupied in impressing the extent of the erudition of the audience upon the audience should never on any account exceed twenty minutes at the very outside. Only the smallest amount of ground should be covered, and the minimum number of ideas uncovered. Of these, only a few should be discussed at any length. To an audience the most attractive contents of a

paper are those read into it by the audience. A set lecture is an entirely different thing, of course. The audience here is either prepared to concentrate for an hour or ready to endure boredom for that period. Speaking generally, a Society meeting is no occasion for a lecture. A twenty-minutes talk is what is wanted: unless, of course, one is a named contributor to a symposium, when ten minutes should be the utmost limit. I do not know if all this, or any of it, is what the objector at the meeting said. Some of it sounds like my own views, which I offer for the benefit of my younger colleagues in all sincerity and kindness. To them I say this also, that though possibly on occasion there may be room for criticism on account of the length of the contributions, there is little enough on other grounds, any of them practically being fit for publication as they stand. Which is something that cannot be said of papers coming from the members of other branches of the profession.

Mind Your Trends.

Another thing I should like to say has reference to the use of the word "trend" in the titles of papers. This is a very attractive and useful word, and I am so afraid that it may become a blessed word and be overworked. For that reason I trust that paper-readers and writers will impose a self-denying ordinance upon themselves and employ it only when it is appropriate, and not merely because it looks or sounds fine and clever. Personally, I wept not at all when that fine old phrase "team-work" disappeared, and shall not mourn when the epidemiologists begin to purge their vocabulary of words—"stochastic" (my goodness!) for example—and phrases included mainly apparently with the object of providing epidemiology with a vocabulary. "Trend" is different, somehow, and I should hate to see it go. For that reason, therefore, I beg that it should be used only as and when it is needed, and its use is proper to the occasion and the treatment of the subject.

By Way of Amendment and Apology.

Being, naturally, very pleased about it, the Council at its last meeting expressed its gratification at the appointment of Dr. Picken as

Chairman of the Public Health Committee of the British Medical Association. Though it was completely unnecessary to explain the gratification felt, a note was added to the effect that this was the first occasion upon which this appointment had been given to a medical officer of health. That the people who made this claim, and those who accepted it so enthusiastically, were convinced of its accuracy, there is no doubt. But they were wrong. Some years ago there was one Herbert Jones, much loved, much respected and much relied upon in the counsels of the Society. Curiously enough, in the B.M.A. he was similarly regarded and, a medical officer of health, he was not only Chairman of the Association's Public Health Committee for years, but practically its father. The last chairman also, he who preceded Dr. Picken, was one of us, too, and not without prominence, being Dr. Lewys-Lloyd, of Merionethshire, and at this moment President of the Welsh Branch of the Society. Small wonder that complaint is made of the overlooking of the claims of two such men. Small wonder, too, though a little bewildered that blame should be laid at my door, that I hasten to express regret that in rejoicing over Dr. Picken we failed to see that, great an honour as it would have been for him to have been the first medical officer of health chairman, actually it was greater to be one in line with such men as Herbert Jones and Lewys-Lloyd, and to have helped to place the Principality in the unique position of having been concerned, through them in one way or another, with providing three Chairmen for the Public Health Committee.

Our Contribution to the Scott Centenary Celebrations.

This year marks the centenary of the death of Sir Walter Scott, and amongst the many who have written works commemorative and appreciative of Sir Walter as novelist or poet or one or other of the many things he was and stands for, it is pleasant to find one of the public health service. Dr. MacNalty it is who, under the title of "The Great Unknown,"* has contributed a "life" of Sir Walter Scott certain to be found acceptable by, as he himself puts it, "those who wish to look at him through a twentieth century telescope." Having walked, at any rate, in the "yards" where

Scott played, having been called by the name of "Gyte," as he was, having listened to the tales of his scholarship that were part of the tradition of the school, I find it very gratifying that Dr. MacNalty, unaware of these things, should have sent me a copy of his book. In his handling of his subject he makes no mistakes. It is done with a delicacy and a sympathy that are delightful. The balance all through is perfect, and whether telling of Scott's love story, or showing him to us in the days of his prosperity or in his struggle with adversity, he reveals himself as capable a writer of biography as any engaging in that difficult art. Perhaps, because we are accustomed to literature of a sterner type from Dr. MacNalty, we might be forgiven for assuming towards a book of this type a certain wariness of attitude. For this there is no need whatever. It is a book full of warmth, humanity and kindness: a book to be read and to be treasured: a book that deserves a high place amongst those of the centenary year; a book that I am glad and proud to have, and that is deserving of every recognition and recommendation.

The Late Professor Glaister, of Glasgow.

Though Professor Glaister, whose death occurred in the early part of December, wrote and lectured on public health, it was mainly as a teacher of forensic medicine that he was known within and without the borders of Glasgow. That he regarded himself as a public health man he rather suggested at the Congress of the Royal Sanitary Institute in 1931, but the fact that he was not a Fellow of the Society takes away from the seriousness of that claim. His greatest prominence certainly he won in the medico-legal field, figuring in many of the more important trials in the Scottish courts. That it was he who mainly inspired so many Glasgow graduates to take to public health work and filled all the important posts in Scotland and many in England and Wales and other parts of the British Empire with people from Glasgow is improbable. Even so, he was an excellent teacher and held in high esteem by the several generations of students who learned something of the elements of hygiene, public health and preventive medicine at his feet, and who will regret the pathos of his passing and that of Mrs. Glaister within a few hours of each other.

*Birch & Whittington, Printers, 10, Station Road, Epsom, Surrey.

The Professional Undertaker and the Public Health.

By A. J. E. COTTRIDGE, Secretary, London Centre, British Undertakers' Association.

This paper, read at a meeting of the Metropolitan Branch, provided for the members of that Branch a number of interesting views on matters to which attention is rarely given by health officers that others may like to share and will probably find novel and interesting.

MANY factors must be taken into account if we are correctly to assign the position and functions of the undertaker in present-day society.

His entry into the arena of public affairs in any corporate capacity is of very recent date, and although it may be truthfully said that the origin of our present organisation may be traced to the efforts of a small group of enthusiasts in the closing years of the last century, it is equally safe to say that only since 1917 has it been possible for any community of thought or action to exist among us.

The type of undertaker I refer to in my title is essentially a modern product. I may have to agree that he is far from being the predominant type, but I hope to enlist your sympathies at least to the extent that while his claims to the professional status cannot rest upon a foundation such as that of your own or the other recognised professional bodies, you will be willing to consider the various points of contact between his work and yours, and where possible to try to set up some form of effective co-operation in the interests of public health.

What I wish chiefly to indicate, therefore, is the effort or intention of a growing section of undertakers, mainly in our large cities, to cut themselves off as completely as possible from the bad old traditions of their class, and to endeavour to create in our own generation a new and better type of public service such as will entitle them to the recognition and protection afforded to other professions.

In the closing years of the last century a little group of progressive undertakers endeavoured to form a national society—the British Institute of Undertakers—and very early in their career attention was drawn to the risks members were called upon to take in the performance of certain duties in cases of infectious disease. One member, indeed, was able to show that entirely through the

ignorance of the most elementary precautions he had been the cause of communicating a disease to a member of his own family, and he was foremost in demanding that undertakers should no longer tolerate such a situation, but should equip themselves with some sure means of defence against risks incidental to their everyday work. Precisely at this opportune moment announcement was made by an enterprising firm of American manufacturers of undertakers' supplies that they were prepared to send a professor of embalming *anywhere* to teach undertakers the whole art and science of embalming and sanitation. Negotiations were speedily opened and in due course, with the co-operation of the governing body of University College Hospital, a course of instruction, attended by representative undertakers from all parts of the country was carried through with great enthusiasm. A photograph preserved at our national office, taken outside the hospital in 1900, shows most of the members of the class, and although I may not claim membership of that group I can at least say that I joined a similar class in the following year, and that continuously since that day—interrupted only by the war—a few of us have endeavoured to practise and to teach what we regard as the foundation of the professional undertaker's equipment—namely, the science and art of *post-mortem* sanitation.

The pioneers in 1900 were sadly hampered by the lack of organisation. They sought to remedy this, and formed the British Embalmers Society; side by side with which arose the effort to organise the general body of undertakers in the British Undertakers' Association.

Neither organisation flourished. In plain truth it must be acknowledged that undertakers of 25-30 years ago, and in almost equal degree those of the present enlightened age, desired and desire nothing so much as *to be left alone*, and even if I claim to-day that

there is a new type of undertaker I must admit that his existence is due, not so much to his conscious effort to improve, as to the fact that during the last two years of the war, economic conditions drove several hundreds in London to combine as the only alternative to extinction as individual traders. An association 800 strong was formed in London. This was linked up in national membership with approximately 3,000 others in the great industrial areas, and ever since we have successfully maintained our membership in the neighbourhood of 3,500.

While we are far from realising our ideal of complete organisation throughout the country, we can at least take pride in the fact that through the medium of our local meetings, our national monthly publication and our annual conferences, undertakers of Great Britain have at last been made conscious of a corporate spirit. They have gripped a large measure of the ideal of public service, and each year witnesses a steady increase in the recognition accorded to us by all branches of state and municipal service. Since 1920 our conferences have steadily changed in character. Naturally, the early periods were mainly occupied with problems of organisation and administration made necessary by so sudden emergence from the chaotic conditions which had hitherto prevailed. The readjustment of the industry to new economic circumstances, and in almost equal degree the sudden awakening of the desire to impose our methods uniformly in areas not fully organised, provided material for almost endless, and often heated, discussions. That period has passed, and it is noticeable that during the past four or five years the Association has set itself deliberately to create a new professional type of undertaker, and has devoted a very large share of its energies to a truly gigantic educational effort.

Expressed in the briefest possible fashion I may state the objects of this effort to be the provision of instruction in methods whereby every member may be enabled to control the effects of decomposition during the ordinary period which elapses between death and the disposal of the body.

Having reached this definite issue I now propose to look at the problem from a different angle.

It is inconceivable that, with the increasing specialisation and efficiency of every form of

public sanitary and health service, the conditions which ordinarily prevail in the interval between death and the disposal of the body should escape the attention of public health officers. You must realise in common with the undertakers of the metropolis, that in our overcrowded dwelling-houses, old or new, and in the rapid extension of tenement and flat life, the conditions suitable for the retention of a dead human body for two or three and perhaps six or seven days, simply *do not exist*. Considered as an alternative, the accommodation provided in public mortuaries, apart from all questions of sentiment, is totally inadequate. The corresponding accommodation at hospitals is equally deficient, while in connection with the numerous nursing homes and institutions there seems to be no obligation whatever to meet the demand for even temporary accommodation of the dead. Undertakers are being obliged, increasingly, to make provision on their own premises for the custody of bodies awaiting burial. Some of them with no special accommodation available actually receive bodies for a day or two in their offices or workshops. In other cases special buildings or apartments have been equipped as mortuary chapels or solely as "utility" reception rooms.

Generally speaking, there appears to be a complete absence of responsibility or any consideration of the fitness of the accommodation, or of the sanitary condition of the body. In my opinion, we must look for one of two things in the near future. Either public authorities will be called upon to provide adequate mortuary accommodation of an improved type on a pretty extensive scale, or we must witness the extension of the private mortuary on the undertakers' premises; and in either case it appears to be inevitable that some form of inspection and control will arise, directed not simply to secure accommodation of a suitable character, but equally directed to the maintenance of sanitary conditions inside the coffin as well as outside it.

While we may acknowledge that large sections of the community will strongly resent any enquiry into, or interference with, or attempt to control the conditions which arise after death, it is equally certain that in the exceptional cases which *do* arise, particularly during our occasional outbreaks of summer, the same people readily agree to any expedient, however drastic; and I am convinced that this

whole question of the custody of the dead may resolve itself quite easily into one of education—first of the undertaker in conjunction with public health officers, and afterwards of the public themselves.

I should be one of the last to urge the general adoption of sanitation simply with the object of delaying burial or other means of disposal, but as a practising undertaker for nearly thirty years and as one who has been engaged in teaching the subject during the past ten years, I claim that from every point of view the practice is unassailable.

Without requiring extensive knowledge or special training, the average undertaker can be fitted to perform all the operations necessary for ordinary cases. These operations may be performed without requiring the removal of the body to a specially-equipped building. The process is not costly. The undertaker and his staff, residents in the house, neighbours and relatives present in the house or attending the funeral are secure from annoyance and possible dangers arising from foul odours, and the possibility of discharges from the body. The chemicals used are not dangerous poisons and in ordinary circumstances pathological examinations of the body subsequent to treatment are not made more difficult. Finally, with the increase of the practice of cremation, and the use of a less substantial type of coffin, there is even greater obligation in such cases that the body itself should be unobjectionable.

Thus it appears to me that there is a convergence of two distinct points of view: (a) the desire of the undertaker to improve his status, and (b) the absolute necessity, dictated by social conditions, for the extension of the practice of sanitation to the death chamber and all that pertains to it; and therefore I commend to you this determination of my Association to pursue its educational programme as a definite means to the end of obtaining state registration of undertakers.

The way is hard, and we realise that long, earnest effort must be made before we shall convert public opinion to the sheer necessity of a departure from established custom. Within our own ranks we are doing everything possible with a limited number of teachers to encourage the practice. We have still to counteract the dead weight of indifference of the older generation, and while we are able to point to wonderful successes

with some of our younger men, it is unfortunately true that too often the son either declines to follow the father's business, or if he does so, comes to us with a mind already steeped in the old prejudices and limitations of a bygone age.

DR. M. BIRCHER-BENNER, of Zurich, a well-known authority on dietetics, will deliver a lecture (illustrated by lantern slides) on "The Prevention of Disease by Correct Feeding," for the Food Education Society at the Twenty-first Annual Conference of Educational Associations, to be held at University College, Gower Street, London, W.C.1, on Friday, January 6th, 1933, at 11 a.m. The chair will be taken by Dr. G. E. Friend, Medical Officer of Christ's Hospital. Admission one shilling, by ticket obtainable at the Secretary's table at the Conference.

THE Royal Sanitary Institute announces the holding of sessional meetings as follows:—**London.**—Friday, January 20th, 1933, at 5.30 p.m., at the Institute, 90, Buckingham Palace Road, S.W.1. Joint meeting with the Food Group of the Society of Chemical Industry. Discussion on "Factory Cleanliness in the Food Industry." E. B. Hughes, M.Sc., F.I.C. (Messrs. J. Lyons & Co., Ltd.), Thomas Carnwath, D.S.O., M.B., D.P.H., Senior Medical Officer, Ministry of Health, Lieut.-Col. Gerald Leighton, O.B.E., M.D., D.Sc., Medical Officer (Foods), Department of Health for Scotland, Charles Porter, M.D., B.Sc., Medical Officer of Health, St. Marylebone, Sir Weldon Dalrymple-Champneys, Bt., M.D., Medical Officer, Ministry of Health, and T. W. Naylor Barlow, O.B.E., M.R.C.S., D.P.H., Medical Officer of Health, Wallasey, will speak. The chair will be taken by Major Isidore Salmon, C.B.E., M.P. On the morning of Saturday, January 21st, a visit will be made to the laboratories of Messrs. J. Lyons & Co., Hammer-smith Road, Kensington, W.14. **Coventry.**—On Saturday, January 28th, visits have been arranged to the new sewage works and to the new abattoir at Coventry. Members or Associates desiring to attend either or both of these visits must notify the Secretary of the Institute by January 14th. **London.**—Tuesday, February 14th, 1933, at 5.30 p.m., at the Institute. Discussion on "Ventilation and the Need for New Standards," to be opened by J. S. Owens, M.D., ASSOC.M.INST.C.E., F.G.S.

AN AMERICAN LETTER.

Our correspondent speaks of Rickets and its Prevention—Antirachitic Milk—Irradiation of Milk and Cows—the Noise Problem—the Decibel Scale and Measurement of Noise—and Investigations in New York and Chicago.

Specifics for Rickets.

I have already alluded to the symposium on milk given at the last meeting of the American Public Health Association. Despite the fact that we have more specifics for rickets than for any other single disease—direct irradiation, ultra-violet rays, cod liver oil or its concentrates, haliver oil, viosterol, activated milk, etc.—its prevention is still a very live question, and it is extremely prevalent, even among persons well placed economically. Led by Hess, whose work is so well known, there seems to be a growing feeling that some form of antirachitic milk is not only the best preventive, but also the best curative agent, since it has the additional advantage of containing both calcium and phosphorus. Hess has pointed out that the results of standardization of antirachitic agents expressed as units per c.c. or per quart do not agree with clinical experience. For example, much more viosterol is needed to protect infants than would be expected from assays on rats. It is generally agreed that these biological assays have overshadowed clinical data so far. Hess prefers to increase the antirachitic property of milk by feeding activated yeast to the cows, recognising that it is chiefly applicable to certified dairy farms, where one can be sure of the type of the yeast used, the ration and frequent assays.

Irradiated Milk as a Preventive.

Another method advocated is irradiation of the milk in a central station with a carbon arc lamp, 16 seconds being sufficient to produce the desired result. Clinical experiments over two winters in New York City have shown that such milk practically invariably prevents rickets, even in infants of the Negro race, who are peculiarly susceptible. Indeed, the amount of milk fed with success to the infants under observation was only three-fourths of a quart daily, instead of the full quart usually advised. Hess further pointed out that laboratory experiments show that a greater number of antirachitic units are required when viosterol is given than when cod liver oil is used. This has led him to suggest that, in addition to

vitamin A, cod liver oil contains factors of value which are not present in irradiated ergosterol. He supports strongly the use of activated milk, either fluid or dry, holding that it provides an automatic method for the prevention of rickets and supplies the essential factor in a medium rich in phosphorus and calcium, while the results are obtained through the use of an exceptionally small amount of the antirachitic substance.

Direct Irradiation of Cows.

Another method which is under experiment in New York is the direct irradiation of cows with carbon arc lamps similar to those used for the activation of milk. The cows are placed in rows, and between each pair the lamp is placed, standing about 18 inches from the floor. Only one side of the udder and abdomen of each cow is irradiated. So far, 50 cows have been experimented upon, the irradiation being instituted 2 weeks before the use of the milk was begun. In 9 months of experiment 21 infants have been fed for 6-8 months with results practically equal to those produced by irradiated fluid milk. Still another method being tried in New York City is the addition to milk of good quality of a concentrate made from cod liver oil. This experiment has been going on for several years at Columbia University. The concentrate has been purified and strengthened so that 1 part to 12,000 parts of milk will give practically 150 units of vitamin D per quart, equivalent to 3 teaspoonsful of cod liver oil. There is objection on the part of some to what they consider "doctoring" milk, and at present the addition of such a substance will fall foul of our pure food laws. If, however, it is shown to be of distinct value, doubtless these can be changed.

The Noise Problem.

America is perhaps the most noisy country in the world, and until very recently we have considered it as a symptom of being wide awake and active. However, it is coming to be recognised that the wear and tear on normal people of unnecessary noise is something which must be taken into account, while for

ill and "nervous" people it amounts to a serious menace. Working on the question we now have the Committee on Noise Measurement of the American Standards Association; the Noise Abatement Commission in New York City, which has already issued one volume on the subject, with a second edition about to appear; the Bell Telephone Company; the Johns-Manville Corporation; and the Committee from the American Public Health Association. The study includes nomenclature, units, noise scales, instruments, equipment, etc. There has been developed what is called the "Decibel Scale," intended to indicate noise intensity in a quantitative manner. The "decibel" is a unit of loudness of noise as measured subjectively by the ear, the scale ranging from 0 to 100. The physical intensity or energy value of sound, as measured by electrical instruments, increases by logarithmic progression, the scale ranging from 0 to 10 billion. That is, the actual intensity of noise in terms of energy increases ten-fold for each 10 units in the decibel scale. Ordinary conversation, for example, at a distance of 3 feet, has a loudness of about 60 decibels, but a physical intensity value—above the threshold of audibility—of 1 million. Traffic noises, which vary from 45 to 80 decibels, have a physical intensity of 15,000 to 100 million. The scale is cumbersome and may be improved by the American Standards Association.

Psychological Reaction to Noise.

The engineers have recognised the problem as a challenge to their profession. They are developing sound-proof shields for machinery, noise-proof construction for buildings, rubber and spring mountings for engines of various sorts, especially automobiles, etc. The psychological reaction to noise is interesting. In New York, where complaints were invited, traffic ranked first, with transportation second. In Chicago, where complaints were not asked for, radio loud speakers stood first, machinery second, followed by transportation and traffic. It is evident that in Chicago the noise of traffic and transportation was taken as a matter of necessity which could not be prevented, and those complaining dwelt chiefly upon noises which they believed could be easily avoided. The fact is that in this country one is assaulted in practically every business block of a city by screaming loud speakers with advertisements

of some product or other, interspersed with jazz, symphonies, supposedly humorous Negro dialogues, and other equally incongruous mixtures. One cannot go into a lunch room of any type without being met with the blare of a loud speaker. Many are equipped with a nickel-in-the-slot machine. More than 15 million radio sets are said to be in private homes. The radio has its uses, but even those interested in it are telling the manufacturers and users that they are killing it by its promiscuous use for advertisements—good, bad and rotten. Beyond what has been done, laws are being passed and attempts are being made to educate the public to use the motor horn as little as possible, to tone down radios, and street vendors are being urged to moderate their voices. Under present conditions, it is little wonder that so many of our people break down before their time.

MAZYCK P. RAVENEL, M.D.

WITH much regret the death of Dr. Basil Williams Housman is recorded. For twenty years he carried out excellent work as a School Medical Inspector under the Worcestershire County Council, and on resigning his appointment in 1929, owing to ill-health, he was given the position of Consulting Medical Officer to the County Education Committee. Dr. Housman received his medical education at Queen's College, Birmingham, taking the conjoint qualification in 1888, and the F.R.C.S., ENG., three years later. He was a Fellow of the Society of Medical Officers of Health, attached to the Midland Branch.

THE death is recorded, with great regret, of Dr. Henry Banbury Mapleton, Medical Officer of Health for Newton Abbot Urban and Rural District Councils and also for Dawlish Urban District Council. He graduated in Arts at Oxford, and some years later entered Edinburgh University as a medical student, qualifying M.B., C.M., in 1894. He took the D.P.H. three years later, and in 1899 proceeded to the degree of M.D. Dr. Mapleton, who was in his seventieth year, displayed a keen interest in his public health duties, and was extremely popular with his colleagues. He was a Fellow of the Society of Medical Officers of Health, attached to the West of England Branch.

The Society.

Reports, Proceedings and Announcements.

ORDINARY MEETING.

An Ordinary Meeting was held at the house of the Society on Friday, December 16th, 1932. The President (Dr. G. H. Pearce) was in the chair and there was a fair attendance of members.

Minutes of the last meeting having been approved and signed, and apologies for absence received, the following candidates who had been duly proposed and seconded were elected members of the Society.

As Fellows:—

Barker, Sarah Nora Schofield, M.B., CH.B. (LEEDS); Diamond, David, M.R.C.S. (ENG.), L.R.C.P. (LOND.); Donohoe, Monica A. O., M.B., CH.B. (N.U.I.); Jardine, Maurice Kirkpatrick, M.B., CH.B. (EDIN.); Stockwell, G. E. St. Clair, M.B., B.CH. (CANTAB).

As Associates:—

Macdonald, James Moffat, L.D.S., R.C.S. (EDIN.); Samuel, Bertram B., L.D.S., R.C.S. (ENG.).

A number of nominations were received for the next election.

A discussion on "The Recent Trend of Cerebro-Spinal Fever" was then opened by Dr. E. Ashworth Underwood, who gave a most interesting review of the subject, with special references to experiences in the West Riding of Yorkshire in 1931. Dr. E. K. Macdonald followed with some observations of the disease as seen by him at Barnsley, and others contributing to the discussion were the President, Drs. E. W. Goodall, W. G. Willoughby, E. H. T. Nash, A. Joe, E. L. Sturdee and John Fenton.

The President expressed the hearty thanks of the Society to Dr. Underwood for his paper, and this was supported by acclamation. A full report of the discussion will be published in a later issue of PUBLIC HEALTH.

The meeting then adjourned.

THE METROPOLITAN BRANCH.

President: Dr. A. F. Cameron, Medical Superintendent, River Hospital Service, London County Council.

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 October 28th, 1932. The President occupied the chair, and there were sixteen other members present.

The Council appointed a Sub-Committee

consisting of the President (Dr. Cameron), the Assistant Hon. Secretary (Dr. Borland), Dr. Howell (Hammersmith) and Dr. Thompson (Lambeth) to prepare a form of reply to be sent to the Town Clerk of Lambeth in regard to procedure in outbreaks of mild smallpox in London.

The Hon. Secretary read a letter from Dr. Daley, of the London County Council, dealing with certain difficulties likely to arise in connection with the administration of any measure promoted with a view to the compulsory pasteurisation of London's milk supply. After some discussion, the Council decided that they were strongly in favour of the promotion of legislation for this purpose, and that members would be prepared to give evidence in support of such a measure before a Standing Committee of the House of Commons, if necessary. It was agreed that, although difficulties would naturally have to be contended with, they should not be allowed to delay the promotion of the desired legislation.

Consideration was given to a further letter from Dr. Daley asking the Council to consider whether any steps might be taken to prevent tenants who go to new London County Council estates from carrying vermin with their furniture, with the result that the new houses become infested within a short time. From the opinions expressed by members of the Branch Council, it was quite clear that the problem is an extremely difficult one, and that there is considerable difference of opinion as to the best method of disinfection. The various methods of disinfection of which medical officers of health have had experience seem, on the whole, to give disappointing results, and the Branch Council found themselves unable to recommend any method which is both safe and certain. It was, however, agreed to inform Dr. Daley that if the County Medical Officer of Health will communicate with borough medical officers of health when tenants have been accepted for admission to houses on County Council estates, the borough medical officers will cause inspections to be made at the homes to be vacated, and will carry out such disinfection measures as appear necessary and practicable.

The Council gave consideration to Section 5 of the London County Council (General Powers) Act, 1932, and it was decided to appoint a sub-committee, consisting of Drs. Borland, Daley and Porter, to go into the question of the types of food premises to be registered thereunder. A letter from Dr. Borland in regard to the question of licensing fried fish shops was also referred to this sub-committee.

The following nominations of Group representatives to serve on the Branch Council were adopted:—Mr. Grantley Smith (Dental Officers' Group); Dr. Grace Calver (Maternity and Child Welfare Group) and Dr. F. J. C. Blackmore (Tuberculosis Group).

THE NORTHERN BRANCH.

President: Dr. A. Stuart Hebblethwaite, M.C., M.O.H., Sunderland.

Hon. Secretary: Dr. J. A. Charles, Deputy M.O.H., Newcastle-upon-Tyne.

A meeting of this Branch was held at the Medical Institute, 7, Windsor Terrace, Newcastle-upon-Tyne, on December 9th, 1932, the President occupying the chair. Twenty-two members and four visitors were present.

The President, in referring to the passing of Dr. Harold Kerr, stated that the Branch and the Society as a whole had lost one of its outstanding members. Dr. Kerr had acted as Branch Honorary Secretary and Treasurer for twelve years, and was its President during the two years 1917 and 1918. He was also President of the Society in 1930. The history of the Northern Branch, prepared by Dr. Kerr, copies of which had been circulated to the members of the Branch, showed how dear the Branch had been to him.

Dr. J. A. Charles referred to the tremendous amount of work Dr. Kerr had done for the Society, and how he had come into such close contact with the majority of the members of the Branch that by his death they would all feel they had lost a brother.

The President moved that a letter be sent to Mrs. Kerr and family conveying the deepest sympathy of the Branch. This was duly seconded and passed in silence, the members standing.

A letter was read from Mrs. Kerr, expressing thanks for the wreath which had been sent in the name of the Branch.

The President informed the meeting that the following dates had been fixed for Branch

meetings:—January 27th, 1933, at the Medical Institute, Newcastle; February 24th, 1933, at the Municipal Hospital, Sunderland; March 31st, 1933, at the City Hospital, Walker Gate, Newcastle-upon-Tyne.

On the motion of the President, it was agreed that Dr. James McIntyre, Deputy Medical Officer of Health, Durham County Council, should fill the vacancy on the Branch Council caused by the death of Dr. Harold Kerr.

It was agreed that the consideration of the Askwith Scale of Salaries be postponed *sine die*.

Mr. Henry Moor, L.D.S., M.I.H., School Dental Officer, Newcastle-upon-Tyne, gave an address on "The School Dental Service."

The President, in opening the discussion, stated that this was the first time the Branch had listened to a paper by a dental surgeon, and Mr. Moor had delivered a frank address. The subject concerned everyone, and more particularly members of the maternity and child welfare service, as children should commence school dentally fit.

Drs. James Hudson, A. F. G. Spinks, G. C. M. McGonigle, W. H. Dickinson, Geo. Wilson and Mr. J. Proud, L.D.S., took part in the discussion which followed.

Mr. Moor answered certain points raised, and received the cordial thanks of the Branch for his interesting paper.

THE YORKSHIRE BRANCH.

President: Dr. T. N. V. Potts, M.O.H., West Riding of Yorkshire.

Hon. Secretary: Dr. James Mair, M.O.H., Harrogate.

A meeting of this Branch was held in the Education Offices, Leeds, on November 25th, 1932, the President occupying the chair. Eighteen members were present.

Major D. S. Rabagliati reported that a meeting of the Veterinary Group had been held in Leeds, and the question of "Pasteurisation of Milk" had been considered.

A paper read by Dr. Sinclair Miller, upon "Undulant Fever," was followed by a very full discussion, in which Messrs. Potts, Bucknell, Dixon, Gibson, Hill, Jervis, Pearce, Rabagliati, Sharp and Underwood took part. In the opinion of those present, the paper and discussion were of great interest, and the hope was expressed that publication in PUBLIC HEALTH could be secured.

THE NORTH-WESTERN BRANCH.

President: Dr. T. W. Naylor Barlow, M.O.H., Wallasey.

Hon. Secretary: Dr. J. E. Spence, M.O.H., Eccles.

An ordinary meeting of this Branch was held in the School of Hygiene, Mount Pleasant, Liverpool, on December 9th, 1932, the President occupying the chair. Fifteen members were present, and apologies for absence were received from six.

A letter was received from the Executive Secretary relating to the submission by the Branch of a nomination for the Presidency of the Society for the session 1933-34, and the Hon. Secretary was requested to bring the matter before the next meeting of the Branch.

On the proposal of Dr. F. T. H. Wood, O.B.E., it was resolved to hold the meeting fixed for May 12th, 1933, on April 7th, 1933, and the Hon. Secretary was requested to write to Dr. E. K. Macdonald, Medical Officer of Health, Stockport, with a view to the meeting in March, 1933, being held in Stockport. An invitation from Dr. S. T. Beggs, to hold a meeting in Middleton, was accepted for the session 1933-34. It was decided that the date of the ordinary meetings of the Branch, which are held on the second Friday of the month, be not altered.

Dr. C. O. Stallybrass read an interesting and comprehensive paper on "Some Aspects of Hospital Administration," in which, among other things, he outlined the changes which had been necessary in the outlook and administration of the municipal hospitals taken over by local authorities under the Local Government Act, 1929.

Dr. W. M. Frazer, in opening the discussion, paid a tribute to the excellent work Dr. Stallybrass had done in the administration of the hospital service in Liverpool. He referred to the difficulties in the way of obtaining co-ordination with voluntary hospitals and also, where a number of hospitals, each with a separate committee, had been taken over by one authority, of obtaining co-ordination between them. This difficulty had been overcome in Liverpool by grouping the hospitals according to the type of work being carried out in them, and appointing a single sub-committee for each group.

Dr. F. T. H. Wood, in proposing a vote of thanks to Dr. Stallybrass for his excellent paper, referred to the difficulty of transferred hospitals in connection with mental cases,

owing to the Lancashire Mental Hospitals Board, which was a statutory authority, being unable to provide accommodation for all mental cases. He also suggested the possibility of economy of hospital beds by co-ordinating hospital work with the home visiting carried out by the school medical and maternity and child welfare services.

Dr. G. W. N. Joseph seconded the vote of thanks, and dealt with the problem of co-operation with voluntary hospitals which were running a workmen's contributory scheme and had insufficient accommodation for all cases requiring hospital treatment.

Dr. F. A. Shiarpe mentioned the question of supervision of the work of district medical officers.

In submitting the resolution to the meeting, the President referred to the financial side of the question of co-operation with voluntary hospitals, and conveyed to Dr. Stallybrass the grateful thanks of the Branch for his very interesting paper, which will appear in full in an early number of PUBLIC HEALTH. Dr. Stallybrass, in his reply, dealt with the various points which had been raised during the discussion.

After the meeting the members were entertained at tea by Drs. W. M. Frazer and C. O. Stallybrass.

THE SOUTHERN BRANCH.

President: Dr. H. C. Maurice Williams, M.O.H., Southampton.

Hon. Secretary: Dr. H. D. Kelf, Asst. M.O.H., Hants. County Council.

A meeting of this Branch was held at the Municipal Buildings, Aldershot, on December 2nd, 1932, the President occupying the chair. Ten members and six visitors were present.

An address on "Cerebro Spinal Fever" was given by Major Hood, R.A.M.C., Assistant Director of Pathology, Aldershot Command. The speaker dealt fully with his subject, especially with the differential diagnosis, signs and symptoms, reflexes, lumbar puncture and pathological examination of the cerebro-spinal fluid. Several cases were described in detail, with the history, diagnosis and treatment carried out in each instance. Major Hood also referred to methods of prevention, isolation, etc., and gave the results of 57 cases in two years, of which 25 were fatal (8 in 48 hours).

An interesting discussion followed, in which General Hartigan, the President, Drs. Wilshaw and Lindsay and Col. Manfold joined.

A hearty vote of thanks was passed to Major Hood for his excellent address, and it was suggested that the paper be forwarded to the Hon. Editor of PUBLIC HEALTH with a view to publication.

Votes of thanks for their kindness and interest were accorded to Major-General Hartigan, C.M.G., D.S.O., K.H.P., Deputy Director of Medical Services, Commanding R.A.M.C., Aldershot Command, for permission given to Major Hood, and to the Mayor of Aldershot (Councillor J. A. Dines, J.P.) for permission to use the Council Chamber.

Tea was provided by Dr. and Mrs. J. Craig Lindsay.

THE MIDLAND BRANCH.

President: Dr. H. D'Arcy Ellis, M.O.H., Amblecote and Brierley Hill Urban Districts.
Hon. Secretary: Dr. R. H. H. Jolly, M.O.H., Wolverhampton.

By kind permission of the Health Committee of the Birmingham City Council, the third meeting of the session of this Branch was held at 151, Great Charles Street, Birmingham, on December 1st, 1932. There were seventeen members present.

The Hon. Treasurer presented his annual report and balance-sheet for the year, which were received and adopted.

The Hon. Secretary reported that he had sent a letter of sympathy to Mrs. Bostock Hill in the name of the Branch, and submitted the reply received from her.

At the conclusion of the meeting, Dr. G. B. Dixon invited the members to inspect the new Tuberculosis Dispensary on the ground floor of the premises. This is a new and up-to-date building, consisting of spacious waiting rooms, consulting rooms, dressing cubicles, screening room, X-ray rooms, with developing room attached, ultra-violet ray rooms, consisting of a carbon arc room and a mercury vapour room for localised applications, with dressing cubicles and shower-baths adjoining. In one of the waiting rooms was an interesting display of leather and basket work, etc., made by the inmates of the City Sanatorium, Yardley Road.

The members were then conducted to the first floor, when Mr. H. N. Bagnall, B.Sc., the City Analyst, took charge and kindly explained the various items of interest in his

department. The routine daily work of the department appeared to include the analysis of everything, from a cake of soap to the most complex constituents of the human body.

On the top floor the City Bacteriologist (Dr. H. G. N. Henry), assisted by Dr. Lewis, demonstrated the different serological and bacteriological tests being carried out. A visit was also paid to the animal house on the roof of the building. From the roof there was a fine impressionist view of the city of Birmingham under the rays of a new moon.

Dr. Henry kindly entertained the party at tea after the tour of the building.

The President proposed a vote of thanks to the Health Committee of the City of Birmingham for the privilege of being allowed to visit the premises, and also to Drs. Dixon and Henry, Mr. Bagnall and their staffs for their kindness in conducting the members round their respective departments and in so ably demonstrating the apparatus used by them.

THE WELSH BRANCH.

ASSISTANT MEDICAL OFFICERS' AND SCHOOL DENTISTS SUB-GROUP.

Chairman: Dr. D. P. Holmes, Assistant Medical Officer of Health, Glamorgan County Council.
Hon. Secretary: Dr. W. P. Phillips, Assistant Medical Officer of Health, Cardiff City Council.

A meeting of this Sub-Group was held at the Institute of Preventive Medicine, Cardiff, on December 7th, 1932. The Chairman occupied the chair, and sixteen members and visitors were present.

A recommendation from the Committee of the Sub-Group "that the retiring Chairman shall serve on the Committee for the following year" was adopted.

Dr. A. G. Watkins (Physician to the Departments for Diseases of Children at the Royal Infirmary and City Lodge Hospital, Cardiff) delivered a lecture on "Infant Feeding." Dr. Watkins laid stress on the antenatal treatment of the mother, and its influence on the subsequent nutrition and feeding of the infant. He dealt fully with breast feeding and certain difficulties encountered, and also summarised the different methods of artificial feeding.

A discussion followed in which almost all present participated, and Dr. Watkins answered numerous questions.

A vote of thanks to the lecturer, proposed by Dr. Anderson, was carried by acclamation.

THE EAST MIDLAND BRANCH.

President: Dr. Cyril Banks, M.O.H., Nottingham.
Hon. Secretary: Dr. J. A. Stirling, M.O.H., Chesterfield.

A meeting of this Branch was held at Messrs. Zenobia's, Loughborough, on November 24th, 1932, Dr. B. C. Stevens occupying the chair. Seventeen members and ten guests were present.

Mr. C. J. Bond, C.M.G., F.R.C.S., read a very stimulating and instructive paper on "Eugenics in relation to Preventive Medicine and Public Health," which was very much appreciated. To the regret of those present, time did not permit a discussion. Mr. Bond was cordially thanked for his paper, on the proposition of Dr. Newth, seconded by Dr. Millard.

Mr. C. Emerson Huston, of Messrs. Zenobia, gave what was described by the Chairman as a racy, fragrant and æsthetic address on "Perfumery," and a cordial vote of thanks, proposed by Dr. Fairer and seconded by Dr. Graham, was accorded him by the Branch.

THE FEVER HOSPITAL MEDICAL SERVICE GROUP.

President: Dr. E. W. Goodall, O.B.E.
Hon. Secretary: Dr. Alexander Joe, D.S.C., North-Western Hospital, London County Council.

A meeting of this Group was held at the house of the Society on November 25th, 1932, the President occupying the chair.

The President read a report he had prepared on the subject of "The Teaching of Infectious Diseases to Medical Students." The report was based on evidence obtained, through the Society, from the licensing, examining and teaching bodies in Great Britain and Ireland. The subject had already been discussed by the General Purposes Committee of the Society in response to certain resolutions passed by the Group, but decision on the matter had been deferred for the production of additional evidence. This was afforded by the report.

A discussion followed, which was opened by the President, and in which Professor W. W. Jameson, Dr. Sage Sutherland, Dr. A. Topping and Dr. A. Joe took part. A letter on the subject from Dr. E. H. R. Harries was also read.

The report was adopted and ordered to be forwarded to the General Purposes Committee of the Society.

The Council of the Group has fixed the following dates for meetings during the session:—January 27th, in London (subject to be announced); March 31st, in London (Dr. Egerton Williams, of Sheffield, will read a paper on "Cerebrospinal Fever"); May 26th, a provincial meeting (place to be announced); and June 30th, in London (Dr. Benn, of Birmingham, will read a paper on "Heart Failure in Diphtheria").

THE COUNTY DISTRICT GROUP.

President: Dr. G. H. Dupont, M.O.H., Twickenham.
Hon. Secretary: Dr. C. E. E. Herington, M.O.H., Erith.

A meeting of the Executive Committee of this Group was held at the house of the Society on October 21st, 1932, the President occupying the chair. He was supported by Drs. G. H. Pearce, Linton (F. T. C.), Barker, McDonald (J. F.), Williams (C. L.), Wilkes, Adamson, and the Hon. Secretary. Apologies for absence were received from Drs. M'Gonigle, Allen, Orr, Tapper, Horsburgh and Buchan.

The meeting welcomed Dr. G. H. Pearce who, later in the afternoon, was installed as President of the Society.

The activities of the Group were reviewed, and a provisional programme formulated for the forthcoming session.

The meeting ended with a vote of thanks to the Chairman.

A meeting of the Group was held at the house of the Society on December 16th, 1932, when, in addition to the President of the Society, there were nine members present. Apologies for absence were received from eight others.

The question of reading a paper was considered, and it was decided to ask Dr. Burton to prepare one.

Consideration was given to the Local Government and Other Officers' Superannuation (Amendment) Bill, the Hon. Secretary having reported correspondence between the Executive Secretary of the Society and himself. A resolution was moved by Dr. E. H. T. Nash and carried unanimously. Its purport was that the disabilities suffered by medical officers

by the fact that they entered the local government service at a comparatively late age should be rectified by a provision in the new Bill, the aid of the British Medical Association being invoked for this purpose.

Discussion took place on circulars dealing with "Infant Life Protection" and "Nutrition," recently issued by the Ministry of Health, and opinions were offered by most of the members present.

The proceedings terminated by a vote of thanks to the Chairman.

THE MATERNITY AND CHILD WELFARE GROUP.

President: Dr. Margaret Emslie.

Hon. Secretary: Dr. Isobel Wright, Public Health Department, 121-131, Rosebery Avenue, London, E.C.1.

A meeting of this Group was held at the house of the Society on November 25th, 1932. The President occupied the chair, and twenty-eight members and visitors were present.

The subject for discussion, "*The Psychology of Pregnancy*," was opened by Dr. Godwin Baynes. The wide scope of his interesting paper makes it difficult to summarise in any but the most general terms.

In introducing his subject, Dr. Baynes, who is a disciple of Dr. Jung, explained that psychology and psychiatry mean respectively the science and the healing of the soul. The naïve savage mind has a natural *a priori* acceptance of the psychic or soul element in existence. In other words, the psyche of a primitive is very largely exteriorised, and for this reason the study of the behaviour of primitive peoples in relation to pregnancy and childbirth offers invaluable information on the unconscious content of the mind of those who have been trained to think rationally in terms of causality.

There followed many examples of the taboos with which women in primitive societies are surrounded at the time of menstruation and childbirth. The key to all these, it was suggested, is the deep dread of blood, the sight and smell of which have a disturbing magical effect. This fear finds expression as a dread of evil spirits, which it is the object of the various taboos and rituals to banish or exorcise.

During pregnancy there is a lowering of the mental level and a greater liability to in-

vasions from the unconscious, expressed in dreams, irrational terrors, and other morbid and psychotic symptoms. These terrors, which are often projected upon insects, birds, mice and other creepy beasties, are essentially similar to the superstitious terrors of which examples have been given, and serve to show how strongly we are influenced by primitive mentality.

In the case of the first pregnancy there is often a bitter conflict between the egoistic will of the conscious and the evolutionary will of the unconscious. If the price demanded by the latter is resisted and the sacrifice refused, there comes a process of neurotic restraint. A wise doctor who understands and can make clear the nature of the problem can often re-establish that instinctive morale which is the vital necessity of the pregnant woman.

The attainment of psychic balance depends upon the recognition of such simple fundamental things as those of which Robert Bridges speaks in his *Testament of Beauty*, where he says:

"Now these and such like influences of tender speciality must not—so fine they be—fall in neglect and all their loveliness be lost, being to the soul deep springs of happiness, and full of loving kindness to the natural man, who is apt kindly to judge of good by comfortable effect."

The principles of psychic balance and harmony concern the health and quality of the individual as a member of the community no less than do the principles of hygiene, and should accordingly receive the most careful attention from those engaged in the public health service.

In the discussion which followed, Drs. Emslie, Maule Horne, Maitland Radford, Calver and Violet de Laszlo took part.

A vote of thanks to Dr. Baynes was proposed by Dr. Ursula Cox, seconded by Dr. Nash, and carried by acclamation.

BIRMINGHAM AND MIDLAND SUB-GROUP.

The second annual meeting of this Sub-Group was held at the Carnegie Institute, Birmingham, on October 22nd, 1932, Dr. Ethel Cassie (Birmingham) occupying the chair.

The report of the Hon. Secretary and the rules of the Sub-Group were read and approved.

Dr. Jessie Balsillie (Stoke-on-Trent) was elected Chairman for the ensuing session, and Dr. Georgie I. Brodie (Birmingham), Hon. Secretary.

Votes of thanks were accorded to the retiring Chairman (Dr. Cassie), and to the retiring Hon. Secretary (Dr. Jean Hall Morton).

Professor Leonard Findlay (London) gave a most interesting illustrated lecture on "*Chronic Pulmonary Infections in Childhood*," and this was followed by a discussion. A vote of thanks to Professor Findlay was proposed by Dr. Newsholme (Birmingham), and seconded by Professor Parsons (Birmingham), and the hope was expressed that this excellent address would be made available for early publication.

Prior to the meeting a luncheon was held at

the Three Counties Club, Birmingham, where Professor Findlay was the guest of honour.

YORKSHIRE SUB-GROUP.

A business meeting of this Sub-Group was held at Leeds Town Hall on November 18th 1932. The following elections were made:—

President: Dr. J. Johnstone Jervis.

Vice-President: Dr. Helen Gall.

Hon. Secretary and Treasurer: Dr. Gladys J. C. Russell.

Committee: Drs. Blackwood, Feles and Hamilton.

It was decided to hold meetings five times a year, in convenient centres in the County commencing in October, and continuing alternate months on a Wednesday or Thursday at 6.30 p.m.

The Literature of Preventive Medicine.

Fluid Milk (in its relations to the Tuberculous and Tuberculosis Care Committees). By W. BOLTON TOMSON, M.D., Medical Superintendent, "Sea-View" Sanatorium, St. Leonards-on-Sea; Chairman, Tuberculosis Care Committee, Hastings. London: Baillière, Tindall & Cox, 1932. pp. 48. Price 2s. net.

This, the author's fifth booklet on various aspects of tuberculosis work, is written to advocate universal pasteurisation of milk, and for the benefit of after-care committees; it contains some useful references to Acts of Parliament, regulations and literature concerning milk.

The author begins by recording facts about milk, some of which will be new to most readers. For instance, it is learned that the lime contained in milk is in direct proportion to the rapidity of growth of the animal affected. A human infant doubles its weight in 180 days, and human milk contains .032 per cent. of lime; a calf doubles its weight in 47 days, and cows' milk has .16 per cent. of lime; but a rabbit, which doubles its weight in 7 days, is supplied with milk containing .8 per cent. of lime. Corry Mann's results of the addition of a pint of milk a day to the diet of schoolboys are also included, and a reminder is added that an average gain of 3.85 lbs. a year was by this means converted to 6.98 lbs., and a growth of 1.84 inches to 2.63 inches per year.

Next an account is given of the bacterial dangers from milk, especially those due to the tubercle bacillus. Methods of prevention are discussed, and the grading of milk and methods of pasteurisation are described. Lastly, the means by which universal pasteurisation can be achieved are recounted, and adoptive legislation advised.

The book should prove useful to the after-care committees for whom it is intended.

The Francis Treatment of Asthma. By ALEXANDER FRANCIS, M.B., B.CH., B.A. (Cantab.), M.R.C.S. (England). London: William Heinemann (Medical Books), Ltd., 1932. pp. 160. Price 7s. 6d. net.

Dr. Francis does not claim for his book more than that it is an exposition of a method of treatment introduced by him so long ago as 1902. His view with regard to the causation of asthma is that it is not a microbic disease, and that therefore vaccines are not likely to do any good. In his experience, indeed, they never have done any permanent good, his best results accruing from the application of his own method, which is a nasal treatment mainly, involving "an area on the *septum nasi* which is intimately connected with asthma, and by treating which one is able, in the great majority of cases, to relieve all bronchial spasm."

Correspondence.

The Editor does not accept responsibility for the opinions of correspondents.

DOES VARIOLA MINOR BREED TRUE?

To the Editor of PUBLIC HEALTH.

SIR,—I am very glad you have given prominence in the December issue of PUBLIC HEALTH to the important conclusion arrived at by Drs. C. V. Chapin and Joseph Smith, of the Department of Health, Providence, U.S.A., after a painstaking investigation of all the available data in the United States, covering well over a million cases.

Dr. Chapin's unique standing in American public health circles is too well known to need emphasising.

The conclusion is to the effect that they "have been unable to find any evidence that the mild strain of smallpox has ever reverted to the classical type."

The American experience of variola minor extends back over a much longer period than is the case here, and consequently this conclusion enormously strengthens the similar conclusion arrived at in this country.

Surely we are justified, therefore, in claiming that the burden of proof should now rest with those (if there are any) who still express doubt about the permanence of the benign characteristics of variola minor.

But if these characteristics may now be regarded as permanent, then we are justified in asserting that variola minor is a distinct variety of smallpox; in other words, a distinct pathological entity. And if this is so, it is surely desirable in the interest of scientific clarity, and to avoid confusion, that we should cease to apply the name "smallpox," without any qualification, to both varieties. To do so can only lead to confusion and misapprehension.

For, after all, from the administrative point of view, there is almost as much difference between variola major and variola minor as there is, say, between Asiatic smallpox and chickenpox.

The object of this letter, therefore, is to make an appeal to all medical officers of health to specify, when referring to smallpox in any official or scientific document, which variety of smallpox is alluded to. In this connection I may observe that the terms variola major and variola minor were officially recognised in the

Nomenclature of Diseases drawn up by the Royal College of Physicians and published last year.

It only remains to add that the term "mild smallpox," as a pseudonym for variola minor, is worse than useless and only makes confusion worse confounded.

I am, Sir,

Yours faithfully,

C. KILLICK MILLARD,
Medical Officer of Health.

Leicester,

December 12th, 1932.

THE Third International Hospital Congress will be held at Knocke-sur-Mer, on the Belgian coast, from June 28th to July 3rd, 1933. Reports from the Study Committees of the International Hospital Association will be submitted, and it is hoped that the discussions arranged will enable the Congress to arrive at practical conclusions of international value. A five-day study trip to the Netherlands will follow the Congress.

The Royal Sanitary Institute.—Amongst elections to the Fellowship of the Royal Sanitary Institute it is noted with interest that there is included the name of Her Royal Highness Princess Louise, whose concern in public health matters is well known, and who honoured the Institute by attending a recent meeting at which a paper on "Clearance Areas and Improvement Areas" was read by Dr. James Fenton, Medical Officer of Health of Kensington. Amongst Honorary Fellows elected is Professor Mazyck P. Ravenel, of Columbia, U.S.A., whose contributions to PUBLIC HEALTH enjoy so much popularity. Fellows of the Society elected at the same time to the Fellowship of the Institute include Dr. A. A. McWhan (County Medical Officer of Health, Berwickshire), Dr. D. Morley Mathieson (Medical Officer of Health, Birkenhead), Dr. T. N. V. Potts (County Medical Officer of Health, West Riding of Yorkshire), and Dr. John Rennie (Medical Officer of Health, Sheffield).

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Editorial.

General and Special Hospitals of the London County Council.

THE task imposed upon many authorities as a result of the coming into operation of the Local Government Act of 1929 must have been great. In few, if any, however, could it have been of the magnitude that had to be faced by the London County Council. Not by any means the least part of the burden was that to be borne by the health department, and the part played by Sir Frederick Menzies, the medical officer of health of the county, in this connection for long will lead to wondering comment and warm commendation from those who know the labour, worry and anxiety that must have been involved. In connection with the work he was called upon to do, not the least in extent was that concerned with hospitals and the medical services generally that fell to pass from the hands of bodies due to disappear

into those of the London County Council. Already in his report for 1930, Sir Frederick has written of the preliminaries and of the arrangements made and operated so that the actual transference should cause as little of disturbance as possible. That there was, in fact, nothing of disturbance at the dawning of the appointed day he has shown and London saw.

In the annual report of the London County Council for 1931 there appears a report* by Sir Frederick in which he shows how matters have gone in relation to the hospitals and general medical services since they came into the hands of the council; describes developments that have occurred, and that he hopes to

* PUBLIC HEALTH—GENERAL AND SPECIAL HOSPITALS. Vol. IV (Part I): No. 2935. London: P. S. King and Son, Ltd., 14, Great Smith Street, S.W.1. Price 2s. 6d.

see made, and gives details not only with regard to the minutiae of management of institutions, staff, etc., but of the cases dealt with in various of the special hospitals from the clinical point of view. Some idea of the magnitude of the task carried out, as also of reporting upon it, may be gathered from a few of the figures quoted by Sir Frederick Menzies.

In the hospital branch of the department, it is explained, there are two main sections, one dealing with general hospitals and the other with special hospitals. The former has responsibility for no fewer than 44 hospitals and institutions with a total bed accommodation of 27,553. In this same division provision is made also for medical instruction and training of nurses and midwives, and a number of other extremely important ancillary services. The special hospitals division is concerned with the management of 31 hospitals, of which 17 are for infectious diseases. The number of beds here reaches 13,390. In this division as in the other, there is provision for teaching, particularly in the infectious diseases hospitals for the instruction of medical students and of candidates for the diploma in public health. As a contribution to teaching facilities in London this must have an immense value and is appreciated, it may be hoped, by those for whom it is provided.

Amongst developments in the future it would appear that there is in the mind of Sir Frederick Menzies intention to provide teaching facilities additional to those already available in other hospitals and institutions. If this can be done, the effect on London as a teaching centre will be enormous. How enormous is to be gathered from the tables in the report showing the numbers and types of cases dealt with in the special hospitals, figures calculated to arouse feelings of acutest envy in the heart of even the least enthusiastic of clinical teachers.

That the clinical material is not entirely neglected, and that opportunities for research that are offered are taken advantage of to as great an extent as other work permits, is shown in the report, which contains a list of quite respectable dimensions of investigations carried out in laboratories and elsewhere, and of books and papers published by members of the staff.

In regard to staff, the information given as to grading shows not only that careful thought has been devoted to the subject, but that every effort has been made to show the fullest possible consideration for the individual members of the personnel, and to ensure that to each grade there should be tempted suitable and suitably

qualified people; that, in short, the medical service of the London County Council should be made, what it shows every indication of becoming: one worthy of serious consideration when the question of career and future is receiving attention from the medical graduate. In the report there is no reference to the step recently taken by the county council of notifying intention of terminating the appointment of the temporary consulting staff of the hospitals. Indeed, at the moment, apart from the fact of the notice, nothing definite in the way of announcement has been made as to what is proposed to be done. With an organisation so immense, which in the main has been framed and moulded by other hands, difficulties in relation to such a matter as staffing inevitably must arise and must be faced; from the way others of the kind have already been dealt with, there appears little doubt that a fair and proper solution will be found. Evidence of this is to be found in the report for 1931 which, with regard to other matters and in other respects, constitutes a mine of interest and information worthy of investigation by others than persons having responsibilities connected with hospitals, municipal hospitals especially.

Artificial Immunity against Diphtheria.

IN the memorandum (170/Med.) recently issued by the Ministry of Health on this subject, as the memorandum itself in fact recognises, there is much that is already known and practised by the bulk of authorities. Nevertheless, it was wise of the Ministry to make the information so conveniently available, and more particularly to issue, in the form of a series of recommendations on the practice of active immunisation of children susceptible to diphtheria, a statement in accord with the findings of the conference of experts from different countries held in London in June, 1931, under the auspices of the Health Committee of the League of Nations. This shows that among children in this country a proportion which varies in different communities, but may be as high as 90 per cent., or as low as 10 per cent., is susceptible to diphtheria. It explains also that in order definitely to ascertain whether a child is susceptible or not, a preliminary (Schick) test should be made, and describes the method of its performance. With a view to determining whether there is any hypersensitivity which requires to be taken into consideration if immunisation is to be proceeded with as

a result of the Schick test, it is recommended that a third injection should be given also intradermally into the skin of the forearm, of a very small dose of formol toxoid (0.2 c.c. of a 1/100-1/200 dilution).

The distinguishing features of the negative and positive reactions are helpfully described, as is also the method of carrying out the process of immunisation. Particularly it is pointed out that in accordance with the reaction to the small dose of formol toxoid which constituted the third injection, modification of the method of immunisation will be necessary. If there is no local response to this within 24-48 hours, or if there is a local reaction of not more than $\frac{1}{4}$ -in. in diameter with no induration, immunisation should be undertaken by the *subcutaneous* injection of formol toxoid of 25/35 L.F., or of even greater strength, in doses of 1 c.c. on three occasions with fortnightly intervals. If the local reaction to the test dose of formol toxoid is strong, however (as occurs in approximately 5 per cent. of children of all ages), *i.e.*, if there is a vivid flush of more than $\frac{1}{4}$ -in. in diameter with central induration, toxoid antitoxin flocules should be used as the immunising agent, instead of formol toxoid.

Not less than two months after the last immunising dose has been given, the Schick test should be repeated. In the great majority of cases it will be found to be negative, indicating that immunity has been established. If the Schick test is positive, however, or doubtfully positive, then one additional dose of the prophylactic, equal to the last one given, should be administered and the test again applied not less than two weeks later. If the test proves again positive then the whole immunising course should be repeated, as should the subsequent retesting. Immunisation should not be attempted in children under the age of one year; with this proviso the procedure is applicable to all healthy children found to be susceptible.

Points that are stressed in the memorandum, and that may be noted, are that medical practitioners who desire to obtain experience of the technique employed in Schick testing and immunisation should apply to the medical officer of health, who no doubt will be able to make the necessary arrangements; and that immunisation is not a way of dealing with an individual attack of diphtheria or with the "carrier" condition. Unlike the passive immunity produced by diphtheria antitoxin, which is immediate but transient, active

immunity requires several weeks or months for its full development, but endures for years and perhaps throughout life.

* * * * *

The Rise of Preventive Medicine.

BY many more than those who had the privilege of listening to the Heath Clark lectures, on which it is based, this latest work of Sir George Newman's* will be warmly welcomed, but where the latter have advantage is that the book will awake for them recollections of the fact that, as members of the audience attending the lectures, they were really taking part in an event of historical importance. In addition, it need not be claimed, they were enjoying the privilege of listening to one who is establishing himself more and more firmly each year as an authority on the history of medicine; to one also who is high amongst the makers of preventive medicine, who, if its existence ever is accepted by the clinicians, must be regarded as the one who compelled acceptance. If what is almost a vulgarism may be permitted, it may be claimed almost for Sir George Newman that in these days it is he who has put the preventive into medicine.

In the preface to his book there is the allegation that "the ideal of medicine is the prevention of disease." With that opinion those who work in that field will unhesitatingly agree, as they will agree that no one has done more to prove it to be the ideal, and have it generally accepted, than Sir George Newman. The Heath Clark lectures and this book, perhaps one of the most attractive he has ever produced and that will probably do more to establish his reputation, it may be supposed had definitely as an objective the setting up of the ideal and the proving that medicine has and always has had no other ideal and aim than the prevention of disease. Chapter by chapter he shows conclusively that not only has man in general and at all stages desired to be protected against disease and preserved from sickness, but that at all ages and stages the practitioner of medicine, no matter what he may have done or given in the face of illness, has always worked towards, and always held out hope of, prevention. Sir George shows that there has been a rise in preventive medicine: shows how wide is its scope and setting. In showing these things he

* THE RISE OF PREVENTIVE MEDICINE. London: Humphrey Milford, Oxford University Press, 1932. Price 10s. 6d. net.

led those who listened to him, as he will those who read him, through a wide variety of ways and byways, never failing for an instant to fascinate and to impress as a teacher and a master, not only of his subject, but of literary style.

Of his book, Sir George Newman says it is not a text-book of preventive medicine. If not, it is almost everything else that a book standard of the subject should be. In any case, since in this country so far as the medical undergraduate is concerned, no knowledge of prevention is expected, there is little need for a book professing to provide guidance in the study of preventive medicine as a specific branch of a curriculum. The individual engaged in preparing himself for entry into the public health service may be tempted to make a text-book of Sir George Newman's work. If so, he should yield to the temptation, for in it, apart altogether from information that may help him in an examination, he will find something greater: inspiration and high ideal of the work he hopes to carry out.

Pneumoconiosis.

AT the International Conference on Silicosis, held at Johannesburg in 1930, one of the subjects discussed was the advantage that would follow the establishment and maintenance of central libraries of the literature of silicosis, and the collating and comparing of the experience of different countries.

Adopting this suggestion, the Health Service of the International Labour Office has prepared a bibliography of all the works published up to December, 1931, on the general physiology and pathology, clinical pathology and radiology of pneumoconiosis. Under the head of "Pneumoconiosis,"* this bibliography includes works dealing not only with the harmful effects of silica, but also with those due to dusts in general. With the help of various experts and members of the Correspondence Committee on Industrial Hygiene, every effort has been made to check the names of the authors, titles of works and sources (periodicals, date of publication, etc.).

The publication is one that will prove of outstanding value to all concerned and interested in industrial hygiene and the dust diseases particularly. It will be all the more warmly welcomed, valued and praised, having regard

to the announcement made that it is intended only as a preliminary step leading towards the drawing up of a full bibliography, which might subsequently also cover health and legal compensation questions arising out of diseases due to dusts.

Miners' Nystagmus.

ON the recommendation of the Committee appointed to investigate the subject, the Medical Research Council have recently issued a third report* on miners' nystagmus. A principal finding as shown in the earlier reports, was that the chief symptom of the disease, namely, involuntary oscillation of the eyeballs, was caused by an insufficiency of the light reaching the eye of the miner while at work, and that of all measures of prevention the most important was to secure for the miner at work an adequate illumination. In the present report both this scientific conclusion and its practical corollary are re-affirmed, though it has been found impossible to disregard the fact that since the publication of the earlier reports there has been no reduction in the burden of disability assigned to conditions officially certified as coming under the heading "miners' nystagmus." The committee have, therefore, thought it to be their duty, as the report shows, to give a wider scope to their investigation and to pay attention to the general symptomatology of the disease as recognised for compensation. This has led them to a more extended examination of the nervous or psychological factors which play a part in the production of industrial disability, a subject which was by no means ignored by their predecessors.

The conclusion is reached that the criterion of incapacity is not easily determined. On the one hand, oscillation of the eyeballs, *per se*, is not a trustworthy test for incapacity, since many men with this symptom are working efficiently. On the other hand, the absence of this symptom, in the presence of symptoms of a nervous or psychological kind, is not sufficient proof of fitness for work. The committee, therefore, have had to accept the inherent inconsistencies in the symptomatology, and to content themselves with drawing attention to these, leaving to the administrative departments

* Special Report Series, No. 176. H.M. Stationery Office, 1932. Price 9d. net. The two previous reports appeared in 1922 and 1923 as Nos. 65 and 80 in this Series.

* London: P. S. King & Son, Ltd., 1932. Price 2s.

consideration of the action to be taken on the facts set out. Of these it is suggested the most important is that the true significance of the various symptoms presented by sufferers from this complaint can be elucidated only by medical men with the requisite training. There appears to be no doubt that with the improved lighting which is being introduced into the collieries, and with the recognition by all concerned that the best curative measures for those symptoms which are the most disabling is the return to work of the disabled, the incidence of the disability will decrease, and the necessary curative measures become more easy to administer.

In conjunction with its two predecessors the present report provides a full and clear view of the course of development leading to the present situation, and a volume of information, the value and accuracy of which are unquestioned.

Chapin, of Providence.

THE most recent report on the health of the City of Providence has reference to the year 1931. This was the last for which Dr. Charles V. Chapin was responsible, his resignation, after 48 years continuous service as Superintendent of Health of Providence, having taken effect at the beginning of January, 1932. The report actually has been prepared by Dr. Chapin's successor, and in opening it he has taken the opportunity of paying tribute to one who is held in esteem no less high in the health service of this country than in that of his own country, of which he was, and fortunately still remains, so distinguished an ornament.

Mainly it is his work in the field of contagious diseases, particularly the modes of their transmission, that has gained for him the reputation he so well deserves. His book "Sources and Modes of Infection" is a classic in its line, and, when published, marked the turning point in the accepted views concerning the transmission of infectious diseases. It has been a guide to health officials, in English-speaking countries at least, and has led to numerous radical changes in public health practice.

The view expressed by Dr. Richardson, who follows Dr. Chapin, that it is fortunate that the City can still turn to him for counsel and advice, is one to which many will take exception, feeling that with safety he might have claimed it as good fortune for public health and preventive medicine as a whole that he is still to con-

tinue interest in this work, and to be identified with Providence as Emeritus Superintendent of Health. Here it is not out of order to add a hope that Dr. Chapin, "not only" as Dr. Richardson calls him, "a wise man but a most charming one as well," may long be spared and that for many a long year health workers may enjoy the good fortune Dr. Richardson rightly claims to exist.

SIR HENRY GAUVAIN, M.D., M.CH., F.R.C.S., Medical Superintendent of Lord Mayor Treloar Cripples' Hospital and College, Alton, Hants, will lecture on "Sun, Air and Sea-bathing in Health and Disease," in the Great Hall of the British Medical Association, Tavistock Square, London, W.C.1, on Tuesday, February 21st, 1933, at 8 p.m. The lecture is the fifth "Sir Charles Hastings Lecture," inaugurated by the British Medical Association for the purpose of offering to the public information by the highest authorities on matters of general public health interest. The chair will be taken by the President of the Association, The Rt. Hon. Lord Dawson of Penn, P.C., G.C.V.O., K.C.B., D.C.L., LL.D., and after the lecture relevant questions in writing are invited. Admission will be free, by tickets obtainable on application to the Financial Secretary, British Medical Association House, Tavistock Square, London, W.C.1. Seats not occupied by ticket holders by 7.50 p.m. will be available for other members of the public.

A POST-GRADUATE Course on Tuberculosis will be given, under the auspices of the Joint Tuberculosis Council, by the Medical and Surgical Staff of the Brompton Hospital for Consumption and Diseases of the Chest, London, S.W.3, commencing on Monday, February 20th, 1933. The fee for the Course, which will occupy the whole week, is £3 3s. Details may be obtained from Dr. William Brand (Hon. Secretary for Post-Graduate Courses, Joint Tuberculosis Council), 8, Highway Court, Beaconsfield, Bucks.

THE Nineteenth Annual Conference of the National Association for the Prevention of Tuberculosis will be held in Cardiff on July 13th, 14th and 15th, 1933. Details will be issued in due course from the offices of the Association at Tavistock House North, Tavistock Square, London, W.C.1.

Cancer as a Public Health Problem.

By ROBERT HUGHES PARRY, M.B., D.P.H., Medical Officer of Health,
City and Port of Bristol.

In the service, by reason of the work he has done in relation to research and otherwise into the subject, there is no one better qualified to speak on cancer and the problems connected with it than Dr. Parry. In choosing to deal with it, therefore, in his presidential address to the West of England Branch, he was not only taking an appropriate but a proper line, and at the same time was doing a service to his fellows.

PREVENTION of disease always should be the chief aim of any public health service. At the present day, however, it is quite impossible for the service to be confined to prevention. The present state of the medical services in the country, their lack of co-ordination and the absence of any scheme for such co-ordination leave embarrassing gaps. For humanitarian reasons, if for no other, these gaps cannot be left outside the scope of the work of the health department. When I say this I am assuming, perhaps too much, that all medical services supplied by the local authority can best be administered through one health committee. To my mind, it is only so that every person will be treated *qua* sickness, and not in accordance with his or her financial status. It is in the light of this wider meaning of a public health service that I intend discussing cancer as a problem.

Incidence of Cancer.—Cancer is not a notifiable disease, so that direct information concerning the incidence is not possible.

The incidence of the disease can only be reckoned from two uncertain factors, *viz.*: (a) the number of registered deaths from cancer, and (b) the number of cures following treatment.

Death registration of cancer is not interfered with by other diseases to the same extent as occurs in, for example, local diseases, such as heart disease, and tabes and cerebral hæmorrhage. The conditions which take precedence of cancer are deaths occurring from violence such as suicide or accidents, which for this specific disease are relatively few in number. Besides, nearly all untreated and many treated cancers result in death of the victims, so that the number of registered deaths from the disease is a fairly accurate estimate of the number that, in the opinion of the certifying practitioner, has actually suffered from cancer and died therefrom. Therefore, the uncertain factor in regard to

the registered deaths from the disease is the opinion of the certifying practitioner. The number of cures following treatment varies considerably with many factors, the most important of which are the locality of the disease and its accessibility, the method of treatment as well as the technique and skill of the operator, so that a fair estimate of the number successfully treated is unobtainable.

A question that concerns us much nowadays is—Is cancer substantially on the increase?

Let me give the Bristol figures for the last ten years:—

TABLE I.—CANCER.

Year.	Number of deaths.	Crude Death-rate per 1,000 population.	Percentage of total deaths.
1922 ...	466 ...	1.21 ...	9.46
1923 ...	509 ...	1.32 ...	11.64
1924 ...	493 ...	1.27 ...	10.49
1925 ...	590 ...	1.32 ...	11.39
1926 ...	483 ...	1.26 ...	11.02
1927 ...	552 ...	1.43 ...	11.51
1928 ...	568 ...	1.45 ...	12.62
1929 ...	544 ...	1.39 ...	10.72
1930 ...	595 ...	1.52 ...	13.31
1931 ...	597 ...	1.49 ...	12.60

The crude mortality rate of cancer in Bristol has increased by nearly 20 per cent. in ten years. It must be remembered that this is so in spite of the fact that many cases are being cured of this disease (cancer of the breast, uterus, etc.). Lane Clayton (1931)* has analysed data from county boroughs and reports that "21 per cent. (of cancer of the breast) receive it (treatment) and are cured of the disease." It is much more probable that this figure has increased rather than decreased in ten years, owing to the increased appreciation of the value of early resort to, as well as improved methods of, treatment.

* Ministry of Health Reports on Public Health and Medical Subjects, No. 66.

The incidence rate of cancer, therefore, must be increasing much more rapidly than is indicated by the mortality rate. No doubt the change in the age and sex distribution of the population shows a gradually increasing number of persons at risk—that is, with a predisposition to the disease through age and sex. But that does not explain away the facts that the mortality rate from cancer has been increasing rapidly for many years past, and that the incidence rate has probably increased much more rapidly.

I am no great believer in "improved diagnosis" as an important factor to account for the increase in the mortality rate from cancer. No doubt it is true to a slight extent and may explain the fall in the mortality rate of cancer of the liver for example, in which case, with modern equipment and technique, it is possible better to allocate the position of the primary growth. Speaking as an ex-general practitioner, it is much more likely that cancer as a cause of death is a "refuge" and may include such other conditions as are associated with anaemia and wasting before death has supervened.

Cancer of the Breast.—But let us take cancer of the breast. In Sir George Newman's annual report (1931) the standardised (corrected to census of 1901 for age and sex) death-rate per million of the population for many years from this disease is given:—

TABLE II.—CANCER.

Year.	Males.	Females.
1901-10 ...	1.5 ...	158.4
1911-20 ...	1.6 ...	170.8
1921-30 ...	1.8 ...	189.1
1926 ...	1.7 ...	184.3
1927 ...	1.6 ...	193.5
1928 ...	1.9 ...	196.2
1929 ...	1.8 ...	195.7
1930 ...	2.3 ...	194.5

I do not think we have any right to assume here that "improved diagnosis" explains away any of the increase. As already stated, a larger number is cured of this disease every year. It would appear, therefore, that this table shows a true increase in the incidence of cancer of the breast, after correcting to allow of the increasing number of persons at risk.

But why need we concern ourselves with standardised death-rates? We are faced with the problem that there are more people at risk in the country (more women—more people of

the cancer age) and, in addition, there is some other factor which is resulting in the appearance of more cancer amongst these same people.

If for no other reason than that the disease is on the increase, public health authorities cannot remain dissociated from the problem which from their standpoint presents three distinct aspects:—

1. Prevention, and Control.
2. Treatment.
3. After-care and the incurable.

Cause of Cancer.—Before the question of prevention can be usefully discussed it is essential to know something about the cause and behaviour of cancer. With regard to the cause of cancer, after several years of study of this disease, both in the laboratory and clinically, I have never satisfied myself that there is a better explanation of the origin and behaviour of cancer than that put forward by Ribbert. In effect his theory is that the malignant cell is a normal cell removed from the inhibitory influence which controls normal growth. In vitro-culture, experiments have proved that a normal cell has unlimited power of growth. We know that growth in the body is under some definite co-ordinating and controlling power within the body; in no other way can be explained the remarkable constancy in the size, shape and character of the different parts of the body as well as the still more wonderful process of repair. No doubt some stimulus is required by the cells before their multiplication occurs in the process of repair, but this process is controlled by some definite body mechanism. It is not strange, therefore, when one considers the frequency with which the body is exposed to trauma of all kinds that on occasions are formed cells stimulated to grow, but isolated from this control whilst they still remain under proper conditions of nutrition favourable to growth. What we do know relative to the localisation of these tumours fits in well with this theory. The character of these causative agents is most varied—from trauma, X-rays, coal tar products, arsenic, syphilis, to the virus of Rous in fowls and the spiroptera of the cockroach, which Fibiger found to cause cancer of the stomach and the œsophagus in rats. The action of all these agents has the same result, but it may well be that their mode of action is different, and it is certain that some take a

longer time than others to produce the disease. Perhaps we may go a step further. The researches of Sir Lenthal Cheate upon the spread of rodent ulcer of the face and the part played by the cutaneous nerve distribution, suggests the means of control of growth, if not the actual source.

One important fact to be remembered in connection with the spread of cancer is that it is transplantable from one person to another. This has been amply proved by animal experiment and accidental transplantations in human beings are known. The same process is involved as when secondary deposits occur in other parts of the body away from the primary growth.

Prevention and Control.—If cancer be of the nature described, then prevention and control of the disease can best be carried out by supervision of persons at risk, by the ascertainment of pre-cancerous and early cancerous conditions, and by immediate treatment of the disease. In fact, our practical experience so far goes to prove that some measure of success may be expected along these lines.

Action on the following lines appears to me to be indicated—

(1) Much assistance to better early ascertainment of pre-cancerous conditions and of cancer would result from education of the public. There are very many ways in which this could be carried out, but I shall only mention one or two.

Women could be informed of the particular risks they run, through the mothers' schools. Extensive propaganda by the distribution of literature could be carried out. Excellent pamphlets have been prepared and printed by the Middlesex Hospital Press.

I have been told that there is a risk of a new disease — cancerophobia — appearing amongst the community as a result of educational propaganda concerning cancer. I cannot imagine that there is a real risk of this doing much harm, for we as a nation are not so unstable as all that. There are occasions when—from apathy perhaps—we would all rather not know—"where ignorance is bliss!" But to the thinking man and woman who appreciate that the prognosis following treatment in cancer varies directly with the earliness of diagnosis, it is important that he or she should know the indications for his or her reporting for medical examination. How often have we heard: "But I never thought it was serious because there was no pain."

There must be much more extensive propaganda that people may appreciate the value of diagnosis of any abnormality in appearance or function of the body.

(2) All trauma (in its widest sense and including the result of chronic irritation), especially at certain ages, must be treated with respect. Particularly does this apply to certain parts of the body, such as cervix uteri or the breast. Every assistance must be given to the normal healing of wounds with the minimum of damage.

(3) Where persons are or have been exposed to a certain type of trauma which has a particular tendency to result in cancer, periodic medical examinations of these persons are indicated. In certain industries this is now taking place, and types of cancer are scheduled as industrial diseases, notifiable by medical practitioners to the inspector of factories. These are "epitheliomatous ulceration due to tar, pitch, bitumen, mineral oil or paraffin, or any compound product or residue of any of these substances, occurring in a factory or workshop" (Home Office Order, November 28th, 1929).

It is interesting to note here the experience gained in regard to periodic examinations along these lines. There appears to be no doubt that these examinations are extremely valuable, but much difficulty was experienced in persuading the employees to submit themselves to examination. I cannot do better than quote from the report of the Chief Inspector of Factories.

H.M. Inspector (1931) quotes Dr. Henry's reports on efforts made at one gasworks to institute examination. About 550 employees were involved, 210 being over 30 years of age.

"Distribution of Form 1782, and a verbal and written request to each worker, led to only 12 per cent. of the total number employed presenting themselves.

"Further personal letters of request to attend and thanks for previous attendance led to 13.6 per cent. presenting themselves at the second examination, 8 per cent. at the third, 2 per cent. (after special approach by the foreman) at the fourth, 1.6 per cent. (after personal application by the manager) at the fifth, and .36 per cent. (after a large notice was placed in front of the works) at the sixth examination.

"I subsequently addressed some 70 to 80 of the men, and the reasons given for non-attendance included fear of being informed that they had cancer, fear of suspicion that the employer must have some ulterior motive in instituting the examination, and that the doctor, however much they liked him personally, was acting primarily for the employer, and finally,

indifference because the examination was voluntary and not compulsory."

In regard to the cotton mule spinner, the Inspector states:—

"There is a growing disposition on the part of the workman incurring this risk to seek advice at an early stage. . . ."

Perhaps this experience foreshadows the extent of the response which we may expect to any scheme for the voluntary examination of the working man and woman.

In his report for 1930, H.M. Inspector says:—

"Dr. Downing of Cardiff has kindly sent me particulars of the examinations he has made, which are, I consider, conclusive evidence of its value. Men of 30 years and over and who have been employed for ten years or more in the industry, were examined and numbered 257. Twelve growths were detected, two of which showed the characteristic appearances of an epithelioma."

It should be noted that there is no limit to the time during which supervision of people once exposed to these risks should be maintained.

To quote further from the Inspector of Factories report (1931):—

"The addition of 60 new cases amongst cotton mule spinners brings the total number of recorded cases amongst these workers to 1,062; 867 (81.6 per cent.) in spinners who were still employed in the mule room when the disease was recognised; 52 (4.9 per cent.) in spinners who had retired before recognition for periods varying from 1 to 16 years; and 143 (13.4 per cent.) in ex-spinners who had passed into other employment which, though of short duration, in some of the cases, may have contributed to the causation of the disease."

(4) Periodical medical examinations are also to be recommended where other predisposing factors exist, e.g., age. In this way pre-cancerous conditions and early cancers may be found and subjected to treatment.

If we analyse the 597 deaths that occurred in Bristol during 1931, we find that 42 per cent. (253) occurred in people between the ages of 45 and 65. It is probable that a good many more cases commence between these ages. This gives an incidence rate for the population of Bristol at that age of 5.4 times that of people between the ages of 25 and 45. Further, of these 597 deaths from cancer, only 53 were under 45 years of age—in other words, 89 per cent. of the deaths were 45 years or more. Age is therefore so important a factor as to justify routine periodic examinations of all persons of 45 years and over.

I am strongly in favour of leaving this work of periodic examination in the hands of general practitioners with certain safeguards. It is not my intention to suggest any scheme for dealing with cancer which could not be applied more widely so as to include all diseases. Therefore, I should like here to diverge and discuss the relation that should exist between the general practitioner and the health department.

The General Practitioner and the Health Department.—The work that the general practitioner has to carry out in his practice presumes that he has an unlimited store of knowledge, that he is an expert physician and orthopaedic surgeon, an obstetrician, as well as gynaecologist, neurologist, not to mention a radiologist, electrotherapist, etc. This, of course, is utterly absurd, and the sooner it is appreciated by the whole profession the better for our prestige. Neither the general practitioner nor anyone else can possibly be a specialist in all branches of the science—diagnosis and treatment. If he attempts it he does injustice to his patients, and so it is but fair that the State should have something to say in the matter. Catastrophies that result from wrong diagnosis and treatment result in great financial loss to the State. They may throw not only individuals but whole families as permanent charges upon the State. Before the State itself has moved in the matter, I feel that we, as a profession, ought to take it up.

In some general practices an attempt has been made to solve this problem by means of partnerships, but this is only a partial solution. The general practitioner knows full well—as we all do—the limited ability of the consultant in the matter of diagnosis unless he is assisted by all the adjuncts for this purpose, which latter means transferring the patient to a well-equipped clinic or hospital. The practitioner is aware also of the limitations of the average nursing home. In view of the waiting lists for beds at the voluntary hospitals he finds it impossible to get admission for his patient for the purpose of diagnosis. The general practitioner has the prestige of his practice to consider—that is his capital on which depends his income. He must pay great attention to early diagnosis and treatment. His client wants a label and prognosis immediately, but most credit in the practice of medicine is obtained for curative treatment, and no general practitioner wants to lose an

opportunity of attempting this if it is within his power. How, then, can he get access to all the modern equipment for diagnosis without dabbling with them himself and without losing his patient?

From our point of view we are most interested in early diagnosis as the first and most important step towards the cure of disease. Treatment we are also concerned with and we want to see that the best is available for everyone.

Assistance to General Practitioner.—What can we do to help the general practitioner in this matter of diagnosis? I do not think the employment of a general practitioner in the public health service and limiting the number of full-time medical officers does anything to bring about closer co-operation. What is wanted is not to extend the duties of the general practitioner but rather to limit them. He must be acknowledged as the advance guard for *ascertaining* disease, and he must be encouraged in this work and be given every facility to carry it out efficiently.

Laboratory Service.—Laboratory facilities for diagnosing infectious disease are already available to most general practitioners. These should be extended so that a first-class laboratory service is available to all practitioners. A scale of fees can be arranged to meet the means of every patient. This service should include all laboratory services, bacteriological, serological and histological.

Institutional Beds and the Rôle of the Municipal Hospital in Diagnosis.—There are large numbers of cases which cannot be diagnosed in a doctor's surgery nor in an out-patient department of a hospital, but require supervision for a varying period in a well-equipped hospital so that the proper investigations may be carried out. Our voluntary institutions, with lists waiting for treatment, are quite unable to cope with these cases, so that in most of our large cities there is no provision for carrying out that important public health function of hospitals, viz., diagnosis. I am told by surgeons that if these names of patients waiting to be diagnosed were added, the waiting lists would only be increased in size with ill consequences to those already on the list. The natural inference is that some, at least, of these cases for diagnosis become cases for treatment before they get on the waiting list and so before they are admitted. Especially is this liable to occur in the case of cancer. Spare beds in a

modern, well-equipped hospital are an invaluable asset to any health service.

Our opportunity to help, therefore, is afforded by our appropriated hospitals. First let these institutions be properly equipped. Then let their services be placed at the disposal of the general practitioner, but not to hide his sins nor to hide those of the voluntary hospital, as has been the case far too often in the past, but to place a label to the patient's complaint. Let our hospitals, above all, be places for diagnosis. Thus we will encourage early resort to treatment when disease, if not preventable, at least is curable. The general practitioner must have confidence in these institutions, first in the ability of the staff (and no one but the best specialists should be responsible for the clinical work of these hospitals), and secondly, in the goodwill of those responsible for their administration.

Periodic Medical Examination.—But to return to the question of periodic medical examinations. This could be entrusted to the general practitioner on the clear understanding that he sends forward to a specialist consultative clinic—at a voluntary hospital or a municipal centre—any case of a suspicious nature. It would be necessary, of course, to arrange for State payment of the examination of those who could not afford it and who were not served by the national health insurance scheme. To make this examination a success, I believe it would be essential to arrange for the notification of cancer in these cases and to make full enquiries into every cancer death on the lines of the present enquiries into maternal deaths.

The Cancer Clinic.—I have dealt briefly with the method of ascertainment of cancer, and have outlined the conception of a better understanding between the general practitioner and a health department. In regard to cancer, the scheme that I have already outlined for periodic medical examinations of all people subjected to special risk (i.e., certain age groups, occupations, etc.) is of great importance to obtain early diagnosis. The question that naturally arises in this connection is: Where does the general practitioner refer his doubtful cases? Should local authorities establish a clinic for this purpose? I am definitely of opinion that they should, but such a clinic should be one of a series where cases of difficulty to the general practitioner could be referred for diagnosis. It need not—perhaps it *should* not—be labelled a "cancer

clinic," but rather it could be the "consultation clinic." Preferably the clinic should be in relation to and in close co-operation with a hospital—voluntary or municipal—that beds may be available if further investigations are required.

Wherever possible the medical officer in charge of the clinics should have specialised in some particular system or systems of the body, for it is not expected that any one medical practitioner can be a specialist in cancer diagnosis with complete knowledge of all the systems of the body.

Treatment.—I do not think that the actual nature of the treatment of cancer concerns me in this paper, but it is an important issue for the health service whether or not treatment is successful. No doubt exists in my mind that the success of treatment depends upon early diagnosis and early submission to treatment.

The treatment of cancer even in its early stages must be considered to be outside the scope of the duties of the general practitioners.

I fear that medical men are too apt to look upon cancer as a chronic disease. Handley* has shown that cancer of the breast spreads in the following ways:—

- (1) By infiltration or direct spread to the surrounding tissue.
- (2) By permeation or growth along the lymph channels.
- (3) By trans-caelonic implantation.
- (4) By lymphatic embolism which results in gland deposits, and possibly by blood embolism.

Handley has shown quite clearly that the rate and extent of the spread of cancer cannot in the least be gauged by the extent of infiltration into the surrounding tissue. Permeation is a much more rapid process, and lymphatic embolism may result at a distant gland when the primary growth is small. It is no exaggeration to say, therefore, that there is a definite risk of the rapid extension every hour that the disease remains untreated. Further, the risk of treatment failing is greater because these secondary deposits at first are so small as to be unrecognisable.

I have analysed some facts in relation to intervals of waiting for treatment in 51 cases of cancer in the breast. Most of these cases were first of all seen by a private practitioner,

* "Cancer of Breast and its Treatment," London, 1922.

and then made their way or (in most cases) were referred into a Bristol hospital for treatment.

TABLE III.—CANCER.

Interval between first consultation with private practitioner and hospital consultation.	No.	Percentage approx.
Less than one week...	30	60
1-2 weeks ...	8	16
2-4 weeks ...	4	8
4 weeks and over ...	9	18
Total ...	51	—

If one takes this table at its face value one sees that the general practitioner, in 60 per cent. of the cases, sent his patient within one week to seek specialist advice and hospital treatment. But 18 per cent. who did not seek advice until four weeks or more had passed is a substantial figure.

TABLE IV.—CANCER.

Interval between first consultation with hospital and admission for treatment.	No.	Percentage approx.
Less than one week...	12	24
1-2 weeks ...	8	16
2-4 weeks ...	12	24
4 weeks and over ...	19	38
Total ...	51	—

In Table IV, 38 per cent. waited a *month* or more after being seen by the hospital staff before they were admitted for treatment, and 24 per cent. waited 2-4 weeks. One must not rush to the conclusion that this is entirely due to the existence of a waiting list although, no doubt, it is partly and probably largely so, but not infrequently the patient for personal or domestic reasons prolongs the period before treatment. Further information on this point would be valuable. It is almost certain that by education and pressure from the medical men responsible this period could be considerably shortened. One fact is clear—that the intervals of waiting for diagnosis and of waiting for treatment are such as to prejudice the recovery of the patients considerably.

The Rôle of the Municipal Hospital in Treatment.—As a result of the passing of the Local Government Act, 1929, the powers possessed by the old guardians for the provision of hospital accommodation and treatment of poor people have been transferred to the councils of county and county boroughs. In addition, the council of a county borough had power under Section 137 of the Public Health Act, 1875, to establish and maintain

hospitals, but very few of the authorities had utilised this power. Under Section 14 (2) of the Local Government Act, 1929, this power under the Act of 1875 is extended to include the provision of places for the reception of pregnant women.

Before 1930 the development in these directions had almost entirely been confined to that made by poor law authorities, who had turned some of their poor law institutions into modern hospitals. Where these poor law hospitals have been appropriated (or where institutional treatment of the sick has been declared) the work performed by the hospitals has naturally been extended. The qualification for admission now becomes sickness, not the need for "medical relief," although the local authority still has an obligation to provide adequate accommodation for all the sick poor.

The history of the poor law hospitals is that in most cities they have served as excellent dumping grounds for inoperable cancer, as well as many other cases where, for various reasons, treatment elsewhere has been a failure. There is a definite need for an institution to serve this purpose, so as to relieve the true hospital beds (voluntary and municipal) for curable patients. (It would be most enlightening if careful investigations were made into the history of all cases so admitted and the reasons for their need of such institutional care.) But, as I have mentioned, the public health hospital of the future must serve an entirely different purpose. All modern treatment must be available at the earliest possible moment to all cases requiring it; this can be supplied in the institution itself by the most skilled staff available, or by arrangement with other establishments in the vicinity (such as the radium centre in Bristol). It implies sufficiency of hospital beds, so that there is no "waiting list."

After-Care and the Incurable.—No type of case requires closer supervision for a period following treatment than does cancer. In this way such conditions as early local recurrences are recognised and treated with benefit. Continuous supervision should, therefore, be insisted upon in all cases. For this purpose it may be necessary to institute a system for following-up the cases.

In the later stages where the patient is no longer amenable to treatment he becomes a case suitable only for institutional treatment. Of course, the greater the success of any

scheme for prevention and early treatment the smaller will be the number that falls into this category. I am convinced that institutional treatment is the best method of dealing with these late cases in the interest of all concerned. Probably the most efficient and economic type of institution would be a municipal nursing home, staffed by trained attendants under the supervision of trained nurses. This "home" could be for other types of chronic sick, and be part of, or in close proximity to, a hospital, whose medical staff and administrative staff would be available for its supervision. Transfer from one to the other could thus be effected when the medical condition of the patient demanded it, as in the event of a patient requiring emergency operative treatment.

Briefly summarised, the points I have tried to make are these:—

Cancer is definitely on the increase, and its annual mortality rate curve shows a progressive rise. Whatever the explanation may be, this fact in itself demands a more serious interference by the State.

Means of ascertainment available are insufficient, and should take the form of:—

(1) Propaganda to educate the public concerning the early signs of cancer.

(2) Periodic medical examination of the people "at risk" through age, sex or occupation.

(3) The establishment of consultative clinics, preferably in connection with a hospital where beds are available if required. These clinics should be part of a scheme for rendering assistance to the general practitioner in the matter of diagnosis of diseases.

With reference to treatment, immediate hospital treatment should be available for cancer. Of all diseases it is least desirable that cancer should have to wait for treatment.

A system of "following-up" should be instituted, and the patient should have close medical supervision for a period after treatment.

Finally, provision must be made for the institutional treatment of all late cases for the sake of everyone concerned.

I suggest that when nearly 30,000 people in England and Wales, in the prime of life (under 65 years of age), die in this country every year, it warrants the establishment of some such scheme as this for dealing with the condition responsible, even in times of economy.

Ut Ita Dicam.

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

The Council Meeting.

Though the December Council meeting had been omitted, the agenda of the meeting in January was not overwhelmingly heavy. Largely this was due to the fact that the General Purposes Committee had met twice, and, in accordance with instructions, had gone through the business and arranged it for submission to the Council in such a form that it could be dealt with expeditiously. Matters of moment in any case were not numerous, if the Articles of Association are excluded. These, like other matters that gave rise to a certain amount of discussion, were the subject of report in the minutes of the General Purposes Committee. Amongst these last there was a suggestion as to what should be done to assist the medical officer of health whose council threatened to make the emergency salary cut permanent. The view generally appeared to be that the Ministry would be disinclined to approve of such a procedure, but in any case it was agreed that the Committee had done well to forward a note of the facts at once to the British Medical Association with a request that they take immediate action, on behalf of the officer concerned, opposing any permanent reduction. Amongst other points submitted by the General Purposes Committee in order that action taken might be confirmed, was one with regard to milk pasteurisation, and a request, which had been refused, to issue a pronouncement for use in connection with the taking of the citizens' vote at Manchester. The fact that there had been a vote of two to one against pasteurisation, though only 13 per cent. of Manchester's citizens troubled to vote, was mentioned.

Appointments Made.

A number of appointments were made: of Dr. James Fenton as a trustee; of Colonel Wear and Drs. Hanna and Hitchon as Life Members; and of Drs. J. J. Buchan, W. G. Savage, Thomas Orr and Ernest Ward, with Major Rabagliati, F.R.C.V.S., as a committee to prepare a memorandum on the question of the reduction of disease amongst milch cattle, for the Economic Advisory Council. The names of Dr. Charles Porter and Dr. Picken had been sent to the Ministry of Health for appointment to the General Nursing Council. To this no objection was raised, and the Council decided

also to appoint Dr. J. J. Buchan their representative on the Central Midwives Board, Dr. Orr to the National Milk Publicity Council, and the President as representative at the Congress of the Royal Sanitary Institute.

The Constitution and some Pieces of Information.

Thereafter the Constitution was considered, and as the various amendments, revisions and so on, of the Articles of Association, etc., had already been dealt with by the Council, having been before the Branches, comments and suggestions as to alterations were few. The suggestions of the General Purposes Committee were accepted that the approval of the Board of Trade to the amendment should be obtained; that the extraordinary general meeting to pass the special resolutions relating to the revision should be held at 4.30 p.m., on May 19th, 1933, and that thereafter a booklet containing the Articles, Council and certain other bye-laws, etc., should be printed and circulated to members. On the whole it was a quiet meeting with little in the way of irrelevancy. Opportunity for the giving of certain pieces of useful information was found here and there, and greatly to the delight of everybody it was shown clearly, apropos a remark by the Council's representative on the Central Midwives Board (Dr. J. J. Buchan), that, no matter what view the law might hold, a woman was in childbirth throughout the whole period of gestation! "Just," as somebody remarked, "in the same way as we are all dying from the moment we are born." A less thrilling but perhaps more important piece of news came after reference to the Committee on the Medical Curriculum, recently set up by certain of the universities and the Royal Colleges, to the effect that the British Medical Association also would presently set up a committee to deal with this matter in order that the practising doctor might have an opportunity of giving his views and expressing his opinion. The objection raised to the Universities Committee was that it consisted of 18 members, only five of whom had had any experience in the practice of their profession. Reference to the body as one made up of "mere teachers" brought a protest from Professor Jameson, himself a member, though he had nothing to say against the claim that perhaps the

British Medical Association Committee, on which the Society would probably be represented by Dr. Picken, would be able to perform services of very real value in relation to a revision of the medical curriculum.

Medical Education.

To both the committees, though it is unlikely they will be able to escape having their attention directed to it, I commend a volume that has just reached me, the Final Report of the Commission on Medical Education* organised by the Association of Medical Colleges. One of the objects of this body was to study the educational principles involved in medical education, and since 1925, when the work began, they have been engaged in collecting information from all over the world, and in endeavouring to formulate a scheme of instruction that would find the medical graduate, when fully fledged, going out into the world thoroughly well prepared and possessed of all the information necessary for the conduct of a practice. With the exception of Sir Robert Falconer, President of Toronto University, the Commission appeared to consist mainly of people connected with Universities in the United States. The report shows that a wonderfully complete and searching investigation was made of all aspects of the subject; that every effort was made to obtain information from the right sources and people, and that really serious thought and consideration were given to the various problems. It contains a vast amount of information and of wise comment, and in the end seems to point to the conclusion that what is wanted is more of practical instruction; more of contact of teacher and pupil; less of didactic teaching and more of a keeping in view that the bulk of all education is self-education, and that the student should be allowed time and opportunity for this; for what, in fact, the Spaniard of old thought all students should have: "an opportunity of walking with God." In the report there is frequent reference to this self-education, as there is also to the need for setting up as an objective the preparing of students "to meet intelligently the conditions and demands of medical practice" and of giving greater prominence to prevention. In this connection it is interesting to note the conclusion of the Commission that "emphasis upon disease prevention and control, and upon early diagnosis and appropriate treatment of incipient disease and defects,

* Issued from the Office of the Director of Study, 630, West 169th Street, New York. 1932.

is gradually permeating all fields of instruction." This, of course, has reference to medical schools on the other side of the Atlantic. It may be hoped, however, that if they should see this report, some or all of the members of one or other or both of the curriculum committees mentioned may read and note the sentence I have quoted.

The Sea or the Air on Retirement?

The majority of medical officers of health nearing the age of retirement, if you asked them what they proposed to do thereafter, would probably reply that in the first place their intention was to go on a sea trip. It is astonishing the number who do, in fact, set sail in this, that or the other direction, or round the world; Dr. Howard-Jones, for example, is just back from the East; Dr. Scrase of Hampstead, who retired the other day, is still, I believe, at sea; and I could mention others. To Dr. Killick Millard, just out of the Presidential Chair, and always original, it has been left to suggest a newer and more thrilling method of passing away the hours. Not the sea, but the air is his choice, and already, even though the date of his actual handing over of the reins (mercifully, as I think) is still two or three years off, he is accustoming himself to the medium he proposes to haunt and from which he hopes to extract thrills and joy more than sufficient to compensate for the intense pleasure everybody knows he has always got out of work. The enthusiasm with which he has taken up the study and practice of aviation is no less than that he has given to everything else he has adopted; and not only is his mind absolutely made up that, when he leaves the official atmosphere, of which hot air is so constant and characteristic a constituent, he will spend a great deal of his time where the air is stiller and less heated, but he is determined to lose no opportunity of inducing his colleagues in the service to see the beauties of aviation also. It is with real interest, but no surprise, I learn that after about 15 hours' dual instruction, Dr. Millard was allowed to undertake his first solo flight, and was able to pass the most important stage in qualifying for his "A" pilot's certificate. On this I congratulate him and foresee that when he does come to retire and take up flying more seriously and to a fuller extent, it will be the means of preserving for the service one who, in his time, has done his fair share in giving prominence to the work in which it is engaged.

Some Aspects of Hospital Administration.

By C. O. STALLYBRASS, M.D., D.P.H., Senior Assistant Medical Officer of Health, City of Liverpool.

This paper by Dr. Stallybrass, read at a meeting of the North-Western Branch, is a thoughtful and helpful addition to the growing body of information and guidance upon a subject of importance, and likely to become increasingly of concern to members of the health service.

THE Local Government Act, 1929, was the most important Act, in relation to the public health, that has come into force since the Education (Administrative Provisions) Act of 1907. It brought the health department and rate-aided hospitals under a unified control. This occurred at a time when the voluntary hospitals were, for financial and other reasons, in a state of considerable disturbance, and when 20 years' experience of the Insurance Act was leading to a considerable increase in the need for hospital services. A younger and much larger generation of doctors who are trained in modern methods of treatment of cases of gastric ulcer, pernicious anæmia, recurrent tonsillitis, sub-acute rheumatism, carcinoma, or pneumonia—to mention but a few diseases increasingly amenable to such treatment—are dissatisfied with merely expectant treatment.

At the same time, social legislation such as the Old Age and Widows' Pensions Acts and Unemployment Insurance has tended to reduce the number of healthy or merely infirm persons for whom "house" accommodation of the workhouse type is required.

To meet this situation there are two lines of policy open. The first is to build new hospital blocks and to dismantle such older "house" buildings as are not required. Undoubtedly, unless the demand for "house" accommodation increases in the future, this course will eventually have to be adopted, and is taking place at the moment on a limited scale. But, as we know to our cost, the moment is not too propitious for such bold undertakings, however desirable.

We have, therefore, to fall back upon the conversion of "house" into "hospital" accommodation. Now, if you will take into consideration the space occupied by operating theatres, X-ray and pathological departments, massage rooms and increased accommodation for medical and nursing staffs, in addition to the "spacing out" that must occur, you will

probably agree with my opinion that two "house" beds will often only give about one "hospital" bed. At any rate, a very considerable reduction in bed accommodation is bound to take place. We are faced, then, with the, at first sight, hopeless proposition of cramming a quart into a pint pot.

But further consideration shows that this is not the whole case. What is required is not only more, but also more efficient, hospital service. The greater efficiency of (a) specialised knowledge and skill and (b) team work, should spell (i) earlier diagnosis, (ii) early and effectual treatment, and (iii) prompt discharge—about which more shortly. The pace must be quickened, the stream of patients must flow through the hospital more rapidly, and they must be subjected to intensive examination and care. In other words, we must bring our rate-aided hospitals into line with the best standards of the voluntary hospitals.

Staffing and Equipment of Hospitals.—The inevitable corollary is that whilst deferring capital expenditure on new hospitals we must increase our medical, more particularly specialist, staff, our technicians and our nurses. In pursuance of this policy we have in Liverpool, since the transfer, carried out the following staff changes:—Two part-time medical superintendents or officers have been replaced by whole-time officers, who are now assisted by two well-paid deputies; two whole-time medical pathologists, one surgeon, one psychiatrist, one skin specialist, one physician, one oto-rhinologist, one orthopædic surgeon, have been appointed on a part-time basis, whilst co-operation with the sanatoria has given us the part-time services of a radiologist and a tuberculosis specialist; the number of resident medical officers has been increased, and the staffs have been extended by an additional radiographer, laboratory attendants and some masseuses, and several score of nurses. Arrangements have just been made with the Radium Institute for the treatment of cancer cases with radium and deep X-ray therapy.

It has, of course, been necessary to provide these specialists with the means to exercise their expertise. The provision and equipment of radiological and pathological departments, two operating theatres, diathermy and massage rooms and so forth are now completed or authorised.

It is beyond question that these advances have procured great benefits for the patients. This is, of course, the first object of the administrator. But we also believe that the shortened period of stay in hospital has effected, or will effect, an actual saving of money. Now this brings me to a point in accounting. The accounts presented annually by the treasurer, and embodied in the annual returns of the Ministry of Health, show the cost per patient per week in the different categories of hospital or institution. This manner of presentation was adequate for a workhouse in which the length of stay depended upon the indigence of the inmate or the policy of the guardians and the Ministry. But such a format is quite useless as a measure of the efficiency and economy of a hospital for acute and sub-acute cases. The accounts should be extended by two other figures, namely, (i) the average length of stay in a number of categories of disease, etc., medical, surgical, orthopaedic, maternity, etc.; (ii) the average cost per patient as far as possible displayed in the same categories—a difficult matter. The average length of stay is a figure which is included in the annual reports of many voluntary hospitals. Arrangements are being made to obtain comparable statistics for the Liverpool municipal hospitals for 1933 onwards.

Appropriation of Hospitals.—It was the intention of those who framed the Local Government Act that all those services which were operated under the poor law, and which were capable of being carried out under the provisions of the Public Health Acts, Maternity and Child Welfare Act, and other powers of a health department, should be so carried out. This, as is well known, could have been effected by a declaration before the 1929 Act came into force, and can now be carried out piecemeal, partly by administrative rearrangements and partly by the appropriation of a hospital or other institution, or such part of it as can conveniently be separated for administration. Clearly every sanitary authority will have to proceed in accordance with local conditions and the structure and lay-out of the buildings it possesses. Two hospitals in Liver-

pool, one for children and one for adults, are so adapted and have been appropriated. No real difficulties have been experienced.

To give effect to this appropriation two departments are affected. First, at the hospital itself it is necessary to arrange a close co-operation with the other activities of the health department. For example, there is the examination of all cases before admission, so that cases, more especially children, which can well be treated by such agencies as the school medical or child welfare clinics or the district medical officers of the poor law, can be referred to these departments. One of the results of appropriation is, therefore, a need for an increase of the health visitor and school nursing staffs and their close co-operation with the children's hospital. A close watch has to be kept that, where there is an element of destitution in a case, information be given to the relieving officers or other appropriate agency to see that not only the medical but also the other bodily needs of the patient may be met.

The second outstanding need is the replacement of the machinery of the poor law for the assessment of liable relatives by another and, if possible, more rapid system of assessment. This is mainly a problem for the treasurer and collector and their staffs, but it also implies that a certain amount of information which was formerly obtained by the relieving officers must be obtained at the hospital or by the collector's staff. I think it is no secret that relieving officers have recently at times been overwhelmed with work, with consequent slowing down of the machinery of assessment and collection. A suitable form has been drawn up for use at the hospital. A simple machine known as the Paragon register enables forms to be written out in quadruplicate, one for the hospital, one for the treasurer, one for the collector, and one for the central case-paper department.

Admission and Continuation Departments.—It is evident from the preceding paragraphs that the admission block plays a more important part in the modern hospital, especially if appropriated, than it did in the combined workhouse-hospital, where in far-off days a bath and change of clothing was one of the most important features! There must be an adequate staff to receive and examine the patient, to obtain the necessary particulars, and to make the contacts with outside agencies if the case is to be referred for treatment elsewhere. The admission block, therefore, acts

as a filter for patients, to see that none are unnecessarily admitted and as an exchange of information with the other departments. Further, they can make the best use of their beds by not admitting patients who require operation or other special treatment until, say, the day before the operation. A receptionist and a doctor will see all cases before admission.

In close association and immediately adjacent must be the continuation department.

Formerly, when the rate-aided hospitals were dealing only with indigent persons, the patients had to be retained until they were entirely cured or could be returned to the district medical officers. Those days are now long past. In order to husband our resources the non-indigent patient should be retained in hospital just so long as he requires medical or nursing attention in bed. When this moment is passed the patient is sent home and either (i) referred to his panel or other private practitioner, possibly with the assistance of a district nurse; or (ii) told to return to the continuation department for observation and, if necessary, treatment.

The number of cases that can suitably be treated in this way is quite large and every such case liberates a bed for other use. Many surgical cases, skin cases (including chronic ulcers), cases such as gastric and duodenal ulcer, diabetes, rheumatic carditis, infantile malnutrition, rickets, and numerous other conditions, can usefully be treated in this way; some of these cases require observation for periods much longer than they could usefully be detained in hospital, the observation possibly extending for years and preventing relapse.

Fractures and other Orthopaedic Cases.—The modern method of treatment of fractures consists largely in plaster casings which immobilise the fracture, but allow much freer movement of joints than is possible with splints. Leg-fracture cases move about the ward in a short time instead of lying in bed. This treatment not only gets a better functional result, but permits of earlier discharge from hospital. The patient, however, returns to the continuation department and continues to do so until the maximum working capacity has been restored. The hospital requires to be equipped with a plaster room and a Hawley table or similar apparatus to fix the patient whilst the plaster is applied.

When the patient returns to the hospital he may spend a day there. The old plaster is

removed, the patient is X-rayed to see the condition of the fracture, perhaps measured for a Thomas's splint, etc., re-plastered, and finally, some hours later, sent home. Other orthopaedic cases, especially children, may be sent home and watched by the orthopaedic nurse and perhaps referred to the orthopaedic clinic.

Specialist Treatment.—The admission block will conveniently contain the rooms for certain specialists such as the ophthalmic surgeon, the oto-rhinologist and the dentist. It is not essential that this should be done at the continuation department if there are facilities elsewhere in the building. Here cases referred by the district medical officers or relieving officers may be seen. The massage department should also be in or near the continuation department. The newly-opened admission block at the Alder Hey Children's Hospital shows all the features just outlined. In addition, it contains 56 cubicles for the isolation of cases suspected of being infectious.

Maternity Units.—One of the most striking changes in the public hospitals has been the increase in the maternity work. Originally mainly intended for unmarried girls, these units now usher into the world a considerable portion of the babies born in the City. In Liverpool last year, of 18,316 births, 3,464 took place in the municipal hospitals. There are nearly 300 beds in use, and the death-rate from puerperal fever per 1,000 births was only 0.29; that for the whole City was 1.07, or three times greater.

A unit of 70 or 80 beds allows for crying room and labour ward, sterilisation room, baby nursery and isolation and observation wards. A larger unit permits of an ante-natal ward with day-room. Each unit has an ante-natal clinic, which is well attended. Patients attending the outside ante-natal clinics, who intend to be confined in the hospital, are referred to the hospital clinic if geographically possible. The hospital ante-natal clinic can also well serve for the central clinic to which difficult cases may be referred from the other municipal ante-natal clinics.

Mental Disease.—The municipal service is bound to provide accommodation for cases of lunacy. If the "local authority" within the meaning of the Lunacy Act is the same as the sanitary authority, then they must treat all cases of lunacy or mental deficiency. In Lancashire and the West Riding of Yorkshire, *ad hoc* mental hospitals boards exist, and upon them the onus of treating all such cases falls.

Nevertheless, the insane and mentally defective commonly enter the municipal or county hospitals in the first instance, and are only drafted to the mental hospitals when vacancies occur, as the mental hospitals appear to be always full.

The local problems, therefore, involve the treatment in mixed institutions of some 860 insane, and there is a special institution where some 240 medium-grade but ineducable mentally-deficient persons—children and adolescents—receive a variety of training and occupation. The 860 insane include a large number of cases of senile dementia and a fair proportion of insane epileptics. The presence of these insane persons in a general hospital is not, I am given to understand, a bar to its appropriation, as the Mental Treatment Act has a section which provides for the difficulty that was, at one time, anticipated.

Acute cases can properly be detained in the workhouse without certification, for only 17 days. If the Mental Treatment Act of 1930 is put into operation, then such patients may be retained for periods up to six months as temporary patients. Moreover, voluntary boarders may be admitted if special accommodation is available; and, finally, a clinic for early and continuation treatment is authorised. The voluntary hospitals seem to be far from eager to perform this service, so it would appear that the municipal Cinderella must add another item to the list of tasks which no one else will perform and which, therefore, will fall on her hard-worked shoulders.

A general hospital does, in fact, present most suitable facilities for the bodily investigation of early cases of insanity. Here we have the whole hospital team available for the diagnosis and treatment of physical conditions, such as, for example, focal sepsis, which may be underlying, or even causing, the mental disorder. It will be essential, however, that a qualified psychiatrist should be attached to the staff. Such persons are, outside the mental hospitals, not very numerous, and a very useful *liaison* may be established with the mental hospital in this way.

One of the not infrequent problems in institutional life is the "difficult" child or adolescent. Here again the services of the psychiatrist, assisted by the psychologist who is commonly attached to the education department, may often prove useful; but if there is a child guidance clinic, such as has recently been established in Liverpool, with its team of

psychiatrist, psychologist and social worker, this will probably prove even more helpful. One of the important duties of the psychologist is to assess the mental age of the patient if there is any mental deficiency.

Feeding and Kitchen Services.—The modern hospital puts additional burdens on the kitchen. Not only are the usual diets required, but special diets for cases of gastric ulcer, diabetes, obesity, hyperpiesia, etc., are demanded. Moreover, tastes differ and a varied diet is appreciated by nearly everyone. A great deal of thought and organisation can be put into the provision of hot, varied and nicely-served meals. The training of a super-cook or kitchen-superintendent is undertaken in Edinburgh, and an increase in both efficiency and economy has followed the appointment of such trained kitchen-superintendents; I say economy because there has been less food wasted. The measure of food wastage is the amount of swill disposed of, and an occasional visit to this quarter is time well spent.

Some of the London hospitals have advanced on this and are training nurse-dietetists who also supervise the kitchen. At Frankfurt the Direktor of the Stadt Krankenhaus, with 2,400 beds, told me that they hold conferences between himself, the dietetist and the senior physician at regular intervals.

There are a number of other topics upon which I should like to have touched, such as the types of container found to be efficient in ensuring delivery of food hot to patients in wards, especially in hospitals or sanatoria consisting of isolated pavilions; the organisation and equipment of laundries; the closely associated subject of heating and electricity generation; the proper proportion of nurses, porters and other officers in different classes of hospitals; and the training and housing of the nursing staffs. But I think I have dealt with sufficient subjects for discussion, and have shown that the administration of a hospital or a hospital service provides ample scope for those who take pleasure in construction.

I have to thank Dr. Frazer for permission to publish this paper.

DR. J. S. BRADSHAW, Medical Officer of Health for Braintree and Witham, has been appointed Deputy County Medical Officer of Health for Staffordshire at a commencing salary of £850 per annum.

Dentistry and Medicine.

By GRANTLEY SMITH, L.M.S.S.A., LOND., H.D.D., R.C.S. EDIN., L.D.S. ENG.

In this his presidential address delivered before the Dental Officers' Group, Mr. Grantley Smith considers the question of a national medical service from the point of view of members of the dental profession, and at the same time directs attention to several points of importance in relation to preventive medicine and the public health.

I HAVE been reading, recently, a booklet compiled by the British Medical Association, stating its proposals for a general medical service for the nation. The main theme of this book is that the family doctor is the ideal, and the proposals for extending the service are built up on this basis.

That this book is of great importance to the dental profession is brought out by the following paragraph which I quote at length: "In a special class come the services of the dental surgeon, whose work constitutes one of the most important departments of preventive and curative medicine. Whether he acts as an independent practitioner or in conjunction with the medical profession, he is an essential part of a complete service. It is essential to the completeness of this scheme that arrangements be made by the community with the dental profession for a comprehensive service."

It is my desire to place before you a few thoughts that have arisen in my mind concerning this book. Before proceeding further let us dissect this paragraph. Primarily, here is a full recognition of the fact that no scheme of health service is complete unless it includes adequate facilities for dental treatment. This we dentists have always urged, and no further comment is needed. Secondly, prevention holds a position equally as important as treatment, and, thirdly, it raises an intriguing query as to whether dentistry can be considered as separate from medicine or as part and parcel with it. Finally, as the family doctor, and, therefore, private practice is the basis of these proposals, it will be interesting to examine this from its dental viewpoint.

It is agreed, I think, that before any efficient system of prevention can be carried out, it is necessary to understand the cause of the condition. While our research workers have made great progress into the causation of the two main diseases we are called to treat, there is still considerable diversity of opinion as to their etiology. I have no intention to intro-

duce controversial matter, but I do suggest that difficulties arise when the causes of dental disease have to be translated into terms of propaganda. Can one, for instance, insist that clean teeth do not decay? We may urge the importance of correct dietary, but the mother with a large family and a small income will be more concerned with the provision of the next meal, rather than its correct type.

We all recognise the deleterious effect of sweet eating, and so we are opposed to big commercial enterprise. Yet, on the other hand, children demand sugar almost to the extent of craving for it, and glucose has now a recognised place in the children's pharmacopœia. Again, too, Broderick's theory suggests general rather than local causes, and, if correct, prevention may pass from the hands of the dentist and become a purely medical question.

However, three facts emerge bearing on causation that may be urged by the dental propagandist. These are, correct dietary, correct cleansing and treatment for prevention, and these need to be preached before all classes of the community. Apart from that given by the private practitioner in his practice, instruction in dental hygiene has been mainly restricted to the school dental service, but now its necessity is much more generally recognised, as shown by the Dental Board instituting a scheme, certain commercial undertakings producing films and literature, and the dental trade desiring to take an interest.

The whole question of health education requires to be properly organised, and it seems to me that the public health department of the local authority is the most suitable body to carry it out.

However, while it is of such importance to create this atmosphere of tooth-mindedness in every individual, the most potent means of prevention we possess is the so-called treatment for prevention. This entirely depends on the regularity of attendance to the dentist,

which, in turn, will only be attained by the abolition of pain from dental operations, and so requires of the dentist the exercise of all possible skill and knowledge.

Since the days of the barber-surgeon and the itinerant tooth drawer, medicine and dentistry have been separate and distinct, and I find it difficult to suggest any reason for this anomalous position. Dentists operate in a part of the body which is distinctly unclean, if not decidedly septic. Large wounds are made leading down to bone, and yet healing occurs, usually without the slightest trouble. While this may be due to natural immunity, antiseptic saliva or what not, or, as Evelyn Sprawson put it many years ago to me, that "Providence is very kind to us dentists," I am inclined to think that since teeth can be removed under conditions that no other surgical operation can be performed safely, this fact had something to do with the isolation of dentistry.

We have before us continually the effects of oral sepsis and focal infections, and the medical profession was slow at first in taking the hint from us. But it has done so now, so that, at times, we are somewhat embarrassed by the advice given to our patients.

Well do I remember a remark Peyton Baly made to me some years ago. He said that when he was consulted by a patient he always viewed the case as a physician. The truth underlying his words is being proved to-day as we learn more about the general effects of oral sepsis. The modern tendency then is to view the teeth as part of the general organism, and to consider dental disease in its relation to, and its effect on, the body generally. As this tendency increases, as I think it will, the two professions will come into closer contact, and possibly dentistry will be absorbed into medicine. The future dentist will be a medico with the L.D.S. as his specialist qualification. Whether this view is held by the medical profession I cannot say, but it is significant that it has always insisted on a larger share of our governance, and, too, that the doctor can practise dentistry without a dental qualification, and by virtue of his medical registration. Perhaps, too, public opinion of the future will demand that the dentist be medically qualified, and it is very suggestive that Italy has insisted on it.

Now this British Medical Association booklet lays down that the medical service

of the community must be based on the provision for every individual of a general practitioner or family doctor, and few, I think, will disagree with this principle, whether it is applied to medicine or dentistry. It is certainly the most desirable method of practice, both from the standing of patient and practitioner.

The important argument in favour of the family doctor as the ideal of medical practice is the confidential nature of the relationship which should exist between doctor and patient, but in dental practice this argument hardly applies with the same force, since such a degree of confidential relationship is rarely necessary.

While we may agree that the family doctor and private practice are the ideal for all classes of the community, does this ideal, when translated into terms of dental practice, still hold good? I venture to suggest that, when applied to the industrial population, it hardly fills the bill.

Let us examine the conditions to be faced by a dentist working among the industrial classes. Many patients dare not risk their jobs by attending during the day, so the dentist will, perforce, have to work in the evening. His scale of charges will have to bear a relation to the wages of his patients, and so will be decidedly low. While many patients will be helped by the National Health Insurance Scheme, there are great numbers who are not insured. He must be prepared to accept his fees in bits and pieces. His overhead charges will be as heavy as in practice elsewhere. He will have to give up much of the work which requires his greatest skill and technique, since his patients cannot afford to pay for such. The dental surgeon is entitled to a decent living, but practice in an industrial district is not an alluring prospect, and it is not to be wondered at that there are few practising in such areas.

One of the difficulties confronting industrial practice is the denture fee question. The present-day dentist has succeeded to a paradoxical form of remuneration, bequeathed him by his professional forebears, where he is paid least for his more highly-skilled work, and most for the manufactured article. The work of the dental surgeon and dental mechanic cannot be separated as is the work of the oculist and optician, or the surgeon who amputates and the firm who supplies the arti-

ficial limb. But while the charges of the surgeon are commensurate with the importance of his side of the work, this has not been so in dentistry. Here the fees received for prosthetic work have been the mainstay of the practice, and the charges made for operative work are comparatively insignificant.

It seems to me that in dealing with industrial classes the high charges for dentures cannot be maintained in view of the manufacturing costs and the means at the disposal of the individual, and so I suggest that the question of fees for dental treatment needs careful reconsideration.

At this point I should like to examine the question of free choice of dentist, which has become rather a fetish. I take it to mean that no coercion should be placed on the patient in his selection of his dental attendant. If an individual requires dental attention, and has no regular dentist, I imagine his enquiries will be directed to charges; to a reputation for painlessness, and to the successful fitting of dentures, and if he is satisfied with the result, he will present himself to the particular dentist. I should like to point out that enquiries such as these are directed towards the reputation of public dentists, as well as private practitioners, since I have known mothers definitely refuse to take their youngsters to a certain school centre. The nearest point to coercion that exists seems to me to be hospital treatment, where the patient cannot select his attendant, and the possibility of a summons for neglect occurring under the Prevention of Cruelty to Children Act. It seems to me, therefore, that this 'free choice' is a truism, and anything to the contrary is an interference with the liberty of the individual.

I think you will agree that this problem of dental treatment for the industrial classes is not an easy one to solve. We possess an incomplete school dental service. There are half-hearted attempts to deal with a portion of the problem under maternity and child welfare schemes. Here and there commercial concerns, recognising its importance, have appointed their own dental surgeons. Dental benefit, neither satisfactory to patient nor dentist, only touches the fringe, since it only applies to the insured, and entirely ignores the vastly important following-up work required by that done by the school dental service.

The solution then appears to me to be pri-

marily to aim at a complete school dental service, with the 'school leaver' in a condition of complete dental fitness. Secondly, the scope of benefit under National Health Insurance should be entirely altered. It must be more on the lines of the medical side, a statutory benefit, paid for on a *per caput* basis, with surgical treatment for the conservation of the natural denture to the fore, and the artificial denture question well to the background, and to be available to the individual as early as is necessary.

The remainder and greater number—those who are uninsured; those whose means prohibit a fair remuneration to their dental attendant; the pre-school child; the maternity patient; the tuberculous case; all have to be legislated for. Here I wish to offer a word of congratulation to George Thomson and his colleagues of the British Dental Hospital. Our Treasurer has recognised the urgency of this part of the problem; has dealt with it in a statesmanlike manner; and has utilised to the utmost the services of the private practitioner. I suggest that his far-sighted policy has indicated the solution of this part of the problem before us.

It appears, then, that in some industrial districts, where local conditions offer little inducement to the private practitioner, the local authority must step in to meet the local demand. Public funds will be required, and, as a corollary, public control will be instituted. In my view, the solution is to be found in the establishment of local dental treatment centres under local authorities. The work can then be carried out by private practitioners on a sessional basis, much as in George Thomson's scheme, but under the administration and control of a whole-time dental officer of some standing in the profession, whose authority would be recognised by his colleagues, and who would be directly responsible to the local authority through the medical officer of health.

Finally, a few words on the public dental officer will not be amiss. The pioneer work of Fisher of Dundee, Cunningham and Jones of Cambridge, and the activities of the stalwarts of the School Dentists' Society, Pedley Spokes, Wallis, Baker, Thomson, Fisk, Breese and others, have borne fruit, and the spread of public dentistry is little short of amazing, considering that it has occurred in one generation. Gone are the days when the school dentist was looked down on as one unfitted, for some reason or other, for private

practice. Instead, we find the opinion expressed that a public appointment carries the same kudos as a hospital appointment, and that the institution of a special diploma in public dentistry is found to be desirable. Apart from the schools, dentistry is being brought into other public health activities, and so the dental officer is assuming a position of some importance, not only in his own profession, but in preventive medicine. Sir George Newman has expressed the view that school dentistry owes its inception to the insistence of the school doctor, and so, as a result, the school dentist becomes a member of the school doctors' staff. Many school dentists do not agree with this position, holding the view that school medicine and school dentistry should be distinct and side-by-side departments, with the chief school dentist directly responsible to the medical officer of health.

When the school medical service is placed in its proper position, that is, under public health administration (and not as, at present, under the Education Act), with the inclusion of dental treatment under maternity and child welfare, tuberculosis and other schemes coming under the public health department, these will, I imagine, lead to the creation of dental departments directly under the medical officers of health, and so solve the problem in the future.

Such then are a few of the ideas this book of the British Medical Association has called forth. While private practice is to be kept to the fore as the ideal means of serving the public, the public dental officer has to remember his share in the scheme of things, and how he can best serve the common end, which is the public good.

AN AMERICAN LETTER.

Our Correspondent speaks of the Final Report of the Committee on the Costs of Medical Care—Governmental Schemes *versus* the Family Physician—the Medical Centre System—and Medicine as a Business.

Majority and Minority Reports on Medical Care.

After five years of study by a research staff on which there were only two physicians, though they had three medical consultants, and an expenditure of something like a million dollars, furnished by eight of our great foundations, the Committee on the Costs of Medical Care has presented its final report. The result was a split which must have been expected by anybody interested in the subject. The Committee was under the Chairmanship of Ray Lyman Wilbur, and the study under the direction of Harry H. Moore, PH.D. It is said that Mr. E. A. Filene was chiefly responsible for the establishment of the Committee, and in raising funds for its promotion. There were three reports—a majority, a first minority, and a second minority by two dentists who, to a great extent, supported the first minority report.

Insurance and Public Medical Schemes.

The majority report was signed by 17 doctors, of whom seven are in private practice, the others being public health officers or connected with institutions or special interests. It shows distinct bias for some sort of insurance and the extension of governmental schemes of practice.

During the course of its work, the Committee has collected a considerable amount of valuable information, but in spite of the optimistic statement of Dr. Barker (speaking for the majority) that the publication of this report "marks the beginning of a new epoch in American history," many people doubt that it will have any effect. It seems to be practically certain that a preponderating number of the medical practitioners of the country will oppose the propositions of the majority, if they take any action at all.

Shortage of Health Funds.

No profession has suffered so keenly from the depression as the medical. Ordinarily this might be supposed to direct the trend towards governmental medicine, but also all of our state boards of health are now short of funds, some having discontinued free distribution of biological products. Even our federal government seems to have detected a ray of light, and is talking a good deal about economy, as well as having put into effect some reductions in salary. It seems that there is little question that funds for public health will be curtailed, as the federal deficit is now something appalling, and increasing tremendously each day. Our state and local boards of health, with few exceptions, face serious cuts in appropriations.

The Family Physician.

Dr. Barker stated that there is something wrong when 80 per cent. of people with insufficient incomes do not have proper medical care during serious illness. This may be accepted, but, on the other hand, it has been shown that more than 80 per cent. of all the ailments for which people seek physicians can be treated cheaply and satisfactorily by the family physician. The majority report endorses industrial practice in which corporations care for employees and their families; also the expansion of the university student health services to assist the ownspeople. This has already been a bone of contention at many universities, especially those conducted by states, the general practitioner believing that it is unfair for men who derive at least a good living, and sometimes much more than that, from state taxes, to compete with those who are standing wholly on their own feet. This part of the report also recommends extension of all basic public health services.

The Minority Report.

The minority report replies that the medical centre plan would establish a medical hierarchy which would dictate who might or might not practise medicine in the community. It recommends, instead of the more or less socialistic scheme of the majority, that united attempts be made to restore the general practitioner to the central place in medical practice. It is vigorously and persistently opposed to the corporate practice of medicine, but believes that governmental care of the indigent should be expanded in order to relieve the profession of the burden which it now carries in respect to such people.

The Medical Centre.

It has been repeatedly said that in America only two classes receive proper medical attention—the very rich and the very poor. There has been developed in this country what is commonly called the medical centre. The idea has some good in it, but on the whole has given rise to many abuses. For example, a patient consulting a doctor for a certain ailment is passed around to each member of a group for special examinations, and in many cases is "bled white" before he obtains a diagnosis or advice. In other words, the old idea of medicine as a profession has lost ground, and it is now actively engaged in as a business. Students will announce an intended specialty during their first course in medical school, and all their

efforts are bent to this one object at the expense of gaining a background. Many of them are letter perfect in their specialty, but woefully deficient in understanding and general education.

Medical Associations and the Report.

The American Medical Association, which has kept track of the work of this Committee during its five years of life, is altogether opposed to the majority report. The American Public Health Association does not concern itself primarily with the practice of medicine, though its members realise that the extensions of proper medical facilities to all classes in a community tends to the preservation of public health and the blotting out of foci of infection. The Association as such has taken no action in the matter. The American Medical Association can speak through its Board of Trustees, whereas the American Public Health Association does not undertake to speak on fundamentals through its Executive Board.

Influenza.

Influenza, fortunately of a mild type, is very prevalent. Very little pneumonia results. The patients are quite ill for three to five days, but so far there has been a marked absence of complications and of the mental depression so characteristic of the disease in the past.

MAZYCK P. RAVENEL, M.D.

DR. EDWARD FRANCIS STEPHENSON, Chief Medical Officer of the Department of Local Government and Public Health of the Irish Free State and a Fellow of the Society of Medical Officers of Health, recently retired after a very distinguished career in the service of his country. He was appointed Medical Inspector under the Local Government Board for Ireland in 1914, and had charge of the Northern area. In 1919, he received the appointment of Medical Commissioner of the Board, succeeding to the important post he has just relinquished on the change of Government in 1921.

THE Royal Sanitary Institute has arranged a course of practical training for intending candidates for the Examination for Inspectors of Meat and Other Foods, to commence at the Institute on February 10th, 1933. Full particulars may be obtained from the Secretary of the Institute, 90, Buckingham Palace Road, London, S.W.1.

The Society.

Reports, Proceedings and Announcements.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on Friday, January 20th, at 2 p.m.

The President (Dr. G. H. Pearce) was in the chair, and there were also present: Dr. T. W. N. Barlow, Sir Henry Brackenbury, Drs. G. F. Buchan, J. J. Buchan, A. F. Cameron, A. K. Chalmers, James Fenton, Sir Francis Fremantle, Drs. C. Herington, J. Howard-Jones, J. B. Howell, W. W. Jameson, A. Joe, G. W. N. Joseph, James Mair, H. J. Milligan, W. A. Muir, E. H. T. Nash, A. H. Nicoll, Charles Porter, T. N. V. Potts, E. H. Snell, P. H. Stirk, J. A. Stirling, D. J. Thomas, E. Ward, H. Gibbons Ward, R. H. Wilshaw and F. T. H. Wood.

The minutes of the last meeting were confirmed and signed, and apologies for absence were received from Drs. C. Killick Millard, R. H. H. Jolly, R. Veitch Clark, R. M. F. Picken, J. A. Charles, V. F. Soothill, J. J. Jervis, W. Paterson and Mr. A. E. Baker.

The Law Relating to Food Supplies.—A letter was read from the Royal Sanitary Institute requesting the views of the Society as to a suggestion made by Major Brennan de Vine, at the Brighton Congress, that the time has now come for a Public Health Act to consolidate and amend the law relating to food supplies in England and Wales. It was referred to the General Purposes Committee to consider and report on this question.

Bovine Tuberculosis.—The Council received a report from Dr. T. Orr of his attendance as the Society's representative with the deputation made on November 24th, 1932, to the Ministers of Health and Agriculture by the People's League of Health, to present their report on Bovine Tuberculosis.

The Campaign Against Gonorrhœa.—A letter was read from the British Social Hygiene Council, drawing attention to the resolutions passed by the Union Internationale contre le Peril Venerien, with regard to the campaign against gonorrhœa in various countries. The resolutions directed attention to the necessity for the encouragement of scientific and practical research in this subject, to the need for better instruction of medical students and general

practitioners, to the importance of locating sources of infection, and of standardisation of criteria of cure, and to the importance of educational work amongst the public, and especially amongst women, in this connection. The Council instructed the Secretary to reply that the Society were in sympathy with the resolutions of the Union Internationale contre le Peril Venerien.

General Purposes Committee.—Dr. G. F. Buchan submitted the following recommendations of the General Purposes Committee:—

Appointment of Trustee.—That Dr. James Fenton be appointed as a third Trustee of the Society's Funds in place of Dr. George Millson, resigned.

Life Membership.—(i) That the following be elected fully-paid life members: Col. A. E. L. Wear (on the recommendation of the Yorkshire Branch), and Drs. W. Hanna and H. H. I. Hitchon (on the recommendation of the North-Western Branch.)

(ii) That the qualification for future life memberships be that set out in the last paragraph of Article 12 in the revised constitution.

Society's Constitution.—(a) That the Extraordinary General Meeting for the passing of the special resolution necessary to adopt the revised Articles of Association, be held at 4.30 p.m., on May 19th next. (b) That after the revised Articles of Association have been passed, a booklet be issued to every member of the Society, including—(i) Introduction; (ii) Chronological Table; (iii) List of Presidents; (iv) Memorandum of Association; (v) Articles of Association; (vi) By-Laws for Regulation of Council Meetings; (vii) By-Laws for Regulation of General Meetings.

General Nursing Council.—That the names of Drs. Charles Porter and R. M. F. Picken be submitted to the Minister of Health for nomination to the General Nursing Council, together with a recommendation that the Public Health Service be more strongly represented on that body.

Investment by the Society.—That the Society lend £1,000 on mortgage to the Paignton Urban District Council at an interest of 3½ per cent. for an initial period of three years.

Reduction of Disease among Milch Cattle.—The Committee have considered a request for the Society's views from the Special Committee of the Economic Advisory Council, recently appointed with the following terms of reference:—

"To consider what practical measures can be taken to secure a reduction of disease among milch cattle in this country, and to report upon any changes desirable in the existing administrative practice, and, in particular, upon the value and practicability of methods for reducing the incidence of bovine tuberculosis and improving the milk supply."

They recommend that a Special Committee of the Society be set up to prepare a memorandum, consisting of Drs. J. J. Buchan, W. G. Savage, T. Orr, E. Ward, and Major D. S. Rabagliati, F.R.C.V.S. A memorandum on the Scottish aspects of this question has already been prepared by the Scottish Board.

Report on Local Government Expenditure.—The Committee is of opinion that the letter from the Public Health Committee of the B.M.A. published in the supplement to the *British Medical Journal* (December 31st, 1932) expresses the views of the Society in regard to the above report.

Permanent Reduction of Salary.—That the Council confirm action taken by the Committee in asking the British Medical Association to support the refusal of the Medical Officer of Health, Stockton-on-Tees, to accept a proposed permanent reduction of salary. It was reported that since the above action has been taken, the B.M.A. has communicated with the Ministry of Health supporting the case of the Medical Officer of Health.

The above recommendations were confirmed and adopted by the Council.

Dr. G. F. Buchan also submitted the report of the General Purposes Committee on the following matters:—

Vaccination Acts.—Drs. G. F. Buchan, C. Killick Millard, R. M. F. Picken, and Charles Porter had discussed the Vaccination Acts with a Sub-Committee of the Association of Municipal Corporations. The minute of the A.M.C. was as follows:—

"The representatives of the Society of Medical Officers of Health expressed their views on the subject of vaccination and immunisation against infectious diseases, from which it appeared that the Society is of the opinion:—

- That compulsory vaccination should be abolished.
- That every possible step should be taken to provide easy facilities for voluntary vaccination and re-vaccination.
- That the same facilities should be provided for other forms of immunisation against other infectious diseases;
- That the local authorities responsible for administering the law relating to the prevention of infectious diseases should be given wide powers of administering:—
 - Legislation or regulations relating to vaccination; and
 - Any legislation or regulations in regard to the immunisation against any other infectious disease."

After discussion, the Council instructed the Executive Secretary to ask the Association of Municipal Corporations to make (d) above read:—

- That the local authorities responsible for administering the law relating to the prevention of infectious diseases should be given

by legislation or regulation wide powers of administration as regards (i) vaccination; (ii) immunisation against any other infectious disease."

Pasteurisation of Milk.—The Committee considered a request from a press agency for a letter from the Society for publication in support of permissive powers being given to large urban authorities to require all milk sold in their areas, except that from tubercle-free cows, to be efficiently pasteurised. This request referred especially to the citizens' vote to be taken in Manchester on January 10th. The Committee considered that it would be inadvisable to recommend the Council to publish a special pronouncement; it was, however, public knowledge that the Society had supported the recommendations of the People's League of Health report.

Instruction in Infectious Diseases.—The Committee considered the memorandum prepared by the Fever Hospital Group regarding the instruction of medical students in infectious diseases and the conduct of the D.P.H. examination by certain examining bodies. The Committee decided to ask the Group to indicate more definitely what steps they considered should be taken by the Council.

Knackers' Yards.—The Sanitary Inspectors' Association asked the Society's support for a memorandum on the above, which has been submitted to the Ministry. The Committee are in agreement with the representations of the Association on the subject.

They suggest that in cases where joint action is considered advisable, not only by the Sanitary Inspectors' Association but by other bodies, greater effect would be produced if any representations were made simultaneously, preferably after the matter had been considered jointly by the Society and the other body or bodies concerned.

N.A.L.G.O. Comments on "Lancet" Nursing Report.—The Committee considered the above and instructed the Secretary to reply that the Society are in general agreement with the *Lancet* Commission's report.

Other Correspondence.—The following correspondence had been received by the Committee:—

(a) From the Association of County Medical Officers of Health, protesting against the sending of a resolution direct to the County Councils' Association.

(b) From the College of Nursing referring to the Joint Committee of the County Councils' Association and Association of Municipal Corporations on the training and recruitment of nurses, on which they desired representation. The Committee replied that membership of the Committee was confined to members of the above Associations.

(c) From the East Midland Branch asking that matters of such importance as the memorandum on Local Government Areas be always referred to the Branches for their observations.

(d) From Dr. W. F. Corfield asking the Society's opinion as to the policy of foods and drugs at present supplied at clinics being supplied at slightly increased cost by the local chemists on an order from the clinic Medical Officer. The Committee are of opinion that this point must be settled in the light of local circumstances.

Superannuation.—The Committee had deferred full consideration of this matter, pending the circulation of information on schemes for superannuation payments to widows and dependents of former contributors. A resolution from the County District Group urging strong action by the Society and British Medical Association would also be considered.

The Council received the above report.

Representation of the Society.—Dr. J. J. Buchan, who reported verbally on the work of the past year, was re-elected as the Society's representative on the Central Midwives Board; Dr. T. Orr was re-elected as representative on the National Milk Publicity Council, of which he is at present chairman; and the President was asked to represent the Society at the Congress of the Royal Sanitary Institute to be held at Blackpool.

The meeting then adjourned.

ORDINARY MEETING.

An Ordinary Meeting was held at the house of the Society on Friday, January 20th, 1933, at 5 p.m. The President (Dr. G. H. Pearce) was in the chair and 30 members were in attendance.

The minutes of the last meeting were confirmed and apologies for absence received. The following candidates having been duly proposed and seconded, were elected to the Society:—

As Fellows.—

Bishop, Hilda Mary (Mrs.), M.D. (LOND.), D.P.H.; Craig, Elizabeth Douglas Hunter, M.B., CH.B. (ST. AND.), L.M. (ROTUNDA); Dunlop, Jessie Sinclair, M.B., B.S., B.H.V., D.P.H. (DURH.); Forbes, Alexander Riach, M.B., CH.B., D.P.H. (DURH.); Hick, Katharine Maud, M.R.C.S. (ENG.), L.R.C.P. (LOND.); Jagger, Amy Louisa, B.Sc., L.R.C.P., M.R.C.S., M.B., B.Ch. (WALES), D.P.H.; Maddison, John, M.B., B.S. (DURH.), D.P.H.; Starkey, John William, M.B., CH.B. (EDIN.), D.P.H.; Stewart, William, M.B., CH.B., D.P.H. (ABERD.); Summers, Dorothy Mary, M.B., CH.B. (GLASG.); Till, Albert T., M.B., CH.B. (EDIN.), D.P.H., D.T.M. & H.; Whitman, Henry David Emlyn, M.R.C.S. (ENG.), L.R.C.P. (LOND.).

As Associate.

Rhys-Herbert, H., L.D.S. (ENG.).

Several nominations were received for the next election. There followed a discussion on "What Do We Really Mean by Mental Deficiency?" opened by Dr. G. A. Auden, School Medical Officer, City of Birmingham, and Dr. F. C. Shrubbsall, Senior Medical Officer, London County Council. Others who

joined in the discussion were the President, Drs. T. W. Hill, C. L. Williams, and B. Dunlop. A vote of thanks to the two opening speakers was moved by Dr. A. K. Chalmers.

A full report will appear in a later issue of PUBLIC HEALTH.

THE METROPOLITAN BRANCH.

President: Dr. A. F. Cameron, Medical Superintendent, River Hospital Service, London County Council.
Hon. Secretary: Dr. James Fenton, M.O.H., Kensington.

A meeting of the Council of this Branch was held at the London School of Hygiene and Tropical Medicine on November 25th, 1932, the President occupying the chair. Sixteen other members were present.

Consideration was given to the scheme of organisation of ante-natal clinics at London County Council hospitals, circulated to Metropolitan borough medical officers of health by the County Medical Officer. The Branch Council expressed agreement with the scheme, having regard to the proviso contained in the last paragraph to the effect that the proposed arrangements would be liable to local modification by agreement between the borough medical officers and medical superintendents of hospitals in their districts.

It was decided to adjourn discussion of the London County Council Drainage By-laws (one-pipe system) until after publication of the report of the sub-committee appointed by the advisory bodies of the Metropolitan medical officers of health, town clerks, borough engineers and borough treasurers.

The Assistant Hon. Secretary (Dr. Vynne Borland) read a letter from the Board of Education stating that where a local education authority as part of their school medical service, have made suitable arrangements for Schick testing and immunisation against diphtheria, whether at a school clinic or elsewhere, of children attending a public elementary school, they are permitted under section 21 (a) of the Education Code, 1926, to regard the attendance of children for that purpose as attendance at school. It was decided that a copy of this letter should be sent to the Education Officer of the London County Council.

The Branch Council agreed that a communication on the following lines should be sent

to the Town Clerk of Lambeth in reply to his letter referred to in the report of the Branch meeting held on September 30th, 1932:—

"That the Branch, having considered the report transmitted with your letter, expresses its general agreement with the view that, having regard to the mildness of the cases of smallpox notified in London, it is unnecessary to apply to them the same stringent action as would be the case with smallpox of a more virulent character. The Branch is therefore of opinion that each notified case of smallpox should be dealt with in accordance with the conditions and circumstances in which it has occurred; that the necessity for removal to hospital should be determined by the borough medical officer of health, and that immunisation is the only effective means of preventing an outbreak and of curtailing the spread of the disease."

The Assistant Hon. Secretary was directed to send copies of the above reply to the Metropolitan Boroughs' Standing Joint Committee, the Ministry of Health, the London County Council, and all metropolitan town clerks.

It was decided to circulate to all metropolitan borough medical officers of health the following report by the sub-committee of the Branch appointed to consider the types of premises to be registered under section 5 of the London County Council (General Powers) Act, 1932:—

"Particular reference was given to the evidence which had been given concerning the section to the Committee of the House of Commons and before the Lord Chairman. It was clear from this that it had been urged that the words "other food" meant food *ejusdem generis* with meat and fish, and that Dr. Porter, on behalf of the promoters, had informed the Lord Chairman, who had taken exception to the words and had suggested that we should omit them altogether or should use the words "other similar food," that other food could be held to include meat and fish foods only, such as poultry, tripe, game, haggis, lair, chitterlings, trotters and dripping.

A list of the premises for which registration had been suggested, which had been prepared by Dr. Borland, was then considered item by item, and it was agreed that premises where the following articles are made should be subject to registration:—

Meat	Potted	Potted meat or head, tongues, etc.
	Pressed	Meat pastes
	Pickled	Meat extracts
	Preserved	Faggots
		Cooked meats, sheep's head, etc.
		Pork
		Meat pies, pork pies.
		Dripping
		Brawn
		Brisket (pressed)
		Meat and pork (pressed)
		Meat and pork (pickled)
		Trotters (pickled)
		Hams } Boiled, cooked, smoked,
		Bacon } or cured or otherwise preserved

Sausages and allies large and small; with or without skins

Saveloys
Black puddings
White puddings
Haggis
Rissoles
Bladders of lard

Fish

Potted
Pressed
Pickled
Preserved

Pastes, various
Cured or dried fish
Pickled or soured
Canned
Eel pies.
Jellied eels.

Other foods

Potted
Pressed
Pickled
Preserved.

Canned soups containing meat.
Hors d'œuvres, if containing meat or fish.

It was agreed that the above list was not absolutely complete, but that it would form a guide to borough medical officers of health and their councils. It was also decided that a further meeting of the Sub-Committee should be held when necessary to consider what additions to the list should be made."

The meeting of the Branch Council was followed by a joint meeting of the Metropolitan Branch and the Food Group of the Society of Chemical Industry, in the lecture theatre of the School of Hygiene. Professor W. W. Jameson, Dean of the School, was in the chair, and the subject discussed was: "Bacteriological Standards for Milk and Ice Cream."

The discussion was opened with a paper by Dr. Borland, who dealt with the subject from the administrative point of view. Professor G. S. Wilson, of the School, and Mr. E. V. Anderson, of United Dairies, Ltd., also read papers on various aspects of the question. Mr. D. H. Clayson, of Messrs. J. Lyons and Co., Ltd., spoke on the principles governing the production of bacteriologically pure ice cream.

The following speakers contributed to the discussion which followed: Sir Malcolm Watson, Mr. Mark Bogod, Dr. A. L. Bacharach, Mr. E. Humphries, Mr. J. H. Coste, Mr. T. McLachlan and Mr. P. B. Tustin.

At the conclusion a vote of thanks was accorded to the School authorities for the use of the lecture theatre, and to Professor Jameson for his services as chairman of the meeting. (A full report of the papers read and the discussion which followed was published in *Chemistry and Industry*, the Journal of the Society of Chemical Industry, for December 2nd, 1932.)

A further meeting of the Branch Council was held at the house of the Society on December 29th, 1932, the President occupying the chair. Sixteen other members were present.

The Hon. Secretary reported receipt of a letter from the Executive Secretary of the Society, stating that the Council of the Society had generally agreed to the proposals submitted to them by the Branch in regard to the simplification of the machinery in operation in connection with the work of metropolitan medical officers of health. (These proposals are outlined on pages 94, 101 and 102 of PUBLIC HEALTH, December, 1932.)

It was decided to appoint a Special Purposes Committee consisting of all metropolitan medical officers of health, together with the President of the Branch. This Committee was authorised to ask metropolitan medical officers who are not in the Society to become co-opted members. The Hon. Secretary of the Branch and the Group were requested to call meetings of the Special Purposes Committee and the Group at the same hour and place.

Some discussion took place in regard to the transfer of information from maternity and child welfare authorities to school doctors, and it was agreed that the scheme at present in operation should be left unchanged for a further twelve months.

It was proposed by Dr. Willoughby, and agreed, that places where sausage skins are manufactured or prepared should be registered under section 5 of the London County Council (General Powers) Act, 1932.

The Hon. Secretary presented a draft programme of meetings for 1933, which was approved with an amendment that the Branch meetings should be held at 4 p.m., instead of 5 p.m., and that Council meetings on those days should be at 3 p.m., instead of 3.30.

It was unanimously agreed that Dr. Charles Porter should be nominated for the office of President of the Society for the session 1933-34, and the Hon. Secretary was directed to inform the Executive Secretary of the Society accordingly.

THE SCHOOL MEDICAL SERVICE GROUP

President: Dr. E. J. Boome, Div. M.O., London County Council.

Hon. Secretary: Dr. Louisa C. Adam, Asst. School M.O., London County Council.

The fifty-first general meeting of this Group was held at the London County Council Certified Institution for Mental Defectives, Farmfield, Horley, Surrey, on September 24th, 1932, by kind permission of the Chairman of

the Mental Hospitals Committee of the London County Council.

Dr. Boome delivered his presidential address entitled "The Difficult Defective." Subsequently the members and visitors were afforded the opportunity of going over the institution and grounds. The Superintendent (Mr. A. J. Oldfield) conducted the party and gave a most interesting account of the various activities of the boys, explaining the methods of work and describing the curriculum. The workshops were visited, and some excellent examples of work inspected. A fine display of gymnastics was also witnessed.

Tea was served after the meeting, when a hearty vote of thanks was accorded the Superintendent for his kindness in showing the visitors over the institution.

The fifty-second general meeting of the Group was held at the house of the Society, on November 3rd, 1932, the President occupying the chair.

Mr. K. J. Acton Davis, F.R.C.S., Consulting Orthopaedic Surgeon, London County Council, read a paper on "The Stabilisation of Flail Joints," which was much appreciated. A most interesting discussion followed in which the President and Drs. Slowan and Williams took part. A vote of thanks to Mr. Acton Davis for his paper was carried by acclamation.

THE YORKSHIRE BRANCH.

President: Dr. T. N. V. Potts, M.O.H., West Riding of Yorkshire.

Hon. Secretary: Dr. James Mair, M.O.H., Harrogate.

A meeting of this Branch was held in the Education Offices, Leeds, on January 17th, 1933, the President occupying the chair. Twenty-one members were present.

Consideration of a letter from the Executive Secretary, relating to nominations for the Presidency of the Society, was deferred.

The arrangements made for the joint meeting with the Royal Sanitary Institute at Harrogate, on March 17th and 18th, 1933, were reported.

A letter from the Organising Secretary of the Central Council for Health Education, asking the Branch to hold a meeting at Barnsley during their Health Week, April 4th to 8th, was considered. It was decided that, while the Branch would have welcomed the opportunity of holding a meeting in Barnsley, it was impracticable to do this so soon after the Harrogate Meeting

A letter was read from the Executive Secretary, putting forward three suggestions for a Branch Meeting, *viz.*, (a) demonstration of the "Canti" film by Professor Ainsworth Davis; (b) demonstration of the Novox resuscitation apparatus; and (c) lecture on diphtheria immunisation by Dr. Craster, Medical Officer of Health, Newark, New Jersey, U.S.A. It was decided that the first two suggestions were not very suitable for a Branch meeting, but as it was felt that either, or both, might be very useful to some medical officers, the Hon. Secretary was directed to forward the suggestions to each medical officer of health in the Branch. As regards (c) it was decided that this matter could be more fitly dealt with by the British Medical Association, and the Hon. Secretary was instructed to refer it to the Secretary of the Yorkshire Branch of the British Medical Association.

Dr. N. R. Beattie read a very interesting paper on "Preventive Medicine and the New Psychology."

A short discussion followed in which the President and Drs. Roe and Allardice took part. A vote of thanks, moved by Dr. Scatterty, and seconded by Dr. Pearce, was unanimously accorded to Dr. Beattie, who briefly replied.

THE NORTH-WESTERN BRANCH.

President: Dr. T. W. Naylor Barlow, M.O.H., Wallasey.

Hon. Secretary: Dr. J. E. Spence, M.O.H., Eccles.

An ordinary meeting of this Branch was held at Parker's Restaurant, Manchester, on January 13th, 1933, the President occupying the chair. Thirteen members and one visitor were present, and apologies for absence were received from twelve members.

A letter was read from Dr. H. H. I. Hitchon expressing appreciation of the resolution of the Branch recommending Dr. Hanna and himself to the Society for election as life members.

Correspondence was submitted from the Executive Secretary of the Society relating to (a) the "Canti" film; (b) the Novox resuscitation apparatus; and (c) the visit of Dr. C. V. Craster. The Hon. Secretary was requested to ascertain if arrangements could be made for an exhibition of the "Canti" film and the Novox resuscitation apparatus on the occasion of the visit of the Branch to Stockport on March 10th. Consideration of item (c) was deferred.

Dr. E. Ratner moved that Rule 2 of the bye-laws be amended by the deletion of the words: "the Branch shall be managed by a Committee consisting of the President, the Vice-Presidents, Secretary, Treasurer and four members. All Past-Presidents to be Vice-Presidents." and the substitution of the following: "the Branch shall be managed by a Committee consisting of the President, Vice-President, Treasurer, Council Representatives, Secretary and eight members. The Vice-President to be the immediate Past-President; all Past-Presidents to be Honorary Vice-Presidents."

The motion was seconded by Dr. Grahame, and was carried.

The question of the nomination of a President of the Society for the session 1933-1934 was deferred to the February meeting.

Dr. M. C. R. Grahame (Burnley), opening a discussion on "The Value of the Annual Medical Inspection of Secondary School Children," pointed out that most of the defects found at routine examination had already been discovered in the elementary schools and notified to parents. The defects which developed at the ages 12-17 years were principally myopia and deformities such as scoliosis and flat feet. In addition to the full routine examination, the children were superficially examined each year, special attention being paid to visual defects and defective teeth. Any child who appeared to be ill or sub-normal was referred for thorough examination.

Dr. H. Herd (Manchester) held that intermediate examinations were unnecessary if the children were carefully examined at eleven or twelve years and again at 15 years. The following up of defects which had been previously notified from the elementary schools was usually ineffective as the parents had already been informed of the defects and probably had no intention of obtaining treatment. It was important to follow up all cases of defective vision and re-examine them periodically, as myopia and myopic astigmatism often progressed rapidly due to eye strain. Minor deformities such as scoliosis and flat foot were often found at the second routine inspection, although there had been no evidence of them at the first routine inspection. He advocated treatment of deformities at orthopaedic centres, as in his experience remedial exercises in the schools under the supervision of teachers of physical culture were not satisfactory.

Dr. Winniefred M. Gray (Lancashire County) expressed the opinion that annual inspection of

girls was of great importance, as development at the ages 12 to 15 was very rapid, and serious defects, of which she gave illustrative examples, often developed within a few months. Periodical dental treatment should be a condition attached to the award of scholarships. She also favoured treatment of deformities at orthopædic centres. However conscientious and competent the teacher of physical culture might be, she was often not allowed by the head teacher to carry out the remedial exercises necessary, owing to interference with the child's education.

Dr. E. Ratner (Stockport) pointed out that although the general mortality from pulmonary tuberculosis had fallen markedly during the past 20 years, the mortality among young adults aged 15 to 25 had remained stationary, and among females at those ages had shown a tendency to rise. Frequent careful examination of children at secondary schools was essential for the detection of the early signs of tuberculosis.

Dr. F. T. H. Wood, O.B.E. (Bootle) referred to the gaps in medical supervision which existed at the ages two to five years and 14-16 years, and thought it would be a retrograde step to reduce the supervision in secondary schools.

A vote of thanks to Dr. Grahame for his opening address was proposed by Dr. Spence, seconded by Dr. Herd, and carried unanimously. Dr. Grahame replied to various points raised in the discussion.

THE TUBERCULOSIS GROUP.

President : Dr. George Jessel, T.O., Lancs. C.C.

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 20th, 1933, the President occupying the chair. Ten members were present.

The Hon. Secretary and Council Representative reported :—

(a) That he had conveyed to the General Purposes Committee of the Society the views of the Group Committee on the Public Health Advisory Committee, and had received a sympathetic hearing.

(b) That the Council of the Society were considering the preparation of a memorandum for a Committee of the Economic Advisory Council recently appointed with the following terms of reference : "To consider

what practical measures can be taken to secure a reduction of disease among milch cattle in this country, and to report upon any changes desirable in the existing administrative practice, and, in particular, upon the value and practicability of methods for reducing the incidence of bovine tuberculosis and improving the milk supply." To this end a Committee of the Council, consisting of Drs. J. J. Buchan, Savage, Orr, Ernest Ward, and Major Rabagliati, had been appointed. Dr. Ward proposed to draft a memorandum on human tuberculosis of bovine origin.

(c) That the Central Council for Health Education had held a successful conference of representatives of local authorities and of societies engaged in health propaganda, in London, in November, 1932.

(d) That the resolutions attached to the memoranda of the Group on the employment of tuberculous staffs in tuberculosis institutions, and on clerical assistance for tuberculosis officers, had been passed by the Council and forwarded to the Ministry of Health.

(e) That he had been informed that in one area the medical officer of health had decided to sign all letters written by his departmental officers, even those to practitioners on clinical matters. The General Purposes Committee had agreed that certain important principles were involved, and appropriate action was being taken.

(f) That a member of the Group had resigned as a protest against the subordinate position of departmental officers within the Society. A brisk discussion followed the announcement, and the Hon. Secretary was asked to place on the agenda for the next Group Committee meeting the following item : "The position of departmental and clinical officers within the Society."

(g) That a member of the Committee had informed him of an appointment of a school medical officer, without advertisement, and at a salary below the scale. The Hon. Secretary was asked to enquire from the School Medical Service Group if they were aware of this.

(h) That 26 or 28 local authorities had withdrawn the salary cuts, voluntarily submitted to a year ago.

(i) That the Joint Committee of Departmental Groups had not met this year, but that the machinery for summoning it still existed.

The proposed new constitution of the Group was considered and passed for submission to the annual general meeting.

The use of tuberculin for diagnosis was considered and referred to the Joint Tuberculosis Council. It was desired to obtain an opinion as to whether a wider employment of the Mantoux or similar tests should be advocated.

The Report of the Ray Committee was discussed.

The termination of the appointment of tuberculosis officers in London public assistance hospitals was considered, and it was decided to consider the matter again at the next meeting.

Friday, May 19th, 1933, at 10.30 a.m., was the date and time fixed for the next meeting of the Group Committee.

THE MATERNITY AND CHILD WELFARE GROUP.

President : Dr. Margaret Emslie.

Hon. Secretary : Dr. Isobel Wright, Public Health Department, 121-131, Rosebery Avenue, London, E.C.1.

An informal and enjoyable dinner was held by this Group at Gennaro's Restaurant, New Compton Street, London, W.C.2, on December 8th, 1932, followed by a discussion on "Missing Links in Maternity and Child Welfare Schemes." The President occupied the chair, and 23 members and visitors (including Captain G. S. Elliston, M.C., M.P., and the Executive Secretary) were present.

In discussing the "missing links" the following subjects were dealt with :—

(a) The most suitable form of milk (excluding breast milk) to be advocated at infant welfare centres : whether it should be sterilised, sterilised homogenised, pasteurised, pasteurised homogenised, dried, or tuberculin tested. It was urged that whatever form was used the medical officer should have full knowledge of its composition.

(b) Immediate in-patient treatment for the first attack of otitis media in order to prevent the chronic suppurating ears and deafness well known in treatment centres and out-patient departments.

(c) Day nurseries where, as well as the children who attend regularly, others could be sent for odd days when the mothers have to attend hospital, or do occasional outside work, and for the psychological child.

(d) A close liaison between the different branches of the public health service and between the welfare and family doctors.

(e) Publicity for, and a more courageous attitude in, maternity and child welfare work.

(f) The knowledge of the lay public in regard to the public health service. It was urged that explanatory notes on the service be sent out with the rate demand notes.

(g) The regular attendance of toddlers at clinics ; roughage in their diet ; the divorcing of ante-natal from practical obstetric work for most medical officers of clinics (it was urged that use be made of public assistance hospitals) ; cows' milk and cod-liver oil for the expectant mother, to ensure good teeth for her offspring.

(h) The capability of the obstetrician and midwife to establish lactation.

(i) The use by the London County Council of the careful records of children up to five years of age made at infant welfare centres.

(j) Suitable teachers of mothercraft and fathercraft, and the use of up-to-date books on the subjects for girl guides, clubs, etc.

At the conclusion of the discussion the party was entertained with song by Drs. Emslie and Nash, and with recitation by Mr. G. L. C. Elliston.

BIRMINGHAM AND MIDLAND SUB-GROUP.

A most interesting and successful series of week-end meetings was held by this Sub-Group in Birmingham on December 2nd and 3rd, 1932.

On Friday, December 2nd, the members met in the Carnegie Institute, Hockley, the President (Dr. Jessie Balsillie) occupying the chair. Dr. Lily Baker (Bristol) read a paper on "The Toxæmias of the Ante-Natal Period, with Special Reference to Cardiac Disease and Pyelitis Complicating Pregnancy." At the conclusion of an interesting discussion, a vote of thanks was accorded the speaker on the proposition of Dr. Cassie, seconded by Dr. Crosse.

On Saturday, December 3rd, a clinical meeting was held at the Children's Hospital. Cases were shown by Professor Leonard Parsons and his colleagues, followed by a tour of the new nurses home. Votes of thanks were proposed by the President and seconded by Dr. Young. In the afternoon at a meeting held in the Carnegie Institute, Dr. C. L. C. Burns (Director, Child Guidance Clinic, Birmingham) gave a most instructive paper on "Psychological Problems as affecting the Young Child." Questions followed, and a vote of thanks, proposed by Dr. Morris Jones and seconded by Dr. Morton, was passed to Dr. Burns for his interesting contribution.

YORKSHIRE SUB-GROUP.

A meeting of this Sub-Group was held in the Leeds School of Medicine, on January 19th, 1933.

The President (Dr. J. Johnstone Jervis), in his opening remarks, spoke on the aims and objects of such a Group as this, and the advantages to be derived from it.

Dr. Rhoda H. B. Adamson, Honorary Surgeon, Leeds Maternity Hospital, in a most instructive address on "Post-Natal Care," pointed out that post-natal care could not be divorced from good ante-natal care and good midwifery, and that post-natal care commenced immediately labour was over. She emphasised that it was advisable for every woman to have a thorough pelvic examination about the fourth week of the puerperium, and in dealing with the various conditions met with, and to be looked for, illustrated them with interesting accounts of her own personal experience in individual cases.

An interesting and helpful discussion followed.

The Literature of Preventive Medicine.

The Critical Age of Woman. By WALTER M. GALLICHAN. London: Noel Douglas, 1932. pp. 160. Price 4s. 6d. net.

Amongst the other writings of Mr. Gallichan there is included a book on "The Psychology of Marriage." Probably because of this, men and women appear to consult him or talk to him about sexual and marital difficulties. In this volume he discusses a variety of topics connected with the menopause, and offers a number of explanations and suggestions that may be found useful by the kind of people who turn to him for information on subjects of this sort. To medical practitioners also the book may be useful to recommend to patients or the husbands of patients at or near the menopause.

The Practice of Birth Control. By ENID CHARLES, M.A., PH.D., Department of Social Biology, University of London. London: Williams & Norgate, Ltd., 1932. pp. 190. Price 10s. 6d. net.

This book is a statistical analysis of the birth control experience of a thousand women. The reliability of different contraceptive measures in practice, their effect on the health and happiness of those who use them, and the personal reactions of different classes of individuals to existing devices are examined. So far as regards methods, the conclusion appears to be that there is none that is one hundred per cent. reliable, and a considerable number commonly recommended and practised that have little reliability. The book has been carefully prepared and is well and interestingly written.

New Health for Everyman. By SIR W. ARBUTHNOT LANE, C.B., M.D., M.S., F.R.C.S., President, New Health Society. London: Geoffrey Bles, 1932. pp. 202. Price 5s. net.

Described as "a call to arms, to secure for the human race the high standard of health which is its birthright," this book contains a discussion by its author of a variety of matters connected with personal hygiene. Amongst other matters referred to are natural light therapy, the use of artificial sunlight, the regulation of diet, physical training, and the influence of mind on body. He gives also his

views and challenges those of others on such matters as the causes of cancer, birth control, alcohol, illegitimacy, and sex hygiene, and suggests that there is a need for a new intellectual approach to these problems.

Cerebro-Spinal Meningitis.—As the usual period of the highest incidence of Cerebro-Spinal fever is again approaching, the Chief Medical Officer of the Ministry of Health desires to call attention to the following extract from page 19 of the Ministry's "Review of Cerebro-Spinal Fever" (Reports on Public Health and Medical Subjects, No. 65) published in 1931: "It is obviously desirable to secure the closest and most accurate observation on the efficiency and potency of all the serums in use. Seeing that by far the most valuable test of the efficiency and potency of these serums is clinical, and that it rarely happens that any one hospital has sufficient cases for useful differential study, the Department is now endeavouring by means of individual case inquiry to collect and examine all evidence available regarding the results of serum treatment, both as to the methods of administration and as to the nature of the serum used. The co-operation of medical officers of health, hospital medical officers and medical practitioners in this matter is obviously essential and is cordially invited. Forms for the purpose will be sent on application to the Senior Medical Officer, Med.I., Ministry of Health, Whitehall, London, S.W.1"

LEICESTER City Council have appointed Dr. J. C. H. MacKenzie, Deputy Medical Officer of Health for Burton-on-Trent, to be Medical Superintendent at the isolation hospital and sanatorium, in succession to Dr. H. S. Banks, at a salary of £900 per annum, rising in five years to £1,200 per annum.

PORTSMOUTH City Council have extended for 12 months the period of service of their Medical Officer of Health (Dr. A. Mearns Fraser), who was due to retire on superannuation at the end of this month.

THE estate of the late Dr. Harold Kerr, Medical Officer of Health, Newcastle-upon-Tyne, has been valued for probate at £8,344.

PUBLIC HEALTH

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Editorial.

Port Sanitary Regulations, 1933.

THE Port Sanitary Regulations, 1933,* which come into operation on May 1st, and consolidate in one code the whole of the regulations regarding the sanitary control of shipping in ports, will be welcomed by all whose duties lie in relation to ships and ports.

Amongst the regulations replaced are the several general and special Cholera, Yellow Fever, and Plague Regulations of 1907, the Port Sanitary Authorities (Infectious Diseases) Regulations, 1920, and the Public Health (Deratisation of Ships) Regulations, 1929, such provisions being included as are necessary for carrying out obligations assumed under the International Sanitary Convention of Paris, 1926, for preventing the access of

*S. R. & O., 1933, No. 38. Price 7d. net.

rats to ships, and for the control of persons embarking in outward bound ships who are suffering from infectious disease or who have been in such relations with persons so suffering as to render them liable to transmit the disease.

The general quarantine procedure prescribed in the regulations of 1907 has been modified to take account of the modern methods of international interchange of information relating to epidemic diseases and of the fact that in most ports incoming vessels are not now boarded afloat by officers of the customs.

In accordance also with the provisions of the International Sanitary Convention, special measures are prescribed for dealing with ships infected with typhus fever or smallpox,

in addition to those infected with plague, cholera or yellow fever.

Sanitary authorities are required to establish, with the consent of the customs officer and the harbour master, at least one mooring station within the docks for ships which are "infected" or "suspected," or which may otherwise require to be specially dealt with to prevent the risk of the spread of disease. An additional mooring station outside the docks is also to be established where this can be done satisfactorily. Every mooring station must be in such a situation as to enable a ship to be moored without coming into contact with other ships or with the shore.

The definition of "ship" is amended to include merely a vessel or boat, and there is introduced a new expression, "foreign-going ship," which is defined to mean a ship employed in trading or going between some place or places in Great Britain and Northern Ireland and some place or places situate beyond the following limits, that is to say, the coasts of Great Britain and Ireland, the Channel Islands, the Isle of Man, or the Continent of Europe between the River Elbe and Brest inclusive. The master of such a ship arriving from foreign is required to ascertain the state of health of all persons on board and to complete a "declaration of health" in the prescribed form. The declaration must be handed to the customs officer or the officer of the sanitary authority, whichever first boards the ship, and in the former case, it is to be forwarded to the sanitary authority.

If the customs officer, on receiving the declaration of health, finds evidence of infection, he will detain the ship and have it sent to a mooring station unless the medical officer otherwise permits. Provision is made, however, for the ship to be dealt with at her ordinary berth if the medical officer allows. The view of the Minister of Health is, and it is probably justified, that with the co-operation of the dock authorities and the masters of vessels in securing the observance of the regulations, and especially in preventing unauthorised persons from boarding or leaving the ship, it will be possible for the great majority of unhealthy ships to be dealt with by isolation at their ordinary berths. In connection with article 14, under the heading "Detention of Ships," it is suggested that the medical officer should grant a standing

exemption (subject to such conditions as may be desirable in local circumstances) for cases likely to be of frequent occurrence, such as the arrival of a ship having on board a case of tuberculosis or of one of the commoner infectious diseases such as scarlet fever or measles, which would call for the isolation of the ship in exceptional circumstances only. Particulars of any such exemption should, of course, be submitted to the Ministry for transmission to the Commissioners of Customs and Excise, in order that they may give the necessary instructions to their officers.

Reference is made to the fact that in some ports the procedure of dealing with ships having infection on board would be much facilitated by the use of wireless messages, and a special article (6) of the regulations requires that where a port has been specially designated by the Minister by means of a notice published in the *London Gazette*, a ship fitted with transmitting apparatus and approaching that port must send a wireless message if there are any circumstances requiring the attention of the medical officer. In other cases in which such circumstances exist this information must be sent to the sanitary authority by such means as are available either before, or forthwith on, the arrival of the vessel. In a few ports the use of wireless messages has already been tried with a view to ascertaining the best means of securing and using the requisite information. For the reason that such experiments have been found to give helpful results, the Minister of Health, in the circular (1296) accompanying the regulations, expresses his willingness to entertain applications for a declaration putting article 6 into operation in ports in which the sanitary authority are able to shew that the administration of the regulations is likely to be facilitated thereby.

Where the telegraph is relied upon, the suggestion of the Association of Port Sanitary Authorities that the uniform telegraphic address "Porthealth" followed by the name of the authority should be used, is recommended for general adoption by port sanitary authorities.

The regulations call for study both by port sanitary authorities and their officers, and in this connection the information and analysis provided in circular 1296, to which reference has been made, will be found of the utmost value.

Bulletin of the League of Nations' Health Organisation.

THE December (1932) number of the *Quarterly Bulletin of the Health Organisation** contains a long report on the question of tuberculosis control, based on material collected and examined by a committee which included, as its British member, Dr. A. S. MacNalty, Senior Medical Officer at the Ministry of Health. In this the view is expressed that, in spite of the decline in tuberculosis mortality due to improved conditions of living, further progress may depend upon the systematic application of preventive measures of social hygiene, including, for example, a higher standard of housing, cleanliness and nutrition, the development of dispensaries, social insurance, etc.

The report was discussed by the Health Committee of the League at its session in October, 1932, and a short account of the points then brought out is given in the bulletin. In general, the report expresses the views of the Health Committee with regard to the prophylaxis of the disease, the general principles of which are summarised and will be read with interest and benefit by all concerned in dealing with the problem of tuberculosis.

Other articles in the bulletin deal with the system of grading milk in the United States of America; with recommendations regarding serological syphilis tests, and with anti-rabies treatment.

Tuberculosis in Lancashire.

THE annual report of Dr. G. Lissant Cox, for 1931† maintains the high standard of previous years, and provides a useful model of exactly how such work should be brought to the notice of a lay body.

The population served is over 1,800,000; 993 beds are provided, there are 24 dispensaries, eleven consultant tuberculosis officers and 14 assistant tuberculosis officers, or those with part charge of institutions, and the cost of the service is £191,000 per annum.

The tuberculosis death-rate in 1931 was 71 per thousand; the female deaths have decreased 15.8 per cent., but the males have

increased 9.2 per cent., so that now 166 males die for every 100 female deaths. In non-pulmonary tuberculosis the chief decline in the death-rate has been for the years from 0-5; in 1914, 286 patients died between these ages, but in 1931, 69 only.

More accommodation has been made available, and steps have been taken to provide protection against inclement weather in the existing institutions; surely a useful advance, for it was only young and vigorous patients who could withstand the rigours of sanatorium treatment in its early days.

To the body of the report Dr. Jessel contributes a useful article on "Chronic Inflammatory Conditions Simulating Pulmonary Tuberculosis," which is illustrated by several radiograms; such pictures assist the lay reader to follow the article, but miniature reproductions are of very little help to the clinician. Dr. Pask has submitted 85 children and 79 adults to the Mantoux tuberculin test and concludes that, although useful in children, it is not so in adults, a conclusion confirming that already reached by others. Dr. Jessel also reviews 30 cases in which the phrenic nerve was evulsed, and in two of these scalenectomy was also performed with encouraging results. Half these patients were able to work in June, 1932. It is rather surprising that no cauterisation of pulmonary adhesions has been carried out in such a progressive county, and, moreover, the amount of artificial pneumothorax work differs widely in various areas: in area No. 1 (986 tuberculous population) three patients are attending the dispensary for refills; in area No. 2 (1,111) 14; No. 3 (1,559) 8; No. 4 (1,604) 28, and in No. 5 (1,984) 32. At Peel Hall Hospital in area No. 4, which seems the most active in this respect, 37 per cent. of patients are having artificial pneumothorax treatment.

Many more radiograms have been taken during the year reviewed—12,908 as against 10,704 in the previous year.

A section is devoted to light treatment and some "before and after" photographs are reproduced. One is led to wonder if sufficient care has been taken to ensure that the pictures are strictly comparable. The lower print after treatment, on the second page of these plates, is much lighter than the upper, and the light is falling from a different angle, and the same criticism to a less degree applies to the other plates illustrating results.

*London: Allen and Unwin. Price 2s.

†THE PREVENTION AND TREATMENT OF TUBERCULOSIS IN THE ADMINISTRATIVE COUNTY OF LANCASTER. Report of the Central Tuberculosis Officer of the Lancashire County Council for the year 1931.

Of new cases, 89 per cent. were seen by the tuberculosis officers before notification. There were 112 unnotified deaths, but 37 of these took place in institutions, such as mental hospitals; 13 were known to the tuberculosis officer; in many the diagnosis was uncertain, and only in seven could the general practitioner be accused of any lapse of memory. Similar figures have been reported elsewhere.

In the Administrative County, 151 surgical appliances of various kinds have been supplied and a number of useful invalid accessories have been loaned; air cushions, for instance, to 184 patients, bed pans to 85, bed-rests to 52, bedsteads to 35, and mattresses to 46.

Conservative diagnosis is the rule in Lancashire for adults as well as children, and 45.5 per cent. of adults on the register as tuberculous have a positive sputum. Certain principles are also observed with regard to the duration of institutional treatment, on which the best utilisation of available beds so much depends.

(1) Patients responding to institutional treatment are given a prolonged stay (six months or over) as long as there is a likelihood of quiescence being achieved.

(2) Patients, especially young adults, who have received special treatment, such as artificial pneumothorax or phrenic evulsion, are allowed a sufficient stay, up to a year, to enable progress to be estimated.

(3) On the other hand, those with a negative sputum, unlikely to make further progress or to require special treatment, are allowed to return home after two to three months. In this class many sputum examinations are made, the usual practice being to make three tests of consecutive daily specimens.

(4) Patients with a positive sputum unlikely to improve further, but whose home conditions are satisfactory, are allowed to leave at the end of two or three months.

A most helpful and stimulating report which should and will be read by all members of the public health service.

Obituary.

DR. A. EICHHOLZ.

The death occurred on February 6th, of Dr. Alfred Eichholz, formerly Chief Medical Officer of the Board of Education. Born at Manchester in 1869, he was educated at Manchester Grammar School and Emmanuel College, Cambridge. He gained a first class

in Part I of the Natural Science Tripos and a first class with distinction in Part II. He proceeded to St. Bartholomew's Hospital, took his medical degree at Cambridge, and became a Fellow of Emmanuel and later lecturer. In 1898, he was appointed an inspector of schools, but his special medical knowledge soon led to work in other directions. The Board of Education had already realised the need of developing medical inspection in the schools, and of placing at the disposal of local authorities expert advice and help in regard to the classification of defects and the organisation of various types of schools. In the subsequent development of school medical work, Dr. Eichholz played a leading part, and he rendered especial service in connection with the care of deaf, blind and feeble-minded children. Special surveys in connection with the conditions of munition workers were recognised by the conferment of the C.B.E. at the end of the war. Though not a Fellow of the Society of Medical Officers of Health, Dr. Eichholz was well-known to members of the public health service, particularly to those engaged on the school medical side, and his retirement in 1930 was regretted by those many whom he had always been so ready to help in any matter connected with school medical work.

Their sympathy will now go out to Mrs. Eichholz and her three sons in their grievous loss.

DR. DOROTHY ROUGHTON.

The death is announced, with regret, of Dr. Dorothy Worsley Roughton, a member of the school medical staff of the London County Council, who qualified M.R.C.S., L.R.C.P., from the London School of Medicine for Women, and the London Hospital in 1924. The following appreciation is sent by Dr. H. R. Kidner, her divisional chief:—

"Dr. Roughton served for some years as a school doctor in Greenwich. She endeared herself to everyone who came in contact with her in the schools and will be missed, in a very real sense, by colleagues, teachers, parents and children. Her forceful yet sympathetic personality combined with a fine presence was of great value in securing the co-operation of parents and the trust of the children. Dr. Roughton was also an eye specialist and had commenced to work up a consulting practice in Greenwich; this knowledge added to her

value as a school doctor. She passed away peacefully and painlessly on February 6th, after an illness of about six months, during which she bore attacks of severe pains and prostration with almost incredible fortitude."

Dr. Roughton was a Fellow of the Society of Medical Officers of Health, and had acted successively as Hon. Secretary and President of the former Metropolitan and Home Counties' Sub-Group of the School Medical Service Group.

DR. J. E. LINNELL.

The Society also mourns the death of Mr. John Everard Linnell, B.A., M.B., B.CH., CANTAB., D.P.H., who held the appointments of Medical Officer of Health of the Sheringham Urban District and Erpingham Rural District; Medical Superintendent of the Erpingham, North Walsham and Sheringham Joint Isolation Hospital; Medical Officer of the West Beckham Poor Law Institution; and Medical Referee to the Norfolk War Pensions Committee and the Salvation Army and Wesleyan Assurance Societies. Dr. Linnell held the rank of Major, Royal Army Medical Corps (Vol.), and served as a Civil Surgeon with the South African Field Force in 1901-02. Among his published works was one on paratyphoid fever which appeared in 1921 in the journal of the Society of Medical Officers of Health, of which he was a Fellow.

MR. WILLIAM FISK, L.D.S.

With great regret the death is recorded of Mr. William Fisk, L.D.S., EDIN., who had held numerous public appointments in connection with dental work for children, and was an outstanding member of the Dental Officers' Group of the Society of Medical Officers of Health. An eloquent tribute to his life work in the cause of school dentistry is contained in the following appreciation for which the Society is indebted to Mr. Grantley Smith (President of the Dental Officers' Group):—

"William Fisk, who was born at Brixton, but proud of his East Anglian descent, practised at Watford. Fisher, of Dundee, had revealed the appalling conditions that existed with regard to the teeth of elementary school children, and Fisk, in his early days, eagerly took up this cause. He, with others—many still happily with us—foresaw the grave difficulties that had to be faced to bring home to the powers that be the urgent necessity for school dental inspection

and treatment. And so the School Dentists' Society came into being, of which Fisk was a founder and first secretary. The aims and objects of the Society were the furtherance of school dentistry, and for this Fisk laboured unceasingly and enthusiastically. To few is accorded the privilege of seeing the result of a life's work, but so rapid was the spread of public dentistry in a period little longer than a generation that it disturbed even Fisk's equanimity. Again, Fisk possessing the larger view recognised that public dentistry could not be confined to the limits set by school dentistry, but that it was invading other branches of public health, and so he guided the Society to its union with the Society of Medical Officers of Health. Then and only then he decided it was time to leave matters to the younger men. I, who worked with him as assistant secretary, and who succeeded him as secretary, shall always remember Fisk for his cheery smile, his boundless energy, his essential friendliness and his broad-minded tolerance. Public dentistry has lost an earnest protagonist, the Dental Officers' Group a sincere friend, and the dental profession an enthusiastic and great-hearted worker."

DR. D. R. HAMILTON.

The death is recorded of Dr. David Russell Hamilton, Medical Officer of Health for Shipley, who was a victim of pneumonia following influenza. Born in 1898, he received his medical education at Glasgow University and afterwards held a school medical post in Lanarkshire until appointed to Shipley about a year ago. He leaves a widow, who will receive much sympathy in her untimely bereavement.

Dr. Hamilton was a Fellow of the Society of Medical Officers of Health, attached to the Yorkshire Branch.

THE Royal Sanitary Institute announce that sessional meetings will be held at 90, Buckingham Palace Road, London, S.W.1, as follows: (1) On Tuesday, March 14th, 1933, at 5.30 p.m.—discussion on "Town and Country Planning," to be opened by W. T. Creswell, HON.A.R.I.B.A., A.S.I., L.M.P.T.I. (Barrister-at-Law). (2) On Wednesday, March 29th, 1933, at 5 p.m.—discussion on "Standards in the Milk Industry: a Joint Responsibility of Medical Officers, Producers, Distributors and the Veterinary Services," to be opened by Lieut.-Colonel C. Waley Cohen, C.M.G.

Cerebro-Spinal Fever.

By E. ASHWORTH UNDERWOOD, M.A., B.Sc., M.B., D.P.H., Deputy Medical Officer of Health, City of Leeds.

Cerebro-spinal fever is one of the group of infections of the central nervous system which daily becomes of increasing importance. This paper, submitted by Dr. Underwood, at the ordinary meeting of the Society, held in London, on December 16th, 1932, contains much information with regard to the condition that will be found of real interest and value.

IT is the intention here to review recent literature and to discuss the epidemiology of cerebro-spinal fever as it has affected this country during the last two years.

Bacteriology.—For a full discussion of the bacteriology of the condition, reference must be made to Murray's classic monograph.¹

From the practical standpoint it is important to realise that, in the earlier stages of the disease, it may be impossible to discover organisms microscopically in the cerebro-spinal fluid, and that, when seen, they are most often extra-cellular.

The meningococcus produces its effects by the action of an endotoxin, which can now be liberated and estimated *in vitro*. That the symptoms of the disease are due to the liberation of this endotoxin is shown by the fact that mice can be killed by injecting killed cultures of the meningococcus. It would seem that a mass attack on invading cocci must result in a sudden liberation of a large amount of toxin. In this connection, Horder and Gordon² showed that antimeningococcus horse serum sometimes hastened the death of animals into which it was injected. Hence an effective antiserum should have two properties well defined: (a) its bacteriolytic power should be high, and (b) its antitoxic power should also be high in order to neutralise rapidly the liberated toxin.

With reference to types of the organism, Scott³ concluded that it was impossible to regard Gordon's groups as representing distinct classes separated by hard and fast lines. The prevalence of aberrant strains during non-epidemic periods has long been recognised. Of the four main types, type 1 has been regarded as the most common in this country, and type 2 as next in order. This relationship also held in the United States, but in the epidemic of 1928-30 Branham, Taft and Carlin⁴ reported a distinct increase in the frequency of type 3. In my own cases in Rotherham during 1931, 75 per cent. of the

typed strains belonged either to type 3 or to mixed type 1 and 3, and only one out of twelve strains was definitely type 1. Branham⁵ reported the presence, in the 1928-29 epidemic in the United States, of an aberrant strain for which she proposes the name *Neisseria flavescens*.

Murray's work on the raising of the virulence of the meningococcus is important. He is definitely of opinion that a similar process may occur in the nasopharynx of a carrier—a process analogous to that of increasing the virulence of other organisms by "passage" through animals.

The results of complement fixation tests seem to depend largely on the antigen used; but Cookson and Thorp⁶, working with material derived from the Sunderland cases of 1931, published some rather encouraging results.

The natural human habitat of the meningococcus is the naso-pharynx, in which the organism is present in the early stages of all cases of meningitis. Further, it has been repeatedly shown that infection of the naso-pharynx is common, especially during epidemic periods. Strictly speaking, natural immunity to the meningococcus is rare, and infection of the naso-pharynx really constitutes the disease cerebro-spinal fever. The disease is so slight as frequently to give rise to no symptoms. The complications are comparatively rare and extremely grave. They are (1) a meningococcal septicæmia, acute or chronic; (2) localisation of the organisms in certain organs of the body; and (3) localisation in the meninges—the condition which we know as "meningococcal meningitis."

Clinical Features.—Apart from the septicæmia which nearly always precedes and accompanies meningococcal meningitis, a condition of chronic meningococcal septicæmia is sometimes found. This latter condition is characterised by sudden onset with headache, intermittent fever, and pains in the joints, with

or without swelling and redness. Often during the first week a prominent rash appears, and if meningitis develops, the picture changes to that of an acute type of disease. This condition has been fully discussed by Vesell and Barsky⁷.

The meningeal form of the disease is that with which most of us are familiar. During the recent outbreak in England this disease was of a severe type. Since an analysis of my own cases has been published⁸, I do not intend to repeat the description here, but it will be interesting to compare the salient features of these cases with those found in the recent American epidemics.

Most of the Rotherham cases were characterised by an extremely acute onset. Thirty per cent. of the cases were admitted to hospital on the second day of the disease, and over 80 per cent. of the cases were admitted to hospital on or before the fourth day. After admission the illness usually became rapidly worse, and many cases showed signs of involvement of the cranial nerves. Paralysis of one arm was seen in two cases.

Borovsky⁹ recently analysed 190 cases which occurred in Chicago, and Smithburn, Kempf, Zervas, and Gilman¹⁰ published an account of 144 cases which occurred in Indianapolis during 1930. Table I compares the salient features of these cases with the corresponding features of the Rotherham cases.

TABLE I.

Author.	Rashes.	Herpes.	Coma.	Strabismus.	Pupil Involvement.	Nuchal Rigidity.	Kernig's Sign.	Brudzinsky.		Mortality.
								Neck.	Contral.	
Borovsky (Chicago)	6.7%	10%	20.5%	12.5%	1.6%	100%*	100%*	100%*		48.9%
Smithburn Et Al. .. (Indianapolis)	68.7%	13.8%	48.6%	31.2%	29.1%	88.2%	83.2%	62.5%		64%
Underwood (Rotherham)	32%	22.6%	67.7%	35.5%	48%	100%	87%	51%	10%	88%

* Except in children under 1 year.

This comparison suggests that the disease, as prevalent in the Rotherham area, was of a more severe type than that which was found in Chicago and in Indianapolis, and that it tended to exert its effects more upon the base of the brain. The table also brings out the fact that nuchal rigidity and Kernig's sign are

extremely valuable from the point of view of diagnosis, whereas the frequency of Brudzinsky's signs is liable to vary much in different epidemics.

It has been shown that the so-called typical rash of the disease may take several different forms. Monier-Vinard, Chabanier and Perrault¹¹ last year quoted cases of varicellous, of maculo-vesicular, and of generalised maculo-papular eruptions accompanying meningococcal septicæmia; and Pitou¹² makes a similar classification of these eruptions, which may precede the onset of meningitis.

Complications.—Since 30 per cent. of my own cases died within 48 hours after admission to hospital, and since the general mortality rate was high, I have little to say from a personal standpoint on the question of complications. Borovsky says that the deafness, which was noted in ten of his cases, was complete and due to nerve involvement; even slight improvement in hearing was never noted. Re-examination of cases within 16 months after discharge showed that the number of cases with nerve involvement had now increased from ten to 16. In two instances the deafness did not appear until over two months after discharge, and both these patients had normal hearing on discharge. Borovsky explains this important complication by scar tissue contraction in the region of the eighth nerve.

As a complication, pericarditis has received increased attention of late. In the Indianapolis series it occurred in nine cases, eight of which died. Trace and Berkovitz¹³ recently reported a case of purulent meningococcal pericarditis. Cases of endocarditis have been reported by Masters¹⁴ and by Flyland¹⁵.

Diagnosis.—It seems to me that the evidence obtained from culture of the cerebro-spinal fluid is in many cases essential for a correct diagnosis, since the tendency during epidemic periods is to assume that cases of frank meningitis, in which no organisms can be found microscopically in the fluid, are due to the meningococcus. The work of Gibbons¹⁶ has recently shown how closely acute aseptic meningitis can simulate meningitis due to the meningococcus.

Treatment.—During the recent epidemic, accepted methods of treatment—by repeated lumbar puncture, and the administration of anti-meningococcal serum in quantities up to 50 c.c. at intervals of 12 to 24 hours—do not appear to have met with much success. The following case mortality rates for groups of cases treated in the places mentioned illustrate this: Newcastle, 61 per cent.; Manchester, 78 per cent.; Liverpool, 81 per cent.; Sunderland, 69 per cent.; Rotherham, 86 per cent. In Sheffield, however, Williams¹⁷ reported a death-rate of 35 per cent. in 85 cases. In these areas the difficulty of obtaining a potent antiserum was probably largely responsible for the high death-rates.

There is much evidence to show that a serum which is weak in antitoxin, in contradistinction to bacteriolysin, may not only be impotent, but may even lead to the death of the patient by the rapid liberation of endotoxin which remains unneutralised. In an attempt to effect the rapid neutralisation of this liberated endotoxin I adopted the method of giving serum in large doses by the intravenous route. Further, by withdrawing large quantities of cerebro-spinal fluid it was found possible to give as much as 90 c.c. by the lumbar route. With the sera used the procedure did not meet with much success, but the failure appeared to be due more to lack of potency of the serum than to any fallacy of the method.

Cisternal puncture was used on many occasions, and was found very useful where spinal adhesions prevented the access of serum to the brain. Ford and Shera¹⁸ and Goldman and Bowen¹⁹ have recently commented favourably upon this operation. Sub-arachnoid lavage—a method recommended again by Whittingham, Kilpatrick and Griffiths²⁰—was also used in some cases, but the procedure, although extremely useful, must be carried out very slowly. Lyon²¹ recently described the method of simultaneous injection of serum into the

cistern and drainage of fluid from the lumbar region, but such a measure would not be devoid of risk.

Until the onset of the present epidemic, antimeningococcal serum was regarded in Britain as capable of lowering the mortality from somewhere in the region of 75 per cent. to 25 or 30 per cent. Wadsworth²² reviewed the published series of cases treated with and without antimeningococcal serum since 1906. Of 9,760 serum-treated cases the mortality was 36·8 per cent.; of 1,313 cases which received no serum the mortality was 74·3 per cent. Recently American outbreaks tended to confirm the value of serum. In 1931, Pickett²³ reported an outbreak of 264 cases, with a death-rate of 32 per cent. In 1930, Norton and Gordon²⁴ described an epidemic of 1,205 cases in Detroit; there were 586 deaths—a death-rate of 48·5 per cent. These figures seem very low when compared with the mortality rate in some areas in England in 1931, for example, Liverpool, Manchester, Rotherham, and Sunderland. It is interesting to note that in America, difficulty had been experienced in certain districts in obtaining potent sera—as is mentioned by Anderson²⁵ and by McCoy²⁶—and in the recent San Francisco epidemic the death rate was 76 per cent. It is extremely interesting also to note that Peters and Gunn²⁷, in their description of the Glasgow epidemic of 1929, in which the case mortality rate was 83·5 per cent., say: "Experience in Glasgow does not confirm that of Flexner and others in America, where the case mortality is said to be halved by the use of serum." MacNalty²⁸ states that the Glasgow ten-year rate of 72 per cent. may be regarded as a fairly average fatality rate in an epidemic period.

In addition to serum, various other preparations have been used in treatment; for example, antibody preparations and a meningococcal endoprotein. Vaccines appear to be useful in chronic conditions, and Merle²⁹ has had success with an autovaccine. Trypaflavine has been praised on the Continent as an adjuvant to serum treatment, and it has apparently been used alone with success by Chavany, Arnaudet and Gailhard³⁰. Moldenshardt³¹ has used dispartgen as an adjuvant. It would seem that in the routine treatment of meningococcal meningitis these methods find no place.

Prophylaxis.—The question of prophylaxis

is complicated, but fairly definite conclusions have recently been reached with reference to vaccines used for this purpose. Several observers had claimed that the incidence of the disease could be reduced by the use of vaccines, for example, Brunoghe.³² Contradictory statements based on vaccination on a large scale have, however, been made by Zrunek and Feierabend.³³ Riding and Corkill³⁴ have now reported a crucial experiment based on the vaccination of 20,000 persons, half of whom were controls. They conclude that the vaccine, prepared from prevalent strains, had no effect in combating the disease.

Epidemiology.—The current views on epidemiology have been admirably dealt with by Sir Humphry Rolleston in the Lumleian Lectures and by Dr MacNalty in the Milroy Lectures.

Cerebro-spinal fever is particularly liable to attack urban dwellers, though in large cities it does not tend to attack more than one or two per 10,000 of the population. It has been repeatedly shown that children under 15 years are specially liable to be affected. The incidence is slightly higher in males, and the death-rate is higher in females. The disease is essentially one which prevails in the winter and spring months, and while this is probably partly due to the aggregation of the population indoors, it is suggested that sudden temperature changes may be more important than the degree of cold. Worster-Drought and Kennedy consider that there may be some connection between diminished rainfall and an increased incidence of the disease. The work of Glover in connection with overcrowding and the spacing of beds is well known.

Certain occupations are associated with increased risk. Troops in urban districts are especially liable to attack, and in certain countries the incidence is higher in miners than in the rest of the population. Jehle ascribes this to the frequency of catarrhal conditions among miners. Outbreaks of cerebro-spinal fever have frequently been preceded by or associated with epidemics of influenza, as occurred in Glasgow in 1929.

It is universally admitted that infection usually takes place by the agency of carriers, which during an epidemic period may number 35 per cent. or more of the general population. Murray³⁵ estimates that at least 95 per cent. of all cases have not resulted from previous cases, but from contact with so-called

healthy carriers. Multiple cases in a family are very uncommon. In New York in 1904-5, Bolduan and Goodwin found only 58 examples out of 1,500 cases. Neal in New York found 13 examples in 500 cases. In the first three months of 1932, 80 examples occurred in a large outbreak in Egypt.

The epidemiology of the recent outbreak in the United States has been described by Hedrich³⁶. He shows that the crest of this epidemic wave was reached in 1929, when 11,000 cases occurred, with 5,208 deaths. In America, as in Britain, the epidemic waves occurred at eleven-year intervals, and Hedrich shows that their rise and fall are smooth and orderly, and not irregular as is generally supposed. He points out also that the rise did not occur in all regions of the country simultaneously, and that the southern regions, which had the highest incidence in 1917-8, were little affected by the epidemic of 1928-30. Hedrich suggests that the presence and extent of a meningitis epidemic in any one city may depend more upon local conditions than upon inter-regional factors, such as imported infection.

A paper by Sir George Buchanan³⁷ which appeared last July, deals in part with the 1931 cases, during the recent outbreak in England. Before this article came to my notice I was already in possession of the figures for each district week by week. These were taken from the weekly return of the Registrar-General, and are, therefore, uncorrected; this explains certain slight discrepancies between Sir George Buchanan's figures and mine. Since, however, my figures have been carried up to December 3rd, 1932, they are used throughout in the following remarks. When 1932 figures are mentioned, these refer to the period from January 1st to December 3rd of that year.

It is generally realised that during 1931, the greatest incidence of cases was found in South Yorkshire, Northumberland and Durham, and in Nottinghamshire and Lancashire. During 1931, the incidence of notified cases in the West Riding was 836, but during 1932 it had fallen to 522. The figures for Northumberland and Durham for 1931 and 1932 respectively were 248 and 311; for Nottinghamshire, 147 and 84; for Lancashire, 179 and 204. London suffered to the extent of 178 cases in 1931, and 243 in 1932. The total number of cases in England and Wales during 1931 was 2,131; during 1932 it was

2,014. It is thus evident that the disease, though we may not hear so much about it, is still very much to the fore. The following more detailed study refers to the West Riding of Yorkshire, in which the incidence was highest.

The epidemic did not commence, as is generally supposed, in 1931. The cases occurred in epidemic proportions in several areas in 1930. For example, Thorne, which is a rural district with a growing mining industry, situated near Doncaster, had 50 cases in 1930; Doncaster rural district had 17; and Wombwell had 10. Other small areas had several cases. The county boroughs were not affected until 1931, when the full force of the epidemic was felt by some of them. During the year, Barnsley had 89 cases, and Rotherham 47. Meanwhile, Maltby, an urban district of 10,000 population, situated about six miles east of Rotherham, had 75 cases; and Conisbrough, situated about six miles north-east of Rotherham, had 36. The rural districts fared no better. Thorne continued to have cases, and during 1931, 43 were notified. Hemsworth rural district had 82 cases, and Doncaster rural district had 76. During 1932 the incidence has been almost as high as in 1931. Maltby has almost ceased to have cases, but 24 cases have been notified in Normanton, which was previously free. It is thus evident that any remarks must be based, not upon a single year, but upon the total cases which have occurred in the years 1930, 1931 and 1932.

One fact which emerged from the investigation was that many towns and areas which appeared to be very similar as regards industries and the social conditions of the inhabitants, were very differently affected, even though many were quite close together. It seemed as if some peculiarity in the distribution of the population might be responsible. Preliminary work suggested that the ages of the inhabitants might have some effect. Accordingly an investigation was made into the grouping of the population at different ages in each of the 157 areas which constitute the West Riding. It was obvious, of course, that cases were more numerous during the early years of life, but I was concerned not so much with cases as with those who harbour the meningococcus but are never notified.

An investigation into the age-groups 0-4, 5-9, and 10-14 gave some rather interesting results. (All the figures were calculated from the 1931 Census). It seemed, however, that this might be due to the fact that these age-groups partly make up the great group of children and young adults, who would seem to be more liable to infection. Further investigation elicited the fact that the percentage of persons in the community between the ages of 15 and 29 years is remarkably constant in all the areas of the West Riding. The percentage of persons between 0 and 14 years, on the other hand, was subject to very wide variations in different districts. Table II illustrates this point.

It is seen that the age group 0-14 is

TABLE II.

STATISTICS FOR AGE-GROUPS IN WEST RIDING OF YORKS.

(a) 10 County Boroughs.

(1) Ages 0-14—	(i) A.M. of per cent. of population, at this age	.. .. .	23.2
	(ii) σ		± 2.514
	(iii) Coeff. of Var. .. .. .	.. .. .	13.03 per cent. of mean.
(2) Ages 15-29—	(i) A.M. of per cent. of population at this age	.. .. .	25.5
	(ii) σ		± 0.9054
	(iii) Coeff. of Var. .. .. .	.. .. .	3.55 per cent. of mean.

(b) 28 Rural Districts.

(1) Ages 0-14—	(i) A.M. of per cent. of population at this age	.. .. .	25.3
	(ii) σ		± 4.832
	(iii) Coeff. of Var. .. .. .	.. .. .	19.1 per cent. of mean.
(2) Ages 15-29—	(i) A.M. of per cent. of population at this age	.. .. .	25.2
	(ii) σ		± 1.31
	(iii) Coeff. of Var. .. .. .	.. .. .	5.2 per cent. of mean.

(c) 119 Urban Districts.

(1) Ages 0-14—	(i) A.M. of per cent. of population at this age	.. .. .	23.0
	(ii) σ		± 5.037
	(iii) Coeff. of Var. .. .. .	.. .. .	21.9 per cent. of mean.
(2) Ages 15-29—	(i) A.M. of per cent. of population at this age	.. .. .	25.1
	(ii) σ		± 1.666
	(iii) Coeff. of Var. .. .. .	.. .. .	6.64 per cent. of mean.

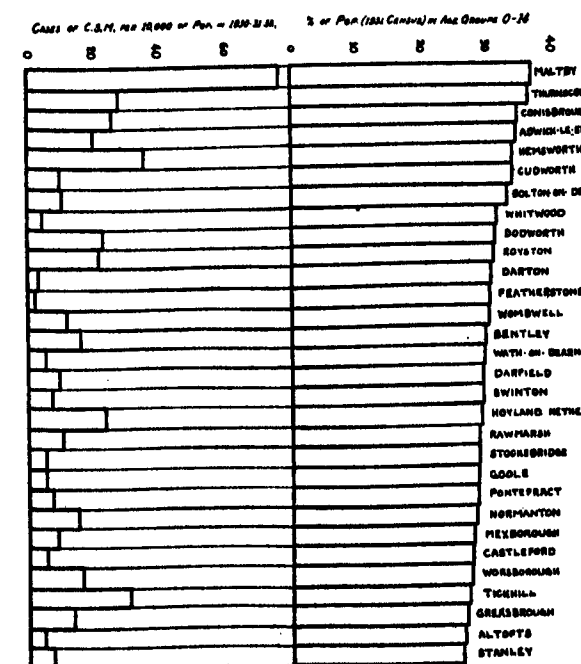
nearly four times as variable as the age group 15-29, and that this ratio holds for rural districts, urban districts, and for county boroughs.

The total number of cases which occurred in each area was then reduced to a common figure. This was taken as "cases per 10,000 of the population of each area." Fig. I shows the results. For the sake of convenience the areas are arranged in order of magnitude, according to the percentage of children under 14 years in each.

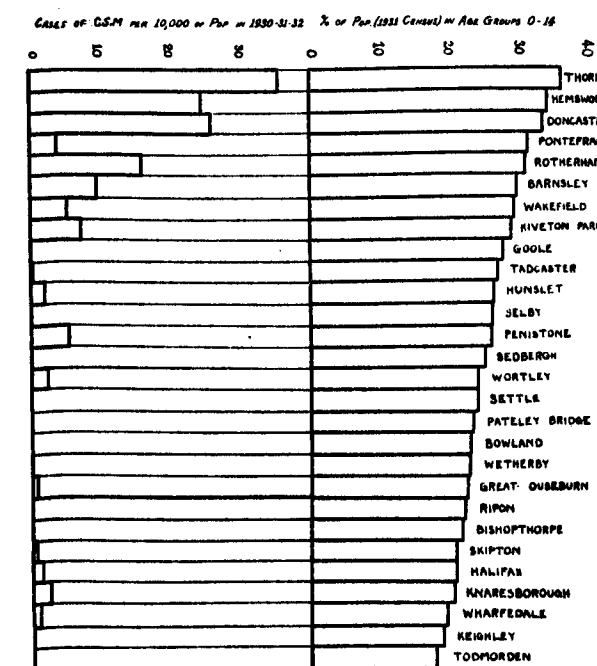
Fig. I (a) gives the figures for the 30 urban districts which had the highest percentages of inhabitants in the age groups 0-14. Fig. I (b) and I (c) give the corresponding figures for all the rural districts and all the county boroughs. In Fig. I (a) it is seen that Maltby, which had by far the highest ratio of children under 14, heads the case incidence. Apart from certain aberrant members, the other districts follow in a manner which suggests that, other factors being equal, districts which have a high ratio of children under 14 are likely to be affected during an epidemic of cerebro-spinal fever. The figures for the aberrant members of the group

FIG. I.

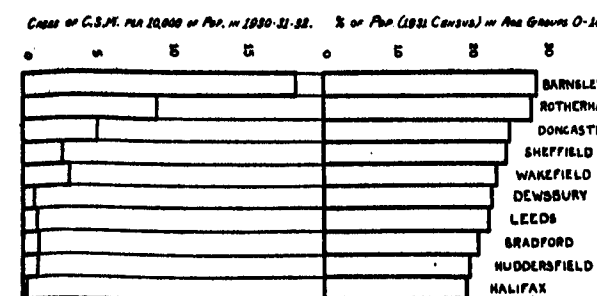
Diagrams showing percentage of population in age-groups 0-14, and total number of cases of cerebro-spinal meningitis notified in the three years 1930-31-32, in the West Riding of Yorkshire (excluding the City of York)—(a) 30 urban districts; (b) the 28 rural districts; (c) the ten county boroughs.



(a) 30 Urban Districts.



(b) The 28 Rural Districts.



(c) The 10 County Boroughs.

—for example, Tickhill—can be explained by the fact that many of these had small populations in which a small number of cases was sufficient to give a high case incidence. What is more important is that, while only 30 out of the 119 urban districts in the West Riding are shown, none other than these had more than two cases of cerebro-spinal fever, and these might well have been sporadic. Figs. I (b) and I (c) are even more suggestive.

It would seem from these results that there is some connection, probably not quantitative, between the number of children under 14 in the community and the extent of the spread of cerebro-spinal fever, once the infection has been introduced into the community. If there be any truth in this suggestion, then the disease should be prevalent in rapidly growing areas; and such is indeed the case. Doncaster, Maltby, Thorne, and Thurnscoe are all growing rapidly. In the last ten years

Thorne has increased by 171 per cent. Further, some of these areas should have acted as epidemic centres; this was the case, for example, in Thorne and Doncaster rural districts. But there is evidently some cause other than mere growth of population, since the association is rather with that portion of the population which is at tender years.

It is possible that, where children are in excess in a community, they may act as reservoirs for the meningococcus once it is introduced; and that, by "passage" through these children, the virulence may be raised to such an extent that meningitis can ultimately be produced in a susceptible individual—not necessarily a child.

In any district, that portion of it which is most likely to have an excess of children in proportion to adults is the housing estate, for is it not the case that children are extremely important keys for those who would open the jealously-guarded gateways to these estates? In my own cases, roughly 20 per cent. came from housing estates. Throughout this paper however, emphasis has been laid, not on actual cases, but on the great reservoirs of infection which themselves are cases of the disease, and which occasionally lead to the complication which we know as meningitis. Housing estates, like new areas, bring together large numbers of unsalted individuals to form a population which is wholly artificial, in that it is weighted towards the younger extreme of life. In a recent paper, Dr. Caryl Thomas³⁰ condemned the method of entry to these post-war developments; and, though the present work is not primarily directed to this end, it seems to lend a certain amount of support to his indictment.

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DISCUSSION.

Dr. E. K. Macdonald (Medical Officer of Health, Stockport) gave details of 89 cases treated personally in hospital while he was at Barnsley, and of 125 cases he had treated in 1932. He agreed that neck stiffness and Kernig's sign in a doubtful case were indications for removal to hospital for lumbar puncture. In the cases with which he had dealt there had been a striking absence of signs due to involvement of the cranial nerves. Prior to the commencement of the Barnsley epidemic in December, 1930, there had been inability to type the organism, but when eventually this was done, most of the cases were found to be of type I, which might account for a mortality lower than that reported by Dr. Underwood. He stressed the importance of the lumbar puncture for diagnosis as soon as

possible, and urged the use in every case of the "Manometer," an instrument consisting of two glass tubes containing a special lumbar puncture needle with a two-way cock. There were records of patients who had recovered after 40-50 lumbar punctures. He had found the cisternal puncture also of value in suitable cases. Regarding complications, in about 60 cases two instances of complete nerve deafness had been encountered. Dr. Macdonald dealt with a number of epidemiological features, and confessed himself unable to explain the slow rate of spread of the disease or why a second case so rarely occurred in the same house.

Dr. E. W. Goodall, O.B.E. (President, Fever Hospital Medical Service Group) said that secondary symptoms not uncommonly occurred after a patient had left hospital, and it was desirable that patients or their friends should be warned that, with discharge from hospital, all was not necessarily over.

Dr. W. G. Willoughby (Medical Officer of Health, Eastbourne) congratulated Dr. Underwood on a very full and helpful paper. A dry lumbar puncture, he added, indicated that the point where the fluid was to be found had not been reached.

Dr. E. H. T. Nash (Medical Officer of Health, Heston and Isleworth) referred to marked variations in mortality in different areas and amongst different classes of the population (e.g., in naval and military communities), and mentioned a point in connection with new districts, where the enormous influx of people from crowded areas into open spaces probably resulted in a loss of immunity.

Dr. Alexander Joe, D.S.C. (Medical Superintendent, North-Western Hospital, London County Council) relating his experience with cases of proved meningococcal meningitis in 1932, held that no organisation in the world could keep pace with a state of affairs where the organism kept breaking away from its usual characteristics. A great advance in treatment had been undoubtedly the introduction of serum, and if results were to be obtained the cases must be secured early.

Dr. E. L. Sturdee, O.B.E. (Ministry of Health) also urged the importance of early treatment. It had been shown that serum-treated cases did better than those not so treated. He hoped that medical officers of health would continue to send records of their cases to the Ministry. A great difficulty was to ensure that there would be a supply of serum of current strain available, but it was hoped to devise some method of storage or standardisation and to arrange, possibly through the League of Nations, to send serum from places where outbreaks of similar strains had occurred to other countries when the disease was prevalent.

Dr. Underwood, in the course of his reply, held that treatment of cerebro-spinal fever comprised immediate lumbar puncture, withdrawal of fluid repeated at 12-hourly or 24-hourly intervals, and the injection of the best serum available. He agreed that warning of sequelæ to parents or friends of patients was a very necessary precaution. Referring to the several types of puncture, Dr. Underwood claimed that the object of these accessory methods was to enable serum to be injected in a more satisfactory manner in certain cases. The essential thing, however, was to get in serum at the earliest possible moment. Monovalent serum would provide an excellent method of treating the

disease, but the difficulties of obtaining supplies in times of epidemics were immense.

Dr. Goodall proposed a vote of thanks to the opening speakers, and this, being carried by acclamation, was conveyed to them by the President on behalf of the Society.

THE Congress of the Royal Sanitary Institute will be held this year at Blackpool, from June 17th to June 24th, at the invitation of the Corporation. This is the forty-fourth Congress organised by the Institute, and these meetings, at which municipal representatives and public health officers attend in large numbers, afford many valuable opportunities for the discussion of all phases of public health administration. The Right Hon. Lord Cozens-Hardy, D.L., is the President of the Congress, and he will deliver the inaugural address on June 19th. The work of the Congress will be divided into sections dealing with Preventive Medicine; Architecture, Town Planning and Engineering; Maternity, Child Welfare and School Hygiene; Veterinary Hygiene; and National Health Insurance. There will also be special conferences of Representatives of Sanitary Authorities; Medical Officers of Health; Engineers and Surveyors; Sanitary Inspectors; and Health Visitors. A large Health Exhibition is being arranged in connection with the Congress. Details of the whole programme may be obtained from the Secretary, Royal Sanitary Institute, 90, Buckingham Palace Road, London, S.W.1.

A SESSIONAL MEETING of the Royal Sanitary Institute will be held at Harrogate on Friday and Saturday, March 17th and 18th, 1933. On Friday, at 4.30 p.m., members will be received and entertained to tea by the Mayor in the Winter Gardens, Royal Baths. This will be followed by a discussion on "The Problems of Bacillary Dysentery," to be opened by Dr. J. A. Charles, Medical Officer of Health, Newcastle-upon-Tyne; and on "Food Inspection from the Administrative Aspect," to be opened by Lieut.-Colonel J. A. Dixon, Chief Veterinary Officer, Leeds. On Saturday, visits will be made to the General Hospital, Royal Baths, Municipal Offices, and to a controlled tip. Dr. James Mair, Medical Officer of Health, Harrogate, is acting as Hon. Local Secretary of the meeting, and Dr. G. H. Pearce, President of the Society of Medical Officers of Health, will preside.

Ut Ita Dicam.

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

Meetings Postponed.

On account of the paucity of business of importance, no meeting of the Council was held in February. Postponement both of the Council and the ordinary meeting of the Society was made until March 24th, and as a result the heart of the Treasurer was filled with gladness because of the saving made. Other results than economy follow, and these are of the type that must always occur when there are postponements. The chief of these is clashing with meetings of other bodies, and disappointment for a certain number of people who find the new date hopelessly unsuitable. One of the events with which there is clashing is a London sessional meeting of the Royal Sanitary Institute. The subject for discussion at the postponed ordinary meeting of the Society is diphtheria immunisation, and I happen to know that several members and others who had anticipated taking part on February 17th, the date originally fixed, will be deprived of the opportunity because of the change of date. Sent to try us with a number of other conditions, these things must be borne with such fortitude as we may be able to command.

The Story of the Infant Welfare Movement.

In these days of medical history-writing, it is about time, come to think of it, that the infant welfare movement should be dealt with from the historical point of view. And by the same token it is probable that no one more appropriate as historian than Dr. G. F. McCleary could have undertaken the duty. This is not said only because Dr. McCleary was at one time editor of PUBLIC HEALTH, under whose guidance the journal attained a very high degree of excellence and influence. As a matter of fact, though to very many he is known almost exclusively as a senior member of the Ministry of Health engaged on the insurance side, before he, so to say, fell from grace, he held a very high place in the ranks of medical officers of health, and very definitely was amongst the leaders in relation to infant welfare work; certainly he was a leader, and to those who came into the service in the earlier 1900's the name of McCleary was very well known in connection with the movement. Both in Battersea and

Hampstead, particularly the former, he was responsible for the initiation of a number of activities and had much to do with the progress made. His book, "The Early History of the Infant Welfare Movement,"* which is recently to hand, traces in the most fascinating way all the steps that led to the establishment of the movement, and the creation and setting in motion of the organisation that took form as the schemes now in operation here and elsewhere.

Personalities in the Movement.

Being in the movement in the early stages, Dr. McCleary knew personally many of those enthusiastic for the work in those days, had cognisance of the work they were doing and of their aims, and when he came to set down what he had seen and knew, found himself in a position to evaluate each contribution, to see just how and where it fitted into the scheme, and to judge of its influence in the formation. It is pleasant to have intimate talk of Budin, of Newman and Newsholme and Niven and Sykes: to be told of what they did and what induced them to do it. It is interesting to learn of the early efforts to set up milk depots and centres and clinics, and of the struggles of those who pressed for their establishment and fought to keep them going. It is particularly interesting and pleasing to learn how much of credit there falls to be given to others than physicians and members of the health service. John Burns, for example, is referred to over and over again, and it is right that he should be, so that such as do not know may learn, and those who may have forgotten may be brought to remember, how much the welfare scheme that works so well in their area owes to this former President of the Local Government Board. Also there are references to Benjamin Broadbent, of Huddersfield, and Nathan Straus, of New York, and William Fleming Anderson of Glasgow, and a host of others. Other books there may be already dealing with infant welfare, but there can be none written more interestingly and with a wider and more intimate knowledge of its origins than this. To historians of the future dealing with this aspect of medical and health work, it will prove a veritable mine of informa-

* London: H. K. Lewis & Co., Ltd., 1933. Price 6s. net.

tion. Possessing high value at the moment, it is worth having and reading, and because it must inevitably become increasingly valuable as a contribution to history, it is a book not only to have but to hold and to preserve with care.

Sir Austen Chamberlain and the New School.

When I learned that Sir Austen Chamberlain was to be the Chairman of the Board of Governors of the London School of Hygiene and Tropical Medicine, I congratulated that body on its good fortune. Now it seems congratulations must be offered to the British Post-Graduate Medical School because similar good fortune has come to that institution, the governors having chosen Sir Austen to preside over the governing body there. I am not sure that I should not be safe in congratulating all interested in preventive medicine that the new Chairman of Governors of the Post-Graduate School has so definite an interest in the field of work in which they are engaged. On every occasion on which I find myself at gatherings at the School of Hygiene when Sir Austen Chamberlain is present, I am impressed by the sincerity of his concern for the welfare of the School, and the reality of his desire to learn of its activities and to share in them in such a way that its value, influence and prestige shall be increased. Always when he speaks he shows that he recognises the importance of the work, and always he shows that if it is necessary for work to be done, then he is ready. This was very clearly demonstrated the other day when, having discovered that the real working body in the School was the Board of Management, and not the governors of whom he was Chairman, he took immediate steps to ensure that he should have a place on that Board. Further evidence of his interest in the School and its activities was forthcoming the other evening when, in spite of indisposition, he redeemed a promise to attend the students' dinner at the School, and made a wonderfully fine and inspiring speech. In the mind of everybody connected with the School of Hygiene and Tropical Medicine, there is a real conviction that they are very lucky in having Sir Austen Chamberlain so prominently associated with them, and so enthusiastic in their interests and for the work to be done. Also, while recognising that it is appropriate that he should be Chairman of Governors of the Post-Graduate School, and that there may be advantages in the arrange-

ment, they may be forgiven if they hope that his concern for the School of Hygiene and its welfare will not suffer any reduction as a result of anything he may be called upon to do for the other institution.

Treatment by Test Match.

The annual meeting of the Industrial Health Education Society, important in many other respects, appears to have secured its greatest prominence and publicity by reason of the remark of the Prime Minister, at whose house, No. 10, Downing Street, the meeting was held, with regard to the number of people who were "suffering from the state which was known as 'below par.'" In several newspapers this has been made the subject of humorous comment, and the suggestion has been offered that as a result of the Prime Minister's reference to it, medicine will enter upon a new era of prosperity, the profession being consulted upon it and required to prescribe a new remedy. Naturally, what is thought of is something in the shape of a drug. Why there should be any joking on the strength of Mr. MacDonald's remark is not clear. There is no doubt as to the necessity for recognising that there are many who are, as Sir George Newman might phrase it, in the state of dis-ease indicated by the Prime Minister, without being victims of disease in the ordinarily accepted sense. As regards remedy, it is almost too obvious that whatever the treatment may be it need not of necessity come out of a bottle. All sorts of things will play their part, and it is safe to say that in general the folks below par have greatly benefited from the test matches, and that on Saturdays, when the big football matches are on, the invisible ill-health is replaced in many instances by a feeling of real well-being. The amount of good done by the test matches this winter is not, it is certain, fully appreciated. Indeed, it is not too much to claim that there are many who actually have been borne through these dark months by them, have been saved some period of hopeless and maddening worry, and may in some instances even have been carried through a piece of depression that might easily have ended in tragedy. The cynics who find in the prominence given to test and other matches a reason for a sneer at the people, may have a certain amount of right on their side, but the power such events possess of providing an alternative to worry and that "below par" condition is something not to be forgotten.

P.

Orthodontics in the School Dental Service.

By J. F. PILBEAM, L.D.S., R.C.S. (ENG.), Senior Dental Officer, Croydon; and
K. C. B. WEBSTER, L.D.S., R.C.S. (ENG.), Assistant Dental Officer, Croydon.

In this symposium, submitted at a recent meeting of the Dental Officers' Group, on a matter of importance from the preventive point of view coming to be more and more generally recognised, both Mr. Pilbeam and Mr. Webster speak after serious consideration given to the need for orthodontia, and with experience of the practical working of orthodontic schemes. The views and the information they provide are all the more valuable therefore, and will be appreciated all the more highly by members of the service interested or concerned in the subject.

MR. PILBEAM.

EVER since the early days of school dentistry it was realised that orthodontic treatment would at some time have to form a part of the school dental service. New schemes could not be attempted until the time was reached when the existing staff could reasonably cope with the inspection and treatment. We have not realised that desired ambition, but, nevertheless, during the last few years there has been a considerable growth of school dentistry. There is at present more work to be done than most school dental surgeons can manage, but as orthodontia is a true preventive measure, some time should be given to this important treatment, even if it means sacrificing a small part of the time that was devoted to ordinary routine treatment. When considering the aims and benefits of orthodontia, we must remember that not only does treatment restore the teeth to their normal function of mastication, but, moreover, improves speech, respiration, general growth of the jaws and associated structures, and, lastly, reduces the susceptibility of the teeth to dental caries and pyorrhœa. It is not a scientific procedure to fill teeth in an overcrowded mouth; something should be done to assist oral hygiene. In addition, we must remember that facial disfigurement is a great handicap to a child, and in our treatment we not only restore facial harmony, but influence the child's personality.

In view of the great benefits to the child, surely, then, we are more than justified in starting orthodontic schemes.

It is not suggested that orthodontic treatment has not been adopted in school dentistry. Quite a number of clinics have made arrangements for orthodontic treatment, but until recently there has been no comprehensive

scheme. In most clinics the only regulation treatment is by extractions and sometimes elastic bands are used, which are anchored to cement points on the teeth. This treatment is quite sound in some cases, but the number of patients who can be treated by this method alone is small. Treatment solely by extractions needs very careful diagnosis, and it often happens that, in an effort to bring about an improvement in the irregularity, more teeth are extracted than would be the case if an appliance were being used to facilitate treatment. The so-called judicious extraction very often leads to the fallacy of symmetrical extractions. There are cases when extraction of four similar teeth is desirable, but these cases are not very frequent. A scheme in which orthodontia is attempted by means of extractions merely touches the fringe of the problem, as only a small percentage of cases can be satisfactorily treated by exodontia alone.

There are four ways in which a complete scheme of treatment can be arranged; first, by referring the cases to hospital and so relieving oneself of all responsibility; secondly, a combination of hospital for diagnosis, and treatment at the clinic; thirdly, by appointing an orthodontic specialist to visit the clinic for diagnosis; and, fourthly, by the school dental surgeon diagnosing all the cases and treating them at the clinic.

To deal with the first method: there are a few disadvantages in hospital treatment. It is only possible to refer cases when the clinic is within reasonable distance of the teaching hospital, and, moreover, those who could go find it difficult to spare the time and money. The visits at first are comparatively frequent, and parents find it impossible to make the journey so often. The hospitals usually have long waiting lists, and it sometimes happens

that when the children are called up they are too old to benefit from treatment.

At Heston and Isleworth a scheme has been arranged which incorporates hospital and clinic treatment. This is a good way of attacking the problem and prevents the frequent visits which are necessary with complete hospital treatment. The scheme has its limitations and can only be applied when the clinic is within easy reach of a hospital. The Heston and Isleworth scheme was the first complete one to be organised, and great credit is due to Dr. Nash and Mr. Cohen for starting a comprehensive scheme of orthodontics in school dentistry.

In these days of an incomplete school dental service it is highly improbable that authorities will appoint orthodontic specialists until the existing service is fully staffed. If in the future orthodontic specialists are appointed, they will have to be men or women who have had experience of public health methods, as there is a possibility that consultants would not appreciate the difficulties associated with school dentistry, and might be tempted to treat cases on, perhaps, too orthodox lines, whereas in clinic work our treatment must be more direct.

Orthodontic treatment and diagnosis by school dental surgeons is the most satisfactory and convenient way out of the difficulty. It avoids waste of time on the part of the parent and child, and does not seriously interfere with the school curriculum. The cost of treatment can be kept low and, therefore, within the means of a greater number of patients. The chief advantage of this system is that it tends to inspire in parents a greater feeling of confidence in their own school dental service. One distinct advantage is that children can be treated anywhere, irrespective of locality.

Unfortunately, there are a few school dental surgeons who appear a little antagonistic to orthodontics. They seem to think that this is a specialist's branch of dentistry, and while this is true to a certain extent, it should not be overlooked that the private practitioner is continually treating cases successfully, so why should not the school dental surgeon? Perhaps some are frightened by the large textbooks on orthodontics, and they forget that all that is required is a good, workmanlike knowledge of the subject.

The object of this paper is to explain the ways and means by which a complete orthodontic scheme may be satisfactorily organised

and carried on by school dental officers in municipal and county clinics.

There is a great demand for orthodontic treatment, and parents are beginning to realise the value of a good dentition. Parents of average elementary school children are quite unable to pay the fees for private treatment, and if treatment cannot be obtained at hospitals or clinics, nothing is done.

Dr. Nash has stated that, since the Heston and Isleworth scheme started, the public appreciation of school dentistry has increased tremendously, and further, that parents no longer regard dentistry as the mere filling and extracting of teeth, but now do so from a more scientific outlook. During the time the Croydon scheme has been in operation the same appreciation has been observed.

In organising an orthodontic scheme, it is essential that it should be arranged with as little, if any, additional expenditure as possible, and the scheme should be, as far as practicable, self-supporting, except so far as the dental surgeon's time is concerned.

The success of any new scheme depends upon sound administration, and enthusiasm for orthodontics should not be allowed to affect existing services. It must take its place with a definite time allocated for diagnosis and treatment. The service should be started with half a session a week, and the time gradually increased, within moderation, as the number of cases increases. It should be realised that orthodontic patients should be seen only at those sessions, and no encroachment on routine sessions should be tolerated. After the appliances are fitted, the easing and adjustment of screws and springs takes but a short time, and these patients can be seen after the routine sessional treatments have been completed. Three or four cases can be conveniently seen. Unless such an arrangement is made, it means that the orthodontic session is completely crowded out with children requiring minor adjustments of their plates, and this prevents the development of the scheme. In this way it is possible to deal with quite a large number of cases in a minimum amount of time. One of the principal arguments against orthodontics in public health work has been that the number of attendances required to complete treatment is considerable. If these visits to the clinic are judiciously arranged, the time taken up is small, and, moreover, the child's schooling is not seriously interfered with.

The cost of orthodontic treatment should be kept as low as possible. When the cost is considerable it means that parents who can afford to pay the fees are those who should go to a private practitioner. It is for those who are anxious for treatment, but are unable to pay the fees of a private dentist, that a scheme must be planned. At a time when low wages and unemployment are prevalent, it is impossible for the majority of parents to pay much. The fee charged should be inclusive, so that the parents will understand that the first charge is the last. It should be stated here that as the keys for Badcock screws cost nine-pence each, the parents should be asked to pay a deposit, as this would probably tend to prevent loss through carelessness. A deposit should also be asked for the lip exercisers. These deposits would be returned on completion of treatment.

The fee could be made payable in a lump sum or by instalments, but the payment should be completed before treatment is started. Parents are not always aware of the type of apparatus to be used, and when they see the plate they naturally wonder how the child is going to manage. The spoilt child may start by making a fuss, and be very awkward in the manipulation of the appliance, and the parents might say that the child is not to wear the apparatus, but if the fee has been paid they think they might just as well give it a trial. Then the difficulty usually disappears. If, after starting treatment, the parents become antagonistic, under no circumstances should the fee be returned. Once that is done, the discipline of the service is lowered, and all sorts of complications spring up. Plates lost or broken through carelessness should be charged extra. The charge which the dental mechanic is authorised to make for providing appliances and oral screens depends upon whether or not such charge is to include the supply of Badcock, Jack, or other screws. Not every case, of course, needs an expansion plate, and there are many cases which require only one simple appliance, but there are also cases which need three, and sometimes four, plates, and a fee must be arranged which is fair and just to all parties concerned. Badcock screws will last for about three cases, and if the mechanic is paid on the basis of one Badcock screw for each expansion plate his charge will be considerable. The best system is for the authori-

ties to supply the screws direct to the mechanic.

A useful basis to work upon is to pay a mechanic four-fifths of the total charge made. In this way, it can be best assured that the scheme will pay for itself and be in no way in debt. The remaining one-fifth is placed in a fund from which is paid out the cost of Badcock screws, keys, lip exercisers or any other necessary items.

Another way is to arrange a charge on a yearly basis, but this method presents so many difficulties that it is impracticable to adopt it in school dentistry.

It is just as easy to arrange orthodontic schemes in the county clinics as in municipal centres. Practically every authority has an arrangement with a dental mechanic for the provision of dentures for mothers attending the dental clinics, and it only needs a little extension of this mechanical side to include the making of orthodontic appliances.

The X-ray examination of patients in the outlying districts presents a problem, but as it is not necessary in public health orthodontics to radiograph every case, special arrangements could be made for the cases in which an X-ray is absolutely necessary to aid diagnosis and treatment.

Every scheme will have its failures, but these must be reduced to a minimum. It is useless to attempt treatment unless the parent is keen on something being done, and also unless the prognosis of the case is good. Treatment cannot be successful if we have not the co-operation of the parent. In school clinic work we are unable to treat cases of gross deformities. An effort might be made to improve the condition with the aid of muscle training, but beyond that extensive treatment is impossible. That type of case is essentially one for hospital treatment. Fortunately, those cases in which clinic treatment is contra-indicated are very few.

There is nothing so annoying or harmful to a new scheme as to hear a parent say that the child has had a lot of orthodontic treatment, but the condition is no better than before it was started. Parents cannot appreciate that although there is no apparent æsthetic improvement, treatment has been partially successful, at least in that it has restored the normal arch relationship. This does not appeal to them. We are judged solely by results of the cosmetic improvement.

We must remember not to allow enthusiasm for orthodontics to outstrip our judgment in the selection of cases. It is surprising that if one has a decided flair for orthodontics, one could almost refer 40 per cent. of school cases for treatment. There are so many types of malocclusion that the difficulty arises at times when to reject a case and when to treat. It is obvious that in school clinic work we can only treat those cases which are definitely requiring treatment. Border line cases must be left alone.

When referring cases from the school inspections, it should be realised that parents are continually seeing their children, and deformities which appear quite bad to inspecting dental surgeons are sometimes of no concern to them: in fact, they often do not realise that anything is wrong. Parents will occasionally tolerate a marked superior protrusion, and express astonishment if treatment is suggested. A child with a diastema between the centrals is sometimes considered lucky, and no amount of explanation will convince them that æsthetically at least, the child would be better for treatment. We must make allowances, and try to appreciate their point of view.

With limited time at our disposal, we must make our treatment as direct as possible. However much we admire the delicate appliances of Merzhon, Angle and others, we must compromise in our treatment and type of appliance used. The apparatus must be simple in design and, in the majority of cases, removable. There are cases in which it is absolutely necessary to use an Angle arch and bands, but those cases should be reduced to a minimum. Sir Norman Bennett is of the opinion that some removable plates are more scientific in action than fixed appliances. Removable plates are certainly more satisfactory for public health orthodontics. The chief advantage is that the cost is much lower, and, moreover, as it is impossible to stop children eating toffee, we are not being continually bothered by the premature removal of fixed appliances. In the making of removable plates, we are able to use some of the principles of finger-springs by using stainless steel wire and soldering the spring by Watkin and Bulleid's method.

Prevalence of Malocclusion.--Some authorities state that 60 per cent. of the school children suffer from malocclusion. That, of

course, is quite a high figure, and it depends upon the types of abnormality seen, the class of children inspected, and also the person inspecting. Undoubtedly, a large percentage of children do need orthodontic treatment, and the difficulty very often arises in the selection of the worst cases for early treatment.

Until recently, malocclusion of the temporary teeth was considered quite rare. As long ago as 1913, Chiavaro published an article on "Malocclusion of the Temporary Teeth," in which he stated that almost all the irregularities seen in the permanent teeth could be observed in the temporary dentition. Very little attention was given by orthodontists to Chiavaro's work, and it was not until about 1925 that they began to realise its value. Stallard, investigating Chiavaro's paper, and working on his theory, examined a number of children of pre-school age, and found that a large number had malocclusion and also that most of the deformities found were in the non-mutilated dentitions. In the three and four-year-old group he found approximately 73 per cent. of cases of close bite. These figures tend to discredit the usual etiology of malocclusion as being mouth-breathing and early loss of the deciduous molars.

It is of interest to point out here that Dr. Sim Wallace, in his book, "Variations in Form of the Jaws," published in 1927, under the heading "Antero-Posterior Growth of the Jaws," says: "It may further be said that all the evidence goes to show that but for minor adjustments due to the different sizes of the permanent teeth, the position which they occupy in relation to the jaws is essentially that which the temporary teeth occupied before they were shed."

Stallard's conclusions probably explain that while school dental surgeons must by necessity extract a considerable number of temporary teeth, especially the second deciduous molars, cases of close bite, post-normal occlusion and general overcrowding are no more common in the elementary school child than in the child accustomed to treatment in good-class private practice, where it is assumed that more care has been taken of the temporary teeth, which probably have been preserved until the normal time of absorption. If, as Stallard says, these deformities exist in the temporary dentition, then we should start our treatment as early as possible.

Co-operation with the Nose and Throat Department.—All cases of malocclusion excepting those of children suffering from misplacements of individual teeth should be referred to the nose and throat specialist for examination before starting orthodontic treatment. Both departments can be of great help to each other, and nothing but good will result from such co-operation. It is essential that if an operation for tonsils and adenoids is necessary, it should be performed before the orthodontic treatment is started, as it is impossible for the patient to reap the benefit of treatment if there is any form of nasal obstruction.

Difference Between Orthodontics in Private Practice and School Dentistry.—In school dentistry we are specially favoured in regard to treatment. Within reasonable limits we are able to see our patients when and how we like, provided, of course, the attendances do not seriously interfere with the school curriculum, but the private practitioner with a large orthodontic practice is up against the public and boarding school system, which makes it difficult for him to carry out treatment. Invariably he is able to see his patients only at holiday time. From this point of view orthodontic treatment has been more easily carried out in school clinics, as our patients are more or less, as it were, on the spot.

There is also a difference in the type of case we have to treat. Some deformities are quite common in the elementary school child, but are comparatively rare in private practice. Irregularities produced from thumb-sucking, supernumeraries, retention of temporary teeth, attached frenum, are seldom seen in an orthodontic practice, but they are an every-day occurrence in school dentistry. These deformities are not seen in the well-to-do child, because they are usually corrected before any harm is done.

Let us consider other types of cases. General overcrowding is seen in every class of practice, and its treatment usually presents more difficulties than any other. Open bite and pre-normal occlusion are not observed with any great frequency. The most common cases we have to treat are those of post-normal occlusion, close bite, mal-position of individual teeth, and general overcrowding. We are then able roughly to divide our cases and observe the frequency or rarity of the conditions to be treated.

Classification of Cases.—In treating dental deformities, we must have some basis or stan-

dard on which to diagnose our cases. For a number of years, Angle's classification stood the test, and it was found very suitable to base the classification on the six-year-old molar. With the advent of fresh knowledge, orthodontists observed that this grouping of cases did not include every type of irregularity. It has been argued that Angle only included cases in the antero-posterior relation, and therefore, of course, his classification has its limitations. The classification of Sir Norman Bennett is based on the anatomical relationship, and includes cases in the vertical and lateral planes, which is, of course, a more complete classification. Although Angle's grouping does not include all deformities, it nevertheless covers approximately 80 per cent. of the cases. Its convenience makes it a very suitable one to adopt in school dentistry, where quick diagnosis is necessary. While accepting Angle's classification, it does not mean that we should accept his idea of treatment.

In public health dentistry it is impossible at times to push out irregularly-placed teeth into the arch without extracting, but before we extract we must decide whether our treatment is sound. Extraction in class II (division I) cases, and treatment aided by appliances will improve the condition, but similar extractions in class II (division II) cases will probably make the condition worse than before treatment.

In using Angle's classification it must not be overlooked that the six-year-old molar may have come forward. Dr. Angle himself was aware of this, and stated in one of his published papers: "You all know that, in addition to the usual irregular cusp relationship, there is found in a very large percentage of cases of malocclusion a more or less abnormal tipping or leaning forward of many or all of the teeth on either or both sides of one or both dental arches, and often also a slight drifting forward of their normal positions. These conditions may, of course, be found in cases of all classes, divisions and sub-divisions of malocclusion of the teeth."

If we keep in mind the possibility of drifting of the six-year-old molars, it will enable us to make a mental reconstruction of the true position of the so-called key teeth. The forward movement of the six-year-old molars is a frequent cause of malocclusion, and in this connection it is of interest to point out that Dr. Sim Wallace says in one of his

writings that "the crowding and irregularities of the front twenty permanent teeth must result almost entirely from lack of sufficient growth behind the original temporary arch and forward movement of the first permanent molars."

Dr. Sim Wallace is not an orthodontist, but his works dealing with malocclusion are very sound.

A leading authority on orthodontics suggests that there are several principles which must be considered before orthodontic treatment is started. They are so sound that repetition may be useful.

One must analyse and describe in detail the abnormalities present, classify them as a pure type or combination of types, and estimate the possibilities of, and also prescribe the correct course and details of, treatment.

Muscle Training.—No orthodontic scheme can be considered complete without definite provision for muscle training. It is realised that to correct the deformity we must correct the position of the muscles; otherwise, all the good work done will be wasted. With the short time available for orthodontics, it is impossible to burden the school dental officers with the work of explaining these exercises to the children. It takes up too much time. Most authorities have a massage department, and the person in charge might be asked to co-operate with, and work under the direction of, the school dental officer. The person detailed for this important work should obviously be one who is keen and willing to do the exercises of Drs. Rogers and Friel. The dental surgeon should explain the various exercises in which he requires the children to be instructed. He would refer the children for instruction, and the cases would be collected and called up for a special day. About twelve in number could be conveniently seen about once a fortnight. Difficult cases could be seen more frequently, as these cases require more perseverance, and unless these children are continually reminded of the exercises to be done they are inclined to become slack.

McCoy lays great stress on muscle training, and states that the normal inter-action between muscles and the apparatus of mastication is essential to normal respiration, and normal respiration is essential for the normal development of the face.

There can be no doubt that muscle training is absolutely necessary for an orthodontic

scheme to be a success. Lack of muscular function will invariably produce deficiency in growth and bone, and bone deficiency will produce muscular under-development and abnormality.

It is, of course, realised that the exercises must be carried out with great concentration by the patient, and under the direction of the dental surgeon. A parent should be asked to accompany the child to the muscle-training demonstration, so that the exercises can be seen and fully understood. It is desirable that a photograph of the child should be taken before treatment, so that improvement or otherwise may be noted.

The exercises suggested by Dr. Rogers are those for the external and internal pterygoids, temporal and masseter, orbicularis oris group, exercise for the tongue, general posture, exercise for the platysma myoides, and tonic exercise for general facial development. The scope of this work could be extended so that all mouth-breathers, after the operation for tonsils and adenoids, could have muscle training to improve the tone of the labial muscles.

Muscle Training by Rogers' Methods.—It may be of interest to describe briefly, Dr. Rogers' exercises. In his exercise for orbicularis oris group of muscles he uses a special lip exerciser. The two free ends are made of soft rubber, and are placed in the mouth between the lips and teeth, the exercise being carried out with the aid of elastic bands on the forked ends protruding from the mouth. These elastics are adjusted according to requirements.

Training the External and Internal Pterygoids.

These muscles control the movements of the mandible. In dislocation these muscles form a habit of keeping it there. To correct this, early exercise of these muscles is important, and Dr. Rogers recommends throwing the mandible forward as far as possible, so that the lower incisors are in labial occlusion to the uppers. Dr. Rogers also suggests the general posture exercise in conjunction with the external and internal pterygoids.

Exercise for the Temporal and Masseter.

When the child has learnt to place the teeth in proper relationship, this exercise should be carried out. The teeth must be held firmly in occlusion, alternately contracting and relaxing this group of muscles. The child should be asked to place the finger in front of the ears to feel the movements of these muscles. When it is not desired to bite on the teeth, the exercise can be carried out by pitting these muscles against those of the hand and arm.

Tongue Exercise.

This should be done in conjunction with the temporal masseter exercise. The tip of the tongue should be placed against the mucous membrane and the lingual aspect of the lower incisors. With each contraction of the temporal and masseter muscles the tongue should be pressed against the lower teeth. At the same time, in an attempt to widen the arch, the tongue should be forced against the lateral sides of the alveolar processes.

Tonic Exercise for General Facial Development.

This is a combined exercise for the orbicularis oris, buccinator and small ribbon arches, which enter into the combination with the orbicularis oris. In this exercise, the child is asked to sip some warm water to which has been added a little sodium bicarbonate. The child is then asked to close the mouth and force the fluid from the buccal to the lingual cavity. This is repeated until the muscles become slightly fatigued. The heat, of course, dilates the capillaries and produces a more copious supply of nutritive material.

General Posture Exercise for the Platysma Myoides.

The platysma has no bony insertion, but is inserted in the facia and skin of the pectoral and deltoid muscles, and inserted by many fibres into the orbicularis oris group of muscles. In doing this exercise, the child should stand with the feet together, hips slightly thrown back, and be directed to look straight forward to the zenith, at the same time drawing in the abdominal wall and turning the palms of the hands upwards, making a slow, positive stretching motion with the tips of the fingers and the point of the chin. The child is then directed to relax somewhat, bringing the head and arms to a direct position and then repeating the exercise. This exercise is done a few times in the morning and a few times on retiring. It is important in the performance of this exercise that the child should not be allowed to curve the vertebræ so that the back represents much of a concavity. To avoid this the child is directed, when drawing in the abdominal wall, to tighten up at the same time the muscles of the buttocks; a slight forward movement of the body, bending slightly at the ankles, thus bringing the weight of the body slightly on the balls of the feet, enhances the position of the mechanical advantage of this exercise.

Future of Public Health Orthodontics.

It must be admitted that the greatest drawback to an orthodontic scheme is the amount of time involved, and this factor is undoubtedly the chief handicap in the extension of this work. Nevertheless, if the amount of time is rigidly controlled, there should be very little difficulty in the organisation of complete orthodontic schemes throughout the country.

Orthodontic treatment covers a wide and interesting field, and its value to the health of the school child is definitely established. Its inclusion in school dentistry not only introduces variation into the work of the dental officers, but it also increases the

prestige of the service, and should make a definite appeal to ambitious school dental surgeons.

Unfortunately, the salaries paid to most dental officers are very low, and if the service is to attract suitable candidates with good experience in all branches of dentistry, then the salaries must be considerably raised, so that school dentistry can be made an attractive career.

An orthodontic scheme cannot be a success without the co-operation of the medical officer of health, and I would like to tender my thanks to Dr. Holden, Medical Officer of Health for Croydon, for the kind assistance, encouragement and support he has given to the organisation of the Croydon orthodontic scheme.

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MR. WEBSTER.

It is my intention here to give a brief description of the origin and working of the school orthodontic service at Croydon.

Soon after taking up my appointment in 1930, I had a long talk with Mr. Senior, the then senior dental surgeon, regarding the innumerable cases of malocclusion seen at dental inspections. The conviction became deeply rooted in my own mind that some scheme could and should be commenced for alleviating these conditions, for it was a most disheartening matter to keep filling crowded incisors, or attempting to cure a gingivitis in a case of superior protrusion. At Croydon, we are rather short-handed, and the question of time was all-important, but the time expended on conservative treatment in cases of malocclusion appears to be time definitely wasted, caries attacking inaccessible crevices progressively and the gingivitis of the mouth-breather constantly recurring. The surgical axiom of "Remove the cause" in cases of chronic irritation applies wholeheartedly to such conditions.

At that time, the only measure of help we could afford these unfortunates was the hospital letter—a procedure which time and again proved a failure. People could not afford constant visits to London, either in time or money, and also, I think, there was a feeling of slight resentment that such work could not be carried out at the clinic. Thus matters stood early in 1930.

Due to Mr. Senior's encouragement, I decided to treat a small number of simple cases of malocclusion, such as linguoversions. At that time I was not aware that a more ambitious scheme had been started at Isleworth, and felt something of the thrill of the pioneer. As matters stood at Croydon, it was unreasonable to attempt an orthodontic scheme on a large scale, but I hoped that by gradually building up an array of satisfied parents an indisputable foundation would be laid. All this work was, therefore, treated as an extra duty, and not allowed to encroach on the routine clinic work. All orthodontic cases were seen at the end of sessions, and while the numbers were small, this did not mean any great burden in extra work.

The question of fees for this work was not a simple problem. To the majority of people who attend the Croydon clinic, a pound in these days represents a considerable sum, and I was bound to keep below this figure. To keep the cost as low as possible, I found time to cast the models, design and wax the plates, fit wires, etc., and thus the only extraneous cost was the mechanic's fee for vulcanising and the purchase of wires or bands. The parents paid to me the actual cost of materials and the mechanic's charge. While the numbers were limited, this little scheme worked splendidly, and laid the foundation of our now complete school orthodontic service.

In 1931, Mr. Senior left us to take over his new duties, and for several months I was working the main clinic at Croydon alone. There was, therefore, no possibility of extending the scheme in any way, although a few new cases were taken, and two *locum tenens* who assisted me showed the greatest interest in the work.

By July, 1931, the number of patients was steadily increasing, and due to their spreading of the news, great numbers of parents were demanding treatment. It resulted in altogether too much extra work, and I was interested to read that the Ministry had sanctioned the devotion of a session to ortho-

odontics at Isleworth. I had felt somewhat dubious as to the Ministry's attitude to clinic time being taken up by such work, and was very relieved and encouraged to hear their attitude on the matter.

The scheme at Isleworth was interesting and ambitious, but quite impracticable for Croydon. The attitude of the people generally had never been favourable when hospital attendance had been advised. Also there definitely did seem an attitude of resentment in parents' minds, their reasoning being that here was a fully qualified dental surgeon, yet unable to straighten their children's teeth. I am sure every one of you will understand such an attitude. In addition, I felt something of the same thing myself. Was I not, being a qualified dental surgeon, to all intents and purposes specialising in children's treatment, quite capable of treating cases of malocclusion? It has been said that orthodontics is a specialism. One may as well say that extraction or prosthetics or other part of the curriculum is a specialism. Some will always be more able at a certain type of treatment, but surely in the year 1933, qualified dental surgeons cannot shy away from orthodontics as has been done in the past. I can assure any school dentists who would like to do some orthodontic treatment but do not feel over-confident, that if they commence with a few simple cases as I did and gradually enlarge the scope of their treatment, their knowledge, ability and confidence will surely grow, as in any other progressive walks of life. Surely school dentistry is not going to stagnate into a routine of extractions, copper amalgam, etc., when the people of to-day look to us for prevention.

By Midsummer, 1931, the number of children under and awaiting treatment was definitely unwieldy, and it was indeed a fortunate thing for my scheme that Mr. Pilbeam was appointed senior dental officer at Croydon. Mr. Pilbeam brought with him a great enthusiasm and a fine knowledge of practical orthodontics, and immediately halved my burden. Before very long, he took over the whole responsibility of the orthodontic service and steps were taken to place the matter on a businesslike footing.

A part of a session was necessary, and Monday mornings from 10.30 until 12.30 was chosen as the orthodontic clinic period; cases for adjustment, etc., to attend after the routine work was finished on other days of the week.

With regard to mechanics' time and fees, the mechanic responsible for carrying out welfare denture work agreed to a flat rate of 7s. 6d. per case. Thus, one child might only need a very simple appliance, on which he would gain, others might require a series of plates, which would square the matter up. The charge to the parents was fixed at 10s., which left a margin of profit of 2s. 6d. per case. The whole 10s. is paid into the borough treasurer's office, who pay the mechanic's fee of 7s. 6d., and reserve the profit to purchase Badcock screws, etc., as required. If desired, the 10s. may be paid in instalments, but the whole amount must be received before treatment is commenced. There have been no defaulters as yet, which speaks well for the satisfaction of the people for the treatment they have obtained.

Recently the question of fees was reopened, and it was agreed that the mechanic's fee be raised to 10s. per case, the charge to the parents being 12s. 6d. No complaints had been received from the mechanic, but it was felt that the extra half-crown was a fairer proposition to him.

Thus it will be seen that, except for the dental surgeon's time, the whole scheme is entirely self-supporting, leaving a balance of £12 7s. 2d. at the end of one year, at a charge of only 12s. 6d., as against what appears to be a loss at Isleworth, where the charge is 37s. 6d. We should like to see in future a reserve fund started to provide for those very few cases who cannot afford the 12s. 6d.

Now let us turn to the procedure at our orthodontic clinic. If, on inspection at school, a child is found to be suffering from malocclusion, the question of prognosis is carefully considered. Mr. Pilbeam has explained the necessity for limiting cases to those where there is a definite hope of improvement. Should the child be suitable, then with the routine consent form is enclosed a special orthodontic consent form. This form is duly filled in and returned, and an appointment arranged for a Monday morning. On attendance, the parent makes arrangements for payment, models of the child's jaws for reference are taken, and filed, and a careful diagnosis made and line of treatment mapped out and entered on the special orthodontic card. Treatment is then commenced. We are fortunate at Croydon to be working in adjoining rooms, for often cases benefit by discussion and an alternative view-point is always useful.

As Mr. Pilbeam has explained, ribbon arches and other elaborate fixed appliances are of no use in school orthodontia. Time cannot be spared to fix these appliances, their cost is prohibitive, and oral hygiene often leaves much to be desired in the school child. Within sensible limits, we do not hesitate to extract, if our purpose of achieving a workable result is helped thereby. We expand a great deal, but there again extraction is often co-operated with such treatment, for expansion alone has a limited sphere of usefulness. Simple cases of linguoversion are often treated by means of a cast metal inclined plane, which is cemented to the lower teeth. This plane slides the tooth over the bite very quickly and neatly and is very cheap to make up. For moving individual teeth, we at first used screws a great deal, but lately have turned more to stainless steel finger-springs, which are soldered to bars of the same metal by Watkin's method. Stainless steel is a great boon to the school orthodontist, due to its cheapness; and actually some of our results could not have been bettered with platinised gold wire.

Mr. Pilbeam has remarked that certain cases are only suitable for hospital treatment. This is no doubt true, but so far we have not had to refer one case elsewhere as being beyond our possibilities, which proves that such abnormal conditions are extremely rare.

I should like to emphasise Mr. Pilbeam's remarks regarding malocclusion in the temporary dentition. We have been impressed by the large number of cases of closed or over-bite seen at inspections at infant schools and of children of pre-school age. To the orthodontic specialist working amongst children of the so-called orthodontic ages of eight to twelve years, the prevalence of this type of thing is comparatively ignored, and cases of protrusion put down to wholesale extraction of temporary molars. There is no doubt that an enormous number of cases of protrusion and closed bite show this condition with an intact temporary dentition which, as in all dental treatment, forces us back to research in the early days of life.

So far the number of cases treated with appliances totals 211. Of these about 40 are definitely completed, but it will be appreciated that, although many more have had the malocclusion corrected, they are wearing retention plates or are attending the muscle-training

clinic, so cannot be written off as completed. Cases treated by extraction only total 63.

Our muscle-training class, thanks to Miss Thomas, the school masseuse, is working smoothly, and already the beneficial results are making themselves shown. Of course, since the scheme started, we have used standard lip exercisers, but their usefulness, without more extensive muscle training, is limited.

The takings of the scheme since January 1st, 1932, to the present, total £56 3s. 6d. Of this, £43 16s. 4d. has been paid out to the mechanic, and to the companies for special appliances. This leaves us a balance of £12 7s. 2d. These figures are not exactly correct, for while the sum of £56 3s. 6d. has been taken, certain monies of this are in instalments, for which as yet no expenditure has been made, so there is probably a pound or two to be added to the outgoing sum. It has been difficult to get these figures, as the year's books are not made up until April, but they are at least sufficiently accurate to show that we are well on the right side of the takings.

In conclusion, I would like to add my appreciation of Dr. Holden's interest in the scheme, for he has done everything possible to help us in placing the service on a satisfactory footing. Also the attitude of the school medical officers has been most encouraging. I hope that in the future there will be a closer co-operation with the ear, nose and throat clinic, with which our task is so closely linked up.

Surely here is a great field for expansion of the school dental service. The prestige of the school dentist is none so high that he can ignore further expansion, and surely committees generally will realise the value of orthodontics as a true preventive measure, and require future school dental surgeons to have some knowledge of malocclusion and its treatment, and, I hope, remunerate them according to their skill.

DISCUSSION.

The Group President (Mr. Grantley Smith) thanked Messrs. Pilbeam and Webster for their interesting papers. They had ventilated a subject that was assuming increasing importance in public dentistry. He was glad to welcome Dr. Nash, to whom the school dental service and the dental profession owed a debt of gratitude for his pioneer work in orthodontics in his own school service. Dr. Nash had mentioned that he had utilised the services of an orthodontic specialist. He (the President) did not agree with the necessity for

this, since the curriculum for the L.D.S. included a comprehensive training in orthodontia. The President agreed that it was wise to go slowly and to make the service self-supporting as far as possible, especially at present, but he thought there would be a greater demand for this service in the future, and public dental officers would need to exercise care in establishing precedents.

Dr. E. H. T. Nash (Medical Officer of Health and School Medical Officer, Heston and Isleworth) said that it was imperative that only those cases in which deformity demanded attention should be dealt with. There was no difficulty in dealing with cases that paid the amount covering out-of-pocket expenses, but now, after three years' experience, it was found that cases were demanding treatment who were unable to pay for it, or who had to be assisted by the committee, and probably this would arise at Croydon, even with the smaller fee that they seemed to be able to charge. In the few cases of lost or broken apparatus, usually due to the foolishness of the parent, payment of the cost of new apparatus had been insisted upon. He agreed it was essential that there should be close co-operation between the nose and throat department and dental department, if such existed in the local hospital. He also emphasised the fact that it was important to ensure that the nasal condition was attended to in addition to the removal of tonsils, instancing the frequency with which he had found deflected septa and enlarged turbinates still causing obstruction after the tonsil and adenoid operation had been completed. He was aiming at doing away, as far as possible, with apparatus, from the point of view of a public authority. He felt that if he could obtain an 85 per cent. correction as a result of scientific extractions without apparatus, that at the present time was the best thing in the interests of the dental services as a whole. The point raised that an orthodontic specialist should not be appointed, depended entirely on the district, its proximity to a dental hospital and, incidentally, on the age of the dental surgeon, for orthodontic teaching in the dental schools was an entirely modern matter. Results in his area had justified the methods originally employed. Those methods were being gradually overhauled in the light of experience, and still more in view of the fact that they had received the support of the Board of Education. That accomplished, it was now possible to reconsider and, wherever possible, simplify and economise in administrative methods. In conclusion, he emphasised the importance of recognising the hereditary factor in a number of the cases, as exhibited by certain of the casts which he produced of children under five. In the infant welfare centres it was often noted, with the mother alongside, how she had handed on to her offspring the deformity which had to be dealt with.

DR. CYRIL BANKS, Medical Officer of Health for the City of Nottingham, has returned to duty after five months absence on account of illness. Fellows of the Society will be glad to learn that Dr. Banks is recovering his former good health.

The Society.

Reports, Proceedings and Announcements.

THE METROPOLITAN BRANCH.

President: Dr. A. F. Cameron, Medical Superintendent, River Hospital Service, London County Council.

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 27th, 1933. The President occupied the chair, and eighteen other members were present.

The Council requested the Hon. Secretary to write to the other Branches of the Society and ask them to support the nomination by the Metropolitan Branch of Dr. Charles Porter for the Presidency of the Society during the session 1933-34.

During discussion of a programme of meetings for 1933, it was proposed that the Branch should meet at 5 p.m. instead of 4 p.m., but the motion was not carried.

It was decided to accept an offer by Messrs. Siebe, Gorman and Co., Ltd., to demonstrate their resuscitation apparatus to the Branch, and the President and Hon. Secretary were asked to make arrangements, if possible, for the demonstration to take place in the Lecture Theatre of the London School of Hygiene and Tropical Medicine.

A letter was received from the Acting Secretary of the Amalgamated Master Dairy-men Ltd., informing the Branch Council of the main sources of supply from which the small retail dairymen in London receive their milk. The Hon. Secretary reported the receipt of a further letter from the same organisation discussing at some length the question of compulsory pasteurisation. The Council directed that copies of this letter should be circulated with the agenda for the next meeting, and that in the meantime, the Amalgamated Master Dairy-men Ltd., should be invited to give the amount of milk supplied to small retail dairymen in London from each of the sources mentioned in their first letter.

The Hon. Secretary read a letter from Sir Frederick Menzies expressing approval of the establishment of the Special Purposes Committee of the Branch.

Consideration was given to the question of co-operation between London County Council ante-natal clinics and medical officers of health,

and in this connection the Council had before them a draft pamphlet prepared by Drs. Borland and Radford, which had been circulated before the meeting.

The Council asked Dr. Lennane to act as their delegate at the Royal Sanitary Institute Congress to be held at Blackpool in June, 1933, and he agreed to do so.

The Council decided to nominate Drs. Julia Browne, Lennane, Charles Porter and A. G. G. Thompson, as representatives of the Society on the Central Council for District Nursing in London for the ensuing three years.

The Hon. Secretary referred to the memorandum on health services provided by borough councils, with which the Branch Council had supplied the Out-patient Committee (1932) of the King Edward's Hospital Fund for London, and informed the Council that the memorandum had been included in the Report of the Committee (published by Messrs. Geo. Barber and Son, Ltd., Farnival Street, E.C.4).

The Council had before them a letter from Sir Frederick Menzies containing observations on the draft revised ante-natal pamphlet, for use throughout London, which had been drawn up by a Sub-Committee of the Branch. It was decided to ask Drs. Julia Browne, Miller, and Radford to interview Dr. Brander of the London County Council in order to settle the final form of the pamphlet.

THE NORTHERN BRANCH.

President: Dr. A. Stuart Hebblethwaite, M.C., M.O.H., Sunderland.

Hon. Secretary: Dr. J. A. Charles, M.O.H., Newcastle-upon-Tyne.

A meeting of this Branch was held at the Medical Institute, 7, Windsor Terrace, Newcastle-upon-Tyne, on January 27th, 1933, the President occupying the chair. Sixteen members and one visitor were present.

On behalf of the Branch, the President heartily congratulated Dr. Charles on his appointment as Medical Officer of Health of Newcastle-upon-Tyne.

A letter from the Executive Secretary of the Society regarding possible features for future Branch meetings was considered, and it was agreed:—

1. That the offer of the British Empire Cancer Campaign be accepted, and the Hon. Secretary was instructed to arrange for a demonstration of the "Canti" film.

2. That the offer of Messrs. Siebe Gorman & Co., Ltd., to give a demonstration of the Novox resuscitation apparatus be accepted, and the Hon. Secretary was instructed to make the necessary arrangements.

3. That in the event of Dr. C. V. Craster, Medical Officer of Health, Newark, New Jersey, U.S.A., carrying out his proposed lecture tour in this country during the winter of 1933-1934, the Northern Branch would be glad to arrange for him to visit its area.

Dr. Jessie S. Dunlop, Assistant Maternity and Child Welfare Medical Officer, Durham County Council, was elected a member of the Branch.

A discussion on "Clearance Areas," was opened by Mr. John Atkinson, Senior Assistant Solicitor, Corporation of Newcastle-upon-Tyne, and Dr. J. O. Murray, Medical Officer of Health, Tynemouth.

Drs. Hebblethwaite, M'Gonigle, James Hudson, and Charles, continued the discussion, and after Mr. Atkinson had answered numerous questions, the President, on behalf of the members, cordially thanked Mr. Atkinson and Dr. Murray for their contributions to a most interesting and valuable discussion.

THE NORTH-WESTERN BRANCH.

President: Dr. T. W. Naylor Barlow, M.O.H. Wallasey.

Hon. Secretary: Dr. J. E. Spence, M.O.H., Eccles.

An ordinary meeting of this Branch was held at the Child Guidance Clinic, No. 1, Maryland Street, Liverpool, on February 10th, 1933, the President occupying the chair. Twenty-two members were present, and apologies for absence were received from twelve members.

A letter was read from the Executive Secretary of the Society relating to the exhibition of the "Canti" film, and the Hon. Secretary was requested to ask the Executive Secretary to accept the loan of the film for exhibition at Stockport on March 10th, on the terms stated in his letter.

A letter from the Metropolitan Branch requesting the Branch to support the nomination of Dr. Charles Porter as President for the session, 1933-1934, was considered, and it was unanimously resolved that the Branch support the candidature of Dr. Porter for the office of President. The Hon. Secretary reported that Dr. R. Veitch Clark had expressed a wish that, in view of Dr. Porter's nomination, his name

should not be put forward, but the members hoped that he would accept nomination for the session 1934-1935.

A letter from Dr. H. H. I. Hitchon, conveying his appreciation of the honour conferred on him by the Society in electing him a life member, was submitted.

Dr. Fitch then welcomed the members of the Branch to the Child Guidance Clinic, and gave an outline of the origin of the clinics in this country and the scope of the work being carried out in them.

Dr. Barton Hall as Psychiatrist, Miss Ferard as Social Worker, and Mr. Towzer as Educational Psychologist, demonstrated the investigation of a case of delinquency in a child, and Dr. Hopkins also gave a commentary on a number of typical cases.

The members were entertained at tea by Dr. and Mrs. Barton Hall, after which an informal discussion took place on the cases which had been placed before the members, in which the President, Dr. F. T. H. Wood, Dr. Gamlin, Dr. Wilson, and Dr. Johnson, together with Dr. and Mrs. Barton Hall, took part.

The President conveyed to Dr. and Mrs. Barton Hall the thanks of the members for their kindness in arranging the demonstration of the work of the Clinic, and also for their hospitality.

THE WELSH BRANCH.

President: Dr. E. Lewys-Lloyd, County M.O.H., Merionethshire.

Hon. Secretary: Dr. D. J. Thomas, Deputy M.O.H., Rhondda.

A meeting of this Branch was held at the Institute of Preventive Medicine, Cardiff, on January 13th, 1933, when the retiring President (Dr. D. A. Powell) occupied the chair and nineteen members were present, together with Mr. Howell E. James, member of the Welsh Board of Health, who was a welcome visitor.

Letters were read from Drs. Picken, Murphy, Betenson and Parry-Pritchard, regretting their inability to attend and wishing the President a happy year of office.

It was decided to invite Dr. Craster, of Newark, New Jersey, to address the members of the Branch on the subject of diphtheria immunisation at the earliest opportunity during his proposed tour of this country during the winter of 1933-34.

The retiring President then installed Dr. E. Lewys-Lloyd as President of the Branch for the session 1932-33. On assuming the presidential chair Dr. Lewys-Lloyd thanked the members for electing him as President for the current session, and reviewed the difficulties, trials and compensations of a single-handed, whole-time Medical Officer of Health in a rural county and indicated the extent to which the duties had been increased during the last fifteen years. Though the life was a full one, involving work during the seven days of the week, and sometimes the duties were trying and laborious in nature, it was on the whole a happy one and the labour was not in vain.

The main portion of the presidential address was, however, devoted to the subject of "**A Unified Medical Service.**" The question of the survival of the present status and work of the general medical practitioner was discussed, and the influence of the working of the National Health Insurance Acts in bringing his work under the supervision of the State was emphasised. Penalties were rarely inflicted under the Acts for lack of professional medical care, but chiefly for administrative lapses, and consequently insurance practitioners were unconsciously being trained in administrative methods. Reference was made to Dr. Crowley's paper on "Preventive and Clinical Medicine in Relation to the Medical Care and Treatment of Children" at the centenary meeting of the British Medical Association, and to Dr. Horner's leading article on "A Unified Medical Service," and it was pointed out that co-ordination of the work of the medical officer of health, of the general medical practitioner and of the research worker was of extreme importance. The President's experience in enlisting the services of private practitioners for part-time duties in preventive medicine was on the whole satisfactory, and the infusion of the team spirit greatly enhanced their efficiency. It would undoubtedly be of greater benefit to the medical profession if any form of unified service could be developed from within the ranks of the profession rather than if a system were imposed upon it by persons who were outside the profession. Various questions which would have to be considered were reviewed, and geographical limitations would have an important bearing in the definition of areas. A discussion on the subject was welcomed.

Dr. E. Colston Williams, proposing a vote of thanks for the address, expressed the opinion

that the future generation would have to solve its own difficulties, but at the present rate of progress in the development of the social medical services there were grounds for the hope that a satisfactory medical service would be evolved. One of the main problems at the present time was concerned with the outlook of medical students who were now entering the profession, and the training of medical officers who would be capable of supervising the services visualised.

Dr. Howard-Jones seconded the vote of thanks and quoted the advice of a professor of public health to the effect that three years' work as a general practitioner was indispensable as a preliminary form of training for the work of a public health medical officer.

Mr. Howell E. James recounted the experiences of his happy association with the President during the various deliberations over the administration of the National Health Insurance Acts, and paid a tribute to the successful efforts of Dr. Lewys-Lloyd on behalf of rural practitioners.

THE MIDLAND BRANCH.

President: Dr. H. D'Arcy Ellis, M.O.H., Amblecote and Brierley Hill Urban Districts.
Hon. Secretary: Dr. R. H. H. Jolly, M.O.H., Wolverhampton.

A joint meeting of the Midland Branch and the Midland Centre of the Sanitary Inspectors' Association was held in the library of the Medical Institute, 154, Great Charles Street, Birmingham, on Saturday, January, 28th, 1933.

Under the chairmanship of Dr. D'Arcy Ellis about 100 members of the two societies spent a very interesting afternoon discussing problems arising out of the **Housing Act, 1930.**

Dr. R. H. H. Jolly gave the first paper on "Some Practical Difficulties in connection with Clearance Schemes," in which he referred to a number of the difficulties of re-housing, rent relief and compensation. He also gave his views on the effective size of areas suitable for a clearance scheme under Part I of the Housing Act, 1930.

Mr. A. Kent (Chief Sanitary Inspector, Stourbridge) followed with a paper on "The Repair and Demolition of Houses." The first part of Mr. Kent's paper was an historical review of the legislation affecting repairs to or demolition of dwellings, and the remainder dealt chiefly with action under Sections 17 and

19 of the Housing Act, 1930. He considered that any reports under either of these sections should be accompanied by specifications, a general estimate of the cost of the work and, if necessary, a plan. He also queried whether it was not often expedient to make use of the Public Health Acts for the repair of houses, in preference to Section 17 of the Housing Act, bearing in mind the time involved in the preparation of plans and specifications when proceeding under the latter Act.

The openers of the discussion which followed these two papers were Dr. P. Stanley Blaker (Medical Officer of Health, Dudley) and Mr. A. T. Hubble (Chief Sanitary Inspector, Walsall). The latter touched upon improvement schemes under Part I of the Act, and pointed out that such schemes were likely to lead to serious expense in administration, because bye-laws had to be made for any improvement area and it was necessary to appoint special inspectors to see that these bye-laws were carried out. Others who took part in the discussion were Dr. J. A. M. Clark, Dr. Roper Saunders, Mr. Downes (C.S.I., Wolverhampton), Mr. Skitt (C.S.I., Dudley), Mr. Speake (C.S.I., Shrewsbury) and Sir John Robertson.

At the conclusion of the meeting a hearty vote of thanks was given to Dr. D'Arcy Ellis for his able and efficient chairmanship. The party then partook of light refreshments, provided by the Midland Branch. It was agreed that this joint meeting of medical officers of health and sanitary inspectors had been a signal success, and that it was desirable to promote similar meetings in the future at which features of common interest could be discussed.

THE FEVER HOSPITAL MEDICAL SERVICE GROUP.

President: Dr. E. W. Goodall, O.B.E.
Hon. Secretary: Dr. Alexander Joe, D.S.C., North-Western Hospital, London County Council.

A well-attended meeting of this Group was held at the Southern Group Laboratory of the London County Council, Park Hospital, Hither Green, on January, 27th, the President occupying the chair.

Dr. J. E. McCartney (Director of Research and Pathological Services, London County Council) gave an address on "**The Equipment and Work of an Infectious Hospital Laboratory.**" He explained the system of the London

County Council, in which a central laboratory was associated with a group of hospital laboratories—a scheme which resulted in great economy in working when compared with a system in which every institution has its own independent laboratory. Dr. McCartney then discussed various types of instruments and gave his reasons for preferring one type rather than another, *e.g.*, the binocular microscope than the monocular, the gas-heated than the electricity-heated incubator, and the large than the small centrifugal machine.

The address was followed by a visit to the various departments of the laboratory, during which instruments, methods and technique were demonstrated, several of which were new and most ingeniously designed for efficiency and economy of time and labour.

The meeting concluded with a cordial vote of thanks to Dr. McCartney for a most interesting and instructive demonstration, and to the London County Council for its kind permission for the visit.

The next meeting of the Group will be held at the house of the Society on March 31st, 1933, when Dr. Egerton Williams, of Sheffield, will read a paper on "Cerebro-spinal Fever."

THE MATERNITY AND CHILD WELFARE GROUP.

President: Dr. Margaret Emslie.
Hon. Secretary: Dr. Isobel Wright, Public Health Department, 121-131, Rosebery Avenue, London, E.C.1.

A meeting of this Group was held at the house of the Society on February 3rd, 1933, the President occupying the chair. Twenty-two members and visitors were present.

A pleasant ceremony marked the beginning of the meeting—the presentation of a bouquet of spring flowers by the President to Dr. Wright, the Hon. Secretary, on the occasion of her marriage.

A discussion on "**Minor Orthopaedic Defects in Children**" was opened by Mr. W. H. Trethowan, F.R.C.S., with a paper packed with practical information and common sense. Flat-foot, bow-leg, knock-knee, postural deformity of the spine, and torticollis were dealt with, the speaker pointing out how conservative treatment of those conditions had become, and mentioning two other famous

surgeons who were pioneers in that respect—the Deity and Time. The importance of shoes of sufficient length (three sizes longer than the measured foot), flexible soles, loose stockings, wedging of the heel only up to two years of age, and heel and sole in the third year, was emphasised. In dealing with the spine, Mr. Trethowan pointed out how postural deformities were usually symptomatic of some other condition, e.g., enlarged tonsils and adenoids, bad teeth, constipation, neuropathic heredity, the psychopathic child and the child who is over-competitive in class and games. He said: "Look at the back for the amount of deformity, and the face for the cause. . . . Treat the cause first, and the spine last."

That the true teaching spirit was introduced by the lecturer was proved by the keen discussion which followed.

The President thanked Mr. Trethowan on behalf of the Group.

THE DENTAL OFFICERS' GROUP.

President: Grantley Smith, Esq., L.M.S.S.A., H.D.D., L.D.S., D.O., Bermondsey.

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

The first meeting of the session of this Group was held at the house of the Society on December 2nd, 1932.

Messrs. Pilbeam and Webster, of Croydon, read a paper (published elsewhere in this issue) on "*Orthodontics in the School Dental Service*," which formed an interesting sequel to the contribution submitted by Dr. E. H. T. Nash at a joint meeting with the School Medical Service Group last year. It was shown that there was ample scope for orthodontic work in the public health service, and the account of the methods adopted and successful results achieved at Croydon should prove of interest to school dentists generally.

Models of cases under treatment, with the various types of apparatus used, were demonstrated after the reading of the paper.

A further meeting of the Group was held on January 27th, 1933.

Before proceeding to business, the President made touching reference to the loss sustained by the Group in the death of Mr. William Fisk, L.D.S.(EDIN.), one of its most prominent members and a pioneer in the field of school dentistry.

The members stood in silence as a mark of

respect to the deceased. (An appreciation of the late Mr. Fisk appears in the editorial columns of this number.)

Mr. D. E. Mason, L.D.S. (Senior Dental Officer, Nottinghamshire County Council), in a paper entitled "*Dentistry and the Dental Officer in the Public Health Services*," dealt with many matters concerned with the working of a clinic, and, referring to anomalies that exist in the school dental service, urged the need of greater standardisation. A subject not previously dealt with in a paper, Mr. Mason was congratulated on having devoted so much attention to its various aspects. His summing up of the duties of the dental nurse, and a reference to the great assistance she could render to the dentist, were particularly appreciated.

The attendance at the meeting, it is gratifying to record, was above the average, and most of the members present took part in the discussion which ensued.

Mr. Mason's paper has been forwarded to the Hon. Editor of PUBLIC HEALTH.

YORKSHIRE SUB-GROUP.

The annual general meeting of this Sub-Group was held at the New County Offices, Wakefield, on October 12th, 1932. Fifteen members attended, and Mr. B. R. Townend L.D.S.(LIV.), Dental Officer, Yorks (West Riding) County Council, re-elected President for a second session, occupied the chair.

In delivering his presidential address on "*The Magic and Folklore of the Teeth*," Mr. Townend gave some interesting examples of non-therapeutic extraction of teeth practised by many primitive tribes as part of initiatory ceremonies preceding the promotion of a boy or girl to full tribal membership. Many instances of the care taken to dispose of shed deciduous teeth in the correct manner to ensure sound successors were given. After referring to a number of St. Apollonia charms to cure toothache, he concluded with this passage: "The veneer of civilisation is very thin; the old tribal beliefs, the old passions, the old idea of tradition—what is good enough for my father is good enough for me—are still, and will be for many years to come, stumbling blocks in the progress of science, but the realisation and the understanding of the primitive working of the human mind will, I am sure, help to lead our footsteps from the bog of superstitious tradition to the uplands of rational thought and exact science."

A vote of thanks to the President for his address was proposed by Mr. Fletcher, seconded by Mr. Long, and carried by acclamation.

A further meeting of the Sub-Group was held at the New County Offices, Wakefield, on December 4th, 1932. Mr. Townend (President) occupied the chair, and twelve members were present.

The Hon. Secretary reported that during the past session six meetings of the Sub-Group had been held, and that in addition to an address by the President, papers had been read by Mr. Noel Moxon, Miss A. M. Radcliffe and Dr. J. Sim Wallace, on the occasion of whose address the meeting was held in conjunction with the full monthly meeting of the Yorkshire Branch of the Society. Attendances at meetings throughout the session, five of which were held at Wakefield and one at Keighley, had been very good. Satisfaction was felt that the Sub-Group had been granted representation on the Council of the Yorkshire Branch and of the Dental Officers' Group of the Society. In this way, it was hoped that the Yorkshire Sub-Group (the first Dental Sub-Group to be formed in the country) might make its influence felt as widely as possible.

Mr. Jeffrey Fletcher, L.D.S., R.C.S.(ENG.), Dental Officer, Yorks (West Riding) County Council, and Hon. Secretary of the Sub-Group, read a paper on "*The Vitality of the Enamel: the Bearing of Recent Research on this Vexed Problem*." During the past six years, Mr. Fletcher said, there had been considerable research bearing on the question of the vitality or otherwise of the enamel, stimulated, he thought, to a certain extent by claims, mostly from outside the dental profession, that dental caries could be prevented and, even after its inception, cured by the internal administration of certain substances whose action was claimed to be through vital action in the tooth itself. Mr. Fletcher briefly reviewed the chemical analysis of enamel by E. Sprawson and F. Bury in 1928; the investigation into the hardness or scleroscopy of enamel under normal and pathological conditions by S. Karlstrom in 1931; the staining of enamel by cataphoresis carried out by G. E. S. Jeffrey in 1932; the experiments of E. W. Fish, summarised in his excellent book, "*An Experimental Investigation of Enamel, Dentine and Dental Pulp*," recently published; and the writings of both Howard Mummary and E. Sprawson dealing with translucent zones in the enamel, which appeared

in 1926 and 1930 respectively. In those papers, the speaker pointed out, there appeared many considerations which at first sight seemed to point very definitely towards vitality. But did staining prove the presence of a metabolic path? Hardly, when as in young dogs' enamel, the stain passed right through the enamel, which could also be stained from the outer surface. Should tissue fluids follow this same path it postulated an escape of vital fluids into the mouth—an absurdity. Again, Fish was very definitely of the opinion that the impermeability of aged dogs' enamel was not due to increased calcification but to keratinisation of the organic remnants, the prism sheaths. Karlstrom held that the hardness of the inner portion of enamel was considerably reduced in pregnancy, but a careful examination of his figures showed that the claim, instead of resting on figures from 15 teeth, merely rested on those from 3 teeth, and those 3 from two mouths only, the figures for the other 12 closely following the normal hardness figures. Experimenting with dentine, Fish had found "that the calcium content of dentine is extremely stable" and that "there is no evidence, as yet, of any definite loss of calcium from the dentine under any circumstances." It seemed very unlikely, therefore, that calcium should be abstracted from enamel and not from dentine. Translucent zones in enamel were apt to be misleading, as they might be due to the blockage of the path of the stain from the pulp chamber to the enamel by secondary dentine and occlusion of the dentinal tubules, and in that case the reaction was not in the enamel but, in reality, in the dentine. Mr. Fletcher, therefore, concluded that, until more certain proofs of the inherent vitality of enamel were forthcoming, in combating caries reliance must be placed on those methods best calculated to protect the enamel surface from plaques of fermentable carbohydrates.

Mr. Townend, Mr. Noel Moxon, Miss Radcliffe, Mr. Kilvington, Mr. Batten and Mr. Jackson, took part in the discussion which followed. Several members supported Mr. Broderick's theory of the causation of dental caries, but this theory was, if it might be so termed, an "environment" theory, and did not postulate a vital enamel.

A cordial vote of thanks to Mr. Fletcher for his paper was accorded on the proposition of Mr. Noel Moxon, seconded by Miss Radcliffe.

beyond its dawning. It is for these reasons, probably, that matters on which it is suggested attempt at economy should be made are such as can yield comparatively little: are, so to speak, in the nature of "penny wisdoms"; the cutting out, where possible, and in relation to particular diseases, of terminal disinfection and of isolation in hospital, and by close scrutiny of cases and more careful selection, reducing the number of patients sent forward for sanatorium treatment. These being matters in which there is room for difference of view and difference of practice because of differences in circumstances and conditions in various areas, the possibility is that, as a result of the adoption of the suggestion, the amount to be contributed to the million to be saved (a sum, properly regarded, not very large) would be small.

A great hope of the committee, and of the Ministry too perhaps, is that the suggestions as to salaries might be generally adopted and that, as a result, a useful addition to the million might be secured. It is notorious, and the circular makes reference to it, that in a number of districts there has been salary cutting already. This, it is noted, was a little indiscriminate. That it was so may to some extent account for the fact that in several areas the cuts have been replaced. No reference to this is made in the circular which, indeed, indicates that it is not cutting but reviewing of salaries that is wanted, and reviewing in such a way that like shall be compared with like so far as districts are concerned, so that jealousies may be got rid of, and an end made of the practice of paying so much for this piece of work and so much for that.

In this connection, reference is made to Circular 1222 of September, 1931, and the advisability of consultation with the officials whether locally, or, as is even more desirable, to attain some measure of uniformity of action, centrally, as, for example, by the use of the central associations of local authorities, or some special committee of those associations, to confer with central organisations of the local officials. In addition, the Minister expresses his confidence in officials, giving it as his opinion that if the local authorities handle the matter in a proper spirit, "local officials, whether salaried or wage earners, will be found ready, in the future as they have been in the past, to respond to the needs of

the times." Which is very much more than the Committee on Local Expenditure appeared to find it possible to make by way of reference to officers, who had to wait for recognition and appreciation till the British Institute of Social Service issued its manifesto.

The Consolidation of Local Government Legislation.

THE committee appointed in December, 1930, by Mr. Greenwood, the then Minister of Health, to consider as to the consolidation of enactments relating to local government and public health, has now issued an interim report* dealing exhaustively with the former. In addition, there is issued a draft of a local government bill† which, apart from anything else, may be accepted as a monument not only to the wonderful industry of the committee, but to the outstanding ability of its members. In the bill, which runs to over 300 clauses and eleven schedules, the terms of reference—to consider under what heads enactments dealing with local authorities and local government should be grouped in consolidating legislation, and what amendments of the existing law are desirable for facilitating consolidation and securing simplicity, uniformity and conciseness—appear to have been covered completely. In various parts there are provisions with regard to the constitution and elections of local authorities: as to members and meetings of local authorities; committees and joint committees; officers; offices and buildings; alteration of areas; acquisition of and dealings in land; borrowing, and so on. Actually of the provisions, only those relating to officers are of interest to members of the service or call for particular comment. In the main, the chief object sought has been to secure consolidation of provisions referring to such matters as appointment, tenure of office and such like, taking in, for example, those in the Public Health (Officers) Act, 1921, conferring security of tenure on the medical officer of health and the senior sanitary inspector. In addition, however, it is sought to clear away certain misunderstandings and absurdities, and to give effect to recommendations by Royal Commissions, the Ministry, etc. One

*Cmd. 4272. H.M. Stationery Office, 1933. Price 2s. net.

†Cmd. 4273. H.M. Stationery Office, 1933. Price 4s. net.

interesting misunderstanding is that touching the security of tenure of office of medical officers of health and senior sanitary inspectors of county boroughs created since 1888. The bill for the Public Health (Officers) Act, of 1921, as introduced, gave security of tenure to every whole-time medical officer of health and sanitary inspector, but was amended during its passage through Parliament in order to exclude the officers of those councils which had retained unfettered control over their officers at the price of sacrificing grants, either from the exchequer or the county council. It has been suggested, however, that the words in sections 1 (a) and 2 (1) (a) of the Act, "out of moneys voted by Parliament," can apply only to the pre-1888 system of exchequer grants and not to the post-1888 grants made by county councils. The effect of this interpretation would be to leave the medical officers of health and sanitary inspectors of all county boroughs constituted since 1888 without security of tenure, notwithstanding that the council of the county borough may have accepted grants from the county council before being constituted a county borough. Satisfied that this interpretation of the Act is not in accordance with the intention of the legislature, and that it is not the interpretation which has been generally acted upon by the Ministry of Health and local authorities, the committee, in order to remove doubts, have provided in the draft bill that the medical officer of health and senior sanitary inspector of a county borough shall have security of tenure, if any portion of the salary of those officers was paid by the county council before it was constituted a county borough. Amongst absurdities instanced by the committee as arising out of the present law as affecting officers in their relation to and dealings with their councils is one concerned with the sale of land. In this connection, it is shown that while a clerk to a council may sell land to his council for the purpose of a housing site, if the land is required for the site of a sewage farm a special procedure laid down in the Public Health (Members and Officers) Act, 1885, must be followed. The committee offer suggestions as to methods of clearing away or modifying these distinctions, as they do also in regard to the matter of giving or taking security for officers likely to be entrusted with the custody or control of money, the appointment and payment of deputies and the appointment of members of local authorities to paid

offices. The provision made in the bill in respect of deputies covers both standing and temporary deputies, and refers to others than medical officers of health and sanitary inspectors who, on the whole, are more or less clearly dealt with in the existing law. In the case of temporary appointments of deputies to hold office pending the filling of a vacancy in the office of medical officer of health or sanitary inspector, the bill seeks to make it clear that the county council must pay one-half of the salary. In order to ensure that there shall be a limit to the period during which the burden must be borne, there is a proviso that the vacancy must be filled within six months. To the matter of appointment of members of local authorities to paid offices the committee appear to have given very careful attention and, seeing the necessity of having a substantial interval between resignation and appointment in all cases, they suggest, and so provide in the bill, that the period between cessation of membership and appointment should be six months. As indicated, the committee have done their work well; so well and with such evident understanding, indeed, that real hopes may be entertained that, when the enactments dealing with matters relating to the public health are considered, the decisions arrived at as to heads under which such enactments shall be grouped in consolidating legislation, and what amendments of the existing law are desirable for facilitating consolidation and securing simplicity, uniformity and conciseness, the results will be entirely to the liking of those who have for so long urged the necessity for consolidation, and so eagerly looked forward to the day when there will be in existence something that can reasonably be described as a "health code" for their help and guidance in carrying out their duties.

The Enteric Fever Outbreak in Malton.

DURING the progress of the Malton epidemic of enteric fever last autumn, reference was made to the features presented, the explanations offered of its occurrence, and steps taken with a view to prevention. A report by Dr. Vernon Shaw, just issued,* gives full particulars with regard to the outbreak and provides briefly and interestingly a very useful study in epidemiology.

*Ministry of Health Reports on Public Health and Medical Subjects, No. 69. H.M. Stationery Office, 1933. Price 1s. 6d. net.

From the report it appears that 235 persons, or approximately 5 per cent. of the population of Malton, contracted enteric fever in the six weeks ended mid-November, 1932. The secondary cases numbered 35. There was no case of enteric fever in the the urban district until September 23rd, 1932, when a patient was admitted to the public assistance institution. On September 26th he was found to be suffering from enteric fever, but he was not notified until October 9th, nor was he removed to the York isolation hospital until October 26th, although an agreement was in existence between the Malton Urban District Council and the Corporation of York for the admission of cases of infectious disease. This man's infected excreta were drained into the River Derwent—the common sewer of the town—by a broken drain allowing part of the contents to soak into the surrounding soil, polluting it heavily with the specific infection which gained access to the water supply, either by drainage from the oolite or otherwise. The infected sewage probably entered the public water supply from about September 30th to October 26th, when the patient was removed to the York Isolation Hospital. The town is sewered into the River Derwent and, apart altogether from the public assistance institution, infected excreta from the water-borne cases of enteric fever had been entering the River Derwent for upwards of a month.

The comments of Sir George Newman in his prefatory note to the report are not only illuminating with regard to the outbreak but, as can readily be gathered from a perusal of the report, justifiably convey a rebuke, a warning and an exhortation to the local authority concerned. Pointing out that the outbreak was due to pollution of the public water supply which is derived from a local well, Sir George indicates this as a source which the district council were urged by the Local Government Board to abandon 40 years ago by reason of its liability to pollution and the associated high annual incidence of diseases of the enteric group. Looking back to 1872, over all available records, the relation of this group to local pollution of the public water supply has been evident. In the note Sir George offers a reminder that in connection with another not dissimilar outbreak in Yorkshire in 1922, he pointed out that "the water of a village pump liable to pollution from its surroundings may be used by a community without any manifest disadvantage,

until it becomes contaminated through one channel or another with specific infection present in the population of the neighbourhood. When this occurs, local disaster may follow."

On the present occasion the exciting factor was the access to the public water supply of infective excreta of an enteric fever patient who had been admitted to the public assistance institution, and within two months 270 persons contracted the disease and 23 died. The story is an old one, and in this particular area has been repeated during successive generations of the Malton sanitary authority. History records that it has been demonstrated also to many scores of local authorities throughout England and Wales, but speaking generally its grave lesson has been learned, with the result that, by the adoption of measures of preventive medicine, including the provisions of wholesome public water supplies, the mortality from enteric fever has declined from 371 per million persons living in 1871-1875 to seven per million in 1930.

The importance of early diagnosis, notification and the isolation in hospital of the first cases of enteric fever occurring in a district has long been recognised, and to this end in the past, ministerial sanction has been given to the gratuitous provision by local authorities of certain facilities for diagnostic purposes. It is to be borne in mind, however, that laboratory methods cannot replace clinical observation, and their results are to be interpreted in the light of what is learned at the bedside. In the peculiar circumstances set out in this report some spread of infection may have been inevitable, but it is pointed out that had the first patient been promptly removed to an isolation hospital the outbreak would in all human probability have been more circumscribed. That the outbreak was not larger must be attributed to the commendable emergency action of the local authority in respect of early diagnosis, prompt isolation, "sterilisation" of the water supply, and preventive inoculation.

It is gratifying to note that the local authority has apparently profited to some extent, since it is now earnestly engaged in devising schemes for improved sanitation, for the provision of available accommodation in isolation hospitals, and for a new and wholesome public water supply. Under the provisions of the Local Government Act, 1929, it is the duty of the North Riding County

Council to make a survey of the isolation hospital facilities in the administrative county and to submit a scheme, for the Minister's approval, for the provision of "adequate hospital accommodation for the treatment of infectious disease in the whole county." A provisional scheme was prepared by the county council, but for various reasons it has not yet been put into operation.

The Tonsils and Adenoids Problem.

LARGELY as a result of the attention it has received in economy reports recently issued, interest in the operative treatment *versus* non-interference controversy in regard to tonsil and adenoid cases has been well sustained. With the need for operative treatment, in many instances, seriously questioned in various quarters, additional interest is given to the findings at re-examinations carried out by Dr. H. R. Tighe (Senior Assistant Medical Officer of Health, Swansea), and submitted to the Welsh Branch in a paper entitled "A Criticism of some Recent Reports and Publications on the Tonsils and Adenoids Problem."

Amongst cases treated at the clinics of the Education Authority at Swansea, 300 were re-examined (155 personally by Dr. Tighe). All had been operated on at various times ranging from six months to seven years prior to the date of the re-examination, and in assessing the results regard was had to the nature of the operation, and the date; the indications for the operation; the parents' opinion as to the results of operation, and subsequent as compared with previous health; and the examiner's opinion as to the relief of special symptoms and effects on the general health of the child. Out of the 155 cases, the examiner and the respective parents were of the opinion that 120 were cured, 14 much improved, and one improved; eleven were cured but the parents did not agree, one was probably cured, but the parent was absent, one improved, but needed further investigation, four were doubtful and three were definitely not cured. Regarding the relief of special symptoms, it is noted that five who were asthmatical ceased to have attacks after the operation, three were noted as having had bronchitis but were free from symptoms subsequent to operation, 43 cases were subject to tonsillitis and 42 were cured, and the remaining case appeared to be cured though the parent thought otherwise. In April, 1930, 27 cases of otorrhœa, operated

on five months to three-and-a-half years previously, were re-examined and it was found that 17 (or 62 per cent.) had been cured. More recently, 53 cases of otorrhœa, operated on from two months to four-and-a-half years previously, were re-examined and it was found that 37 were cured since operation, three were cured after operation and subsequent treatment, four were improved, four were cured but relapsed, three were cured by operation and subsequent treatment but relapsed, and two were not cured by operation and subsequent treatment.

The Medical Uses of Radium.

PROBABLY one of the most important statements in the report on the medical uses of radium for 1931,* the tenth of the series, is that as a result of the augmentation of the amount of radium salt made available to the Medical Research Council by the Radium Commission, the scope of experimental work has been extended.

The object of the report, as in the case of its predecessors, is to provide a summary of the work done in the treatment of cancer in the several centres throughout the country by means of radium lent by the Council. In the summary there is reference to cancer of various parts and organs—the breast; uterus; the mouth, naso-pharynx, larynx, and œsophagus; the rectum, bladder, prostate, and penis; and the eye, with, in addition, a special section on sarcoma and lymphosarcoma. During the year the number of cases treated by all methods at the centres was 2,333. Of these, 761 were treated by radium alone, and 758 by surgery alone; the remainder by various combined methods. These figures are definitely in excess of those for the previous year, and so far as radium therapy is concerned the report reveals that the main lines at present are the treatment of cancer of the breast, buccal cavity, and cervix uteri.

Also, though it is disappointing to learn that no one method has yet been devised and tested which gives the fullest scope to radiological methods, it is interesting to note that the exploration of new lines of technique was actively prosecuted. Evidence of this is to be found in the experimental section, given a place for the first time in this report and providing a feature rich in interest, suggestion and encouragement.

*Special Report Series, No. 174. H.M. Stationery Office, 1932. Price 1s. 3d. net.

What Do We Really Mean by Mental Deficiency?

By G. A. AUDEN, M.A., M.D., F.R.C.P., D.P.H., Ph.D., School Medical Officer,
City of Birmingham.

Dr. Auden can always be relied upon to regard any subject in the field of school medical work from a practical and useful point of view, and in this paper, read at the ordinary meeting of the Society held in London on January 20th, 1933, he has dealt with a question, which is giving rise to a good deal of thought and anxiety, in a manner likely to assist in clearing away some, at any rate, of the difficulties that surround it.

IT is a true saying that great errors are due not so much to faulty observations as to sweeping conclusions, and in the study of any social problem, in which so generally sentiment is a more facile guide than reason, it is of the utmost importance that we should be on our guard against the assumption of false premisses. As the late Theodore Roosevelt tersely put it once, when offering us some friendly advice: "Sentiment is the weakest reed that Righteousness can lean on." This statement is peculiarly applicable to the hotly discussed problem of mental deficiency, upon which there is so much loose thinking and ill-informed expression of opinion. When we find bishops and judges making *ex cathedra* pronouncements as to the urgent need for the legalisation of sterilisation as a cure for this malady of the body politic, it behoves us carefully to examine, first, the validity of the premisses upon which this statement is based, and, secondly, to determine how far the results would justify the adoption of such a remedy.

Hence it is incumbent upon us to ask ourselves the question which I have taken as a title to this paper: "What do we *really* mean by Mental Deficiency?" and by what criteria shall we differentiate that condition which we so describe from mental efficiency? But before we can answer this question there are others to which answers must be given. First, we must determine whether in the problem of mental defect we are dealing with a unitary condition which is the result of the action of specific causes, just as tetanus is the result of the invasion of the specific bacillus and from no other cause, or whether there is not included under the term a multiplicity of disparate conditions which have been grouped together because they are all manifested by the same phenomenon of a reduction of general intellectual capacity. An analogy will explain my meaning. Sixty years ago all the febrile condi-

tions which continued over a certain length of time were grouped into a single category, "the continued fevers," because the phenomenon of a continuous rise of temperature was common to all. With the growth of our knowledge of specific causation, this category has now been split up into numerous causally distinct and unrelated conditions. In other words, we must decide, to use an electrical simile, whether the conditions we describe under the term "mental deficiency" are to be arranged "in series" or "in parallel." Confusion has, moreover, arisen from the fact that we fail to determine clearly between what are in essence pathological, and what are biological factors. Thus we speak of mental deficiency existing from birth, and we assume that certain cellular changes in the texture of the brain stand in causal relationship to the state of quantitative reduction in mental capacity. On the other hand, we regard as evidence of mental deficiency the inability to conform to the social demands which are made by the community of which the individual is a member, and also the inability to make those mental acquisitions which are required by our modern educational system. We thus make use of three different standards of measurement, *i.e.*, cellular structure of the brain, conduct, and educational capacity respectively. But we further darken counsel by words without knowledge when we discuss the relative importance of heredity and environment. The often repeated antithesis, heredity *versus* environment, nature *versus* nurture, is glibly misleading; neither can be in opposition to the other, but they are inextricably interwoven. Heredity and environment form the warp and woof of the texture of personality. Yet it is upon the presupposed paramount influence of heredity in the ætiology of mental defect that the claim for sterilisation as a measure for promoting the social welfare of the community is based. But until we have answered these prime questions

we cannot be in a position to determine the validity of the claim at issue.

In the first place, several lines of approach to the question afford evidence of the existence of two main categories of mental inefficients. In one of these the conditions show themselves to be familial and appear in more than one member of the same family or in successive generations, whereas in the other category the occurrence seemingly is fortuitous or sporadic. Again, whereas in the first category the mental defect is found to be frequently associated with somatic changes which may vary from extreme forms, such as microcephaly or mongolism, to the presence of one or more of the so-called stigmata of degeneration, those belonging to the second category cannot be distinguished physically from the normal members of the community. Moreover, there is evidence that, in addition to mental deficiency, various forms of degenerative change may occur in conjunction in the same stock. It would appear that in these stocks certain factors have made their appearance, which, though not actually lethal, tend to the destruction of the particular stock. To these factors I have applied the term "phthersigenic."* The presence of such factors may be assumed in those familial morbid conditions which are characterised by degenerative changes in the central nervous system, such as progressive lenticular degeneration (Kinnear Wilson), Thomsen's myotonia, amaurotic family idiocy (Tay-Sachs), progressive spinal atrophy (Hoffmann), and pseudo-hypertrophic paralysis. A similar explanation can be given for such familial conditions as hæmophilia, fragilitas ossium, Gaucher's disease and other abiotrophies. Some of these morbid states show a definite sex predilection which would appear to connote the presence of sex-linked lethal or phthersigenic factors. It is clear that there is a tendency for the individuals affected to die before attaining sex-maturity, and that as a result the stock in which these phthersigenic factors are present must be gradually eliminated under the process of natural selection. It is clear, too, that the involvement of the central nervous system with the concomitant suppression of the higher levels of mental activity which are exhibited in such conditions as mongolism, microcephaly, cretinism, and the like, are but expressions of the general degenerative or devolutive changes in the somatic structure of

the individual. These changes often include the sexual apparatus and render the individuals impotent and sterile.

This class of mental deficientes can therefore be described as the *devolutive group*. The outlook for such individuals is hopeless, and they will always remain a burden upon the community, but it is doubtful if the application of measures of surgical sterilisation will afford any reduction of that burden, and any arguments in favour of such measures could be applied with equal cogency to other groups of persons who may lay a similar load on our shoulders. Thus the tendency to mental breakdown under stress is frequently familial, yet it is probable that few persons would be prepared to add to the fear of a mental breakdown the further dread that such a calamity might bring upon the individual, or even on the other members of his family, the penalty of sterilisation. There remains another group, examples of which can be adduced by every examiner of experience under the Mental Deficiency Acts, in which every member of the family shows some mental abnormality or unfavourable social attribute. Undoubtedly these families form a social menace from which the community may rightly desire to protect itself. Such families are, however, not so frequent statistically as the notoriety which their social depredations would suggest. There is little doubt that there exist in such families, changes in the cerebral hemispheres which bring them within the same devolutive category as those already described.

But the confusion in the problem is rendered worse confounded by the inclusion in the general category of mental defectives of those children who are found, having entered the elementary schools, to be unable to keep pace with the average educational progress of their fellows of comparable chronological age, and are thus unable fully to profit by the instruction offered to them. Many such children are certified to be feeble-minded under the Education Acts in order that they may be transferred to special schools, but, as Burt has shown, there is a marked overlap between the educational attainments of those children actually certified and of those who remain in the ordinary elementary school in different areas and, indeed, in the same area. In other words, the personal equation of the examiner looms large in the selection of children for attendance at special schools. As a matter of fact, in using chronological age as one of the criteria of mental development, we are only applying the so-called

*The epithet "phthersigenic" is that applied by Æschylus to the Furies, destructive of the race of the Atreides, in his play, "Seven against Thebes," line 1054.

law of averages and are in reality using a phenomenon of solar physics, the annual orbit of the earth, as a gauge of a (physiological) phenomenon of an entirely different order. It is, therefore, essential that we should have some conception of the mental processes involved in the acquisition of a "3 R" education.

The two-factor theory of general intellectual capacity, formulated by de Sanctis and elaborated by Spearman, has now secured general acceptance. General intellectual capacity may be regarded as a function of two variables, *i.e.*, (a) the intelligence, and (b) the specific educational capacities whereby we acquire such attainments as reading, calculation, music, etc. These may vary independently. Galton, many years ago, showed that the distribution of intelligence in a community is a phenomenon of the same order as that of the distribution of height, *i.e.*, it can be plotted in that form of curve which is known as a "curve of normal frequency." The specific educational capacities, however, show a distribution of a totally different character, and the resulting curve is markedly skewed. The wide variability, both in degree and date of emergence, of these educational capacities upon which the acquisition of a "3 R" education depends, reflects their recent appearance in phylogenetic development, for the demand for universal education is not yet four generations old. Disabilities in the acquisition of such a formal and literary education as is demanded to-day constitute an educational, not a social problem, and when we read in a recent report from a county medical officer that six per cent. of the children in his area are retarded mentally to such a degree that they require education of a special character, this is surely an indictment of the educational curriculum, rather than an index of the incidence of mental inefficiency in the area. These children are not necessarily mentally deficient, if we use as our criterion the capacity for adjustment to the social demands and inhibitions of the community of which they are members. Most of the rough work of the world must of necessity continue to be carried out by those whose educational capacity and so-called intelligence ratio is of a mediocre character, and their presence in our midst is one of the safeguards of our civilisation to-day. To earmark them with the stigma of inferiority has no true justification and is socially dangerous. They belong to a group of a different character which may be termed the *evolutive group*. It may be asserted with a considerable degree of confidence that in

the course of a few generations there will be a levelling up of educational attainments in the community. Ten generations ago very few of our ancestors had anything but the most rudimentary powers of reading, writing or calculation, and the degree with which those focal areas of the brain associated with these acquisitions have already been able to meet the rapidly increasing demands made upon them bears testimony to the marvellous adaptability of the human cerebrum.

There remains to be considered still another group of persons, *i.e.*, those whose conduct is characterised by an absence of that control which the community endeavours to inculcate upon all its members, or whose lack of judgment and foresight prevents them from full adjustment to their social environment.

Now conduct, or behaviour, is the direct result of mental processes, of mental life, and when we speak of influences of the environment or of heredity on conduct we speak incorrectly unless we realise that these, and all other influences, only affect conduct in so far as they affect mental processes. It becomes, therefore, a matter of paramount importance to attempt to understand the basis of those mental processes of which conduct is the manifestation.

Sir Henry Head and the late Dr. Rivers have shown that in the evolution of the nervous system there are two distinct stages. The most primitive of these is the protopathic stage in which the sensations are crude and vague without definite discrimination or localisation. They give a general awareness only, and the reactions which result from stimulation in this protopathic stage are of that nature which is known as the "all or none" response, *i.e.*, there is no gradation, and if the reaction occurs at all it tends to occur at full strength. In the course of evolution a second stage of sensibility to stimulation has come into being. This is of a much more sharply defined and localising character, and enables the nature of the stimulus to be recognised, thus allowing more complex and directive response, or modifications of response, graduated according to the nature of conditions under which the response is produced. This type of response I have called the "nicely calculated less or more" type of reaction. This demonstration of protopathic and epicritic

*Wordsworth: *Sonnet on the Interior of King's College Chapel*—

"High Heaven rejects the lore
Of nicely calculated less or more."

stages of sensibility is a development of Hughlings Jackson's theory of a hierarchy of mental levels, and may be correlated with Sherrington's work on the integration of the nervous system. The lowest range of protopathic behaviour thus consists of unconditioned responses to stimuli and of primary behaviour unlearned in the course of individual life. Above this level is that of secondary behaviour under conditioned response. "Rivers came to suppose that the instincts associated with the needs of the individual and with the early preservation of the race are mainly of the protopathic kind, whereas the epicritic group of instincts first appeared with the development of gregarious life" (Myers). The higher epicritic or tertiary stage is procedure having, as its criterion, guidance of action in the light of a plan, and mentally rehearsed in imagery prior to execution in act, *i.e.*, the exercise of foresight. Still higher in the hierarchy is procedure with interpretation in addition to practical action as the end in view, *i.e.*, judgment and the highest forms of mental function. To this highest stage Sir Herbert Parsons has applied the term "syncritic." Whereas the protopathic stage is essentially associated with the thalamic system, the epicritic levels are associated with the neopallium. We are thus in a position to correlate the degree of epicritic control with the adequate functioning of the cortex. This differentiation has a very direct bearing on the problem of mental deficiency. The manifestations of the different degrees of mental deficiency and the criteria whereby we differentiate the main groups, *i.e.*, the degree of capacity of adjustment to the environment, can be interpreted in terms of these hierarchical levels. Thus the lowest grade of idiot, who maintains little more than a vegetative existence, shows only a crude awareness of the pleasant or unpleasant affective tone of the stimuli which reach his consciousness. His responses to stimuli partake of the "all or none" type, and he has not advanced beyond the protopathic level of behaviour. In proportion as we pass through the gamut of the various grades of idiocy, imbecility and feeble-mindedness we find that we can interpret the behaviour in terms of these various levels of epicritic or syncritic control. Failure of the full development of the syncritic capacity for taking long views, for forming abstract thoughts or balanced judgments, *i.e.*, a lack of "wisdom," are the essential characteristics of the higher-grade borderland case. The complexity of our

civilisation has increased at a much more rapid rate than our powers of adaptation to it, for the struggle for existence is no longer a physical but an ethical one, and it is therefore not surprising that a certain number of the community fail to attain to the higher level of syncritic mental operations. The race is no longer to the swift, nor the battle to the strong, and when viewed from this point of view the presence of such individuals in our midst is the price we pay for the advances of our civilisation.

The reverse process, *i.e.*, a regression from the syncritic to lower levels of behaviour is produced, as Whately Smith has shown ("The Measurement of Emotion") in the action of alcohol on the central nervous system. While small doses remove the syncritic element of self-criticism and the finer edge of judgment, so that the partaker becomes less depressed, and more aggressive, increasing doses render him incapable of connected thought until he reaches the protopathic level of behaviour. Beyond this stage, voluntary action disappears into a coma until death may occur by the failure of the medullary centres. A similar regression to a more protopathic level explains the characteristic behaviour changes supervening on encephalitis. However, it may be argued that the community cannot wait till the slow processes of nature have disposed of the problem, but before we decide upon active measures of sterilisation, which under no circumstances should savour of retributory punishment for anti-social action, we must consider the nature of the evidence upon which we base our conclusions. Now, special schools have been in existence for nearly forty years in Birmingham, and it has been possible to follow up the after-history of many of the children who have received their education therein. A large number of them have married and produced families, and it has been possible to obtain educational and psychological reports upon many of their children. The results are certainly interesting, if not surprising. Of 131 children of special-school fathers, 86 were of average intelligence and a few were found to be above the average. This represents a percentage of nearly 66. Of 87 children of special-school mothers, 55 proved to be average or above average, *i.e.*, 63.2 per cent. Combining these figures we find 64.6 per cent. of the children of persons educated in our special schools proved of general average ability, while 35.4 per cent. show reduced intelligence. To use the frequency of illegitimacy as a test for the degree of

conformity to the dictates of society is manifestly misleading, but the number of illegitimate births amongst the women is found to be small, *i.e.*, three births to two mothers, which gives a percentage of the whole number which is certainly not as high as the proportion of illegitimate to legitimate births in the City population as a whole, and it may safely be said is lower than that of the districts of the City where the majority of these persons have their homes. The results of this investigation (which is still continuing) raise issues of great practical importance. In the first place, they show that the children of a group of persons, specially selected for their poor mental capacity, exhibit a marked variation towards the mean of the distribution of intelligence in the community, and that the chances are that of every three children born to such parents, two will be of average intelligence. The implication of these facts is that the majority of those persons who form the group under observation have been merely chance variations and that their offspring tend to approximate the median of the curve of distribution, *i.e.*, that there are no transmissible factors at work which can be deemed to constitute a demand for permanent segregation or sterilisation, yet such children form by far the largest group of those who have been termed feeble-minded. It will, of course, be admitted that children of the lower grades of mental defectiveness tend to be excluded from special schools, and that these are more likely to belong to the devolutive type in which the familial factors are likely to appear. In one of his aphorisms Lord Bacon expresses a fundamental truth, *Natura non nisi parendo vincitur*. If the existence of biological factors in the production of mental defect is established, then we are forced to the conclusion that no eugenic measures, however energetic, except in so far as they are based on biological principles, can offer a genuine panacea for the solution of the problem of mental deficiency.

DISCUSSION.

Dr. F. C. Shrubsall (Senior Medical Officer, London County Council) said he did not think the amount of mental deficiency was increasing. It was safe to say that 90 per cent. of the children at present in special schools would not have been regarded as mentally deficient fifty years ago. The fact that a child went to a special school simply meant that he had failed to get on in conditions that worked out right for 90 per cent. of the children. Some special-school children had done exceptionally well, and many had done well. "We cannot answer questions about the inheritance

of mental deficiency," he added, "because we do not know the laws of heredity, and we do not know how to define mental deficiency."

Dr. T. W. Hill (Deputy Medical Officer of Health, West Ham) said that, in any endeavour to find an answer to the question under discussion, he supported entirely the social criterion, feeling that it was the most justifiable method of arriving at certifiable mental deficiency. When a boy or a girl came up for certification he asked himself: Is this boy or girl able to fend for himself or herself in society? If they could not, they were mentally defective; if they could, they were not. They might not be able to read or write, but that did not matter. Supporting sterilisation, he said the argument commonly used was that because a mentally deficient came from apparently normal parents there was therefore no justification for sterilisation. He held that such argument was completely fallacious, for it was known that the chances of a mentally deficient procreating defective stock were extremely high. The opponents of sterilisation depended on segregation. At the segregation colony at West Ham, difficulty had been experienced in separating the sexes, and in preventing patients going out at Christmas and at other times of the year, with the consequent risk of procreation arising. For those reasons and the fact that parents, in their ignorance, thought that mental deficiency could be cured in a few years, he advocated very strongly that sterilisation for the feeble-minded was necessary in the present state of society.

Dr. C. Leonard Williams (Medical Officer of Health, Barking) held that practically all feeble-minded children could benefit in some way by education, if only by preventing a child going backwards. The smaller the class the less the likelihood of a particular child proving a nuisance, especially where the school was sufficiently large to enable grading and grouping of the children to be carried out. As advised at the present time, there appeared to be no conclusion but that every child, apart from the absolute idiot or imbecile, should be a charge on the education rate of the country. With the modern system of education, the methods were so thorough and the results so good that there were bound to be a large number of children, relatively mentally deficient, who were really not mentally deficient at all. It was difficult to judge anyone on what had been acquired by heredity. To go back a few generations was but a comparatively short space of time, and in the long run there was probably very little variation between one person and another in that direction.

Dr. B. Dunlop (Vice-President, Malthusian League; Fellow, Eugenics Society) claimed that something would be gained by sterilising the obviously mentally deficient. The most dangerous people, according to Mendelian principles, appeared to be the brothers and sisters, for like tended to beget like. Defective stocks should be discouraged from having large families; if they had no more than two children per family they were not damaging the race. He considered it a good thing for defectives to inter-marry, thus preventing contamination of the general population, and if

defectives were segregated it would afford an opportunity of seeing clearly the material to be dealt with. What was wanted, he urged, was a rule or a law that no woman of the poorest classes should have more than two confinements, and that voluntary sterilisation and abortion should be available to any woman who had had two children. That would provide a means of control of the quality and quantity of the population. Slow deterioration of the race was going on all the time, and some day medical officers of health would be very severely criticised on the dysgenic work they had been doing.

Dr. Auden, in reply, said he felt they were responsible persons whose views were sought, especially on the much-discussed question of sterilisation, and they had to make up their minds what they meant by mental deficiency, because on that depended the measures they proposed and the class of people to be subject to operative interference. In the case of people of low mental capacity the chances of their having sound children were two against one, for the Birmingham figures had shown that of every three children born to such parents, two would be normal—some of them above the normal. He did not agree with inter-

"THE Preservation of the Health of the Men of the Navy" is the title of a Chadwick Public Lecture to be delivered by Surgeon Vice-Admiral R. St. G. S. Bond, C.B., M.B., F.R.C.S., F.R.C.P.(LOND.), D.P.H., Barrister-at-Law, Medical Director-General of the Navy, at the Royal United Service Institution, Whitehall, London, S.W.1, on Thursday, May 4th, 1933, at 5.15 p.m. The chair will be taken by Sir George W. Humphreys, K.B.E., M.INST.C.E., Chadwick Trustee. Admission to the lecture is free, and no tickets are required.

AN appeal to raise a sum of money to be used as an endowment for the benefit of the blind and deaf, as a fitting memorial to the late Dr. Alfred Eichholz, has been issued by the Presidents of the National Institutes. Contributions may be sent to Mr. W. McG. Eager, National Institute for the Blind, 224, Great Portland Street, W.1, or to Mr. A. J. Story, National Institute for the Deaf, 2, Bloomsbury Street, London, W.C.1.

THE Society of Apothecaries of London announce that, in order that the examination for the Mastery of Midwifery of the Society (M.M.S.A.) may fulfil more completely the object for which the Diploma was instituted, it has been decided to modify the conduct of the examination forthwith. Instead of setting two papers in obstetrics and one in pædiatrics, in each of which there has been one obligatory

marrying of defectives in order to obtain better means of controlling them. The re-organisation of the educational system, with new methods of teaching in infant departments, enabled even moderate-grade imbeciles to profit by learning habits of obedience and so forth. It was inadvisable to certify a case to a special school until the child had been given a trial in a baby class in an elementary school.

Dr. Shrubsall, replying to a question by **Dr. G. Chesney** (Assistant Medical Officer of Health, Poole) said that feeble-minded children in London were certified under the provisions of the Education Acts of 1899 and 1921, and such certificates were perfectly lawful and could not be objected to. The standard now worked to was an IQ below 70.

Dr. A. K. Chalmers (formerly Medical Officer of Health, Glasgow), asked how it was possible to have voluntary agreement to a procedure if a person were mentally deficient. He proposed a hearty vote of thanks to Dr. Auden for his paper and to those who had taken part in the discussion, and this was carried by acclamation.

question on the public health aspect of the subject, the written test will in future be by one paper in obstetrics, one in pædiatrics, and one in public health and administrative practice in relation to these subjects. The new paper will be entitled "Public Health Aspects of Maternity and Child Welfare." Amended copies of the regulations may be obtained from the Registrar of the Society, Apothecaries' Hall, Water Lane, London, E.C.4.

NATIONAL Baby Week Challenge Shields, it is announced, are to be competed for under revised regulations, and will now be awarded for the most novel and effective piece of propaganda during each year. Such piece of propaganda may be part of a local baby week (or health and baby week combined), a local health week, or may be in the nature of a special propaganda effort designed to meet some particular need of the district concerned. The "Astor (1931)" shield is open for competition among the large towns in the United Kingdom, with the "Kettering" shield for the runner-up; the "William Hardy" shield is open for the small towns and areas of 15,000 population and under, with the "Gwen Geffen" rose bowl for the runner-up. Full particulars of the competition may be obtained from Miss Norah March, B.Sc., Secretary, National Baby Week Council, 117, Piccadilly, London, W.1.

Ut Ita Dicam.

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

Diphtheria Immunisation: A Record Meeting.

Though there had been a certain amount of fear that, as a result of postponement, the attendance might suffer, what happened actually was that the ordinary meeting on Friday, March 24th, set up a record! Within living memory there has not been such a gathering. Practically every inch of space was occupied, and the room was filled with faces, and page after page of the attendance book with names that are only very rarely to be found there. There was every excuse for a big attendance, and none could have left after the meeting closed, somewhere round about eight o'clock, without a feeling that the occasion had been, indeed, a memorable one, and that he had heard talk from people who knew what they were talking about and, in addition to learning something, had received encouragement. Dr. Nash with his paper and the slides, his posters and the rather wonderful little film with which he illustrated what he had to say on the subject, covered the ground very thoroughly. As a matter of fact, he covered it almost too completely, leaving very little for those who followed to say. In spite of this, quite a number of those with special knowledge or experience of the subject, or engaged in the operation of diphtheria immunisation schemes, took part. As was expected, a most useful contribution came from Dr. Graham Forbes, to whose remarkable book a number of references and glowing tributes were paid during the course of the discussion. In a body like the Society it is always very difficult to know what is going to happen. Certain it is that when "Diphtheria Immunisation—Its Possibilities and Difficulties" was set down on the programme, nobody anticipated that members would turn up in numbers so embarrassingly large that even the principal speaker was hard put to it to find space on which to stand.

The Council and the Pasteurisation of Milk.

If less thronged than the ordinary meeting that followed it, the meeting of the Council—which had been postponed also—was very

well attended, and a great deal of very useful work was done. Much of it was interesting too, several of the items being novel and the action taken in some instances a little unexpected. It was unexpected, for example, that there should have been a unanimity that was in effect absolutely complete on the subject of pasteurisation of milk. Myself, I confess I was taken by surprise, having been accustomed to hear the voice of the die-hard raised loud in protest against a treatment which, in addition, it was said, to putting the clock back goodness knows how many years and encouraging fraud on the part of the milk dealer, was certain to interfere with the nutritive qualities of the milk to such an extent that it would not be worth anything as a food. Possibly if the question had arisen at an ordinary meeting of the Society the result would have been more that to which I am accustomed, and Dr. Veitch Clark and Dr. Milligan, the former speaking out of his experience in Manchester, and the latter with the knowledge of milk that one expects from Reading, might have had a more difficult job. The subject arose out of the report of the General Purposes Committee, who submitted the memorandum of the special sub-committee appointed to prepare a statement on the question of reduction of disease among milch cattle at the request of the Committee on Cattle Diseases of the Economic Advisory Committee. The report of the Scottish Branch on the same subject was referred to also, and with the memorandum, constitutes a statement on the public health aspects of the milk problem that must inevitably compel respect. The individuals chosen to represent the Society before the Committee on Cattle Diseases, if oral evidence is required, were Dr. J. J. Buchan, Dr. Orr, and Major D. S. Rabagliati, F.R.C.V.S. After hearing Dr. Veitch Clark and Dr. Milligan, the Council was desirous that one or other, or both, should act as representatives also, and eventually Dr. Milligan agreed to do so. Some attempt was made to have included reference to irradiation as a process that might be used as an alternative to pasteurisation. This, however, received little support, mainly because we were all afraid that our views on the latter might be weakened if we mentioned anything else. In

any case, it was felt that though we did know enough about pasteurisation to be able to claim for it that its effect upon vitamins was nil, while calcium was definitely unaffected, of irradiation we knew so little that it was better we said nothing about it. The two memoranda mentioned, it is hoped, will appear in PUBLIC HEALTH later, and will be found to offer views and opinions no less interesting and valuable with regard to other matters than those given, in respect of pasteurisation.

Notification and Isolation of Leprosy.

Another interesting discussion arose out of a reference in the report of the General Purposes Committee to the question of the course to be adopted in regard to cases of leprosy detected in this country. The number of such cases is, of course, not large; somewhere round about 50; the disease in every case having been acquired overseas and being in a late stage. Suggestions that had been offered were that the condition should be made compulsorily notifiable and that full and suitable provision of isolation accommodation for all cases should be made. When these points were put up to the Ministry the reply elicited was, in brief, that there was no case for notification, and that, since actually if reasonable precautions were taken and supervision exercised, there was no real need for institutional isolation and treatment; and in any case, there were no funds out of which the Minister could provide a hospital. With the first of these views the Council found itself in agreement, but with regard to the second, the opinion was that it required consideration. In the metropolitan area on more than one occasion in recent years the question of the necessity for doing something in regard to leprosy has arisen, as it is known that there are a certain number of cases here and there in a few of the boroughs. Generally the discussions have ended as in the present instance, and as those who have had the cases under observation have never been able to find any evidence of spread of infection, the reply of the Ministry would appear to be not without reason.

If I May Say So.

When it was decided to inaugurate these columns, some years ago now, it was felt that in order to be, as they say, "upsides" with certain contemporaries, it was essential that

there should be something in Latin or Greek somewhere. For the reason that Greek costs money and the printer, besides, has no Greek type, it was necessary to fall back upon Latin. The difficulty here was that most of the snappy bits had been seized already, and the watchword being "Originality or nothing," the memory had to get to work. The result was the expression set out above, which came droning back from a lazy summer afternoon, a stuffy classroom and a very boresome classical master who, it appeared, regarded the phrase as of some interest and importance. Just as much as it did on that occasion, the meaning of the expression seemed of little moment when it was taken for use in evidence of the erudition of those concerned with the journal as producers or readers or what not. As time has gone on, the necessity for the words to bear a meaning has disappeared; nobody worries; to the individual who occasionally gives a glance at the contents of the columns, as to the army of sub-editors and printers, it is just "Ut" (pronounced as in "I wouldn't leave my little wooden 'ut for you"), the former remarking "Pretty feeble, this month's 'Ut'" and the latter demanding at the eleventh hour, "Got that stuff for 'Ut' yet?" All this because of what a reader in the United States has to say in a postscript to a letter to the Editor:—

"I have often wondered how you translated 'Ut Ita Dicam.' I have translated it 'So to speak.' Another very loose translation (in fact, not a translation at all) would be 'As it were.' In the American 'slanguage' I think some of us would translate it as 'Oh yeah,' or even 'Hear my whoop'."

P.

"RESIDENTIAL Clubs and Hostels in London for Professional and Working Women and Girls" is the title of the fifth edition of a handbook compiled by the Central Council for the Social Welfare of Girls and Women in London, with the object of providing information as to suitable hostel accommodation in the metropolis. The list, with a few exceptions, is restricted to those hostels which charge two guineas a week or less. Copies of this useful little guide may be obtained from the offices of the Central Council, 53, Victoria Street, London, S.W.1, price 1s. 1d. each, post free.

The Society.

Reports, Proceedings and Announcements.

NOTICES.

POSTPONEMENT OF ORDINARY MEETING.

Members are reminded that the Ordinary Meeting of the Society announced on the Sessional Card for April 21st, has been postponed until Friday, May 19th, when a discussion on "The Responsibility of the Local Authority towards the Blind" will be opened by Dr. E. K. Macdonald, Medical Officer of Health, County Borough of Stockport.

TO BRANCH AND GROUP SECRETARIES.

Reports intended for publication in the May issue of PUBLIC HEALTH should reach the Hon. Editor not later than April 15th. Notices of forthcoming meetings should be sent to the Executive Secretary before that date. This is essential on this occasion as the journal goes to press during the latter part of April, in order that members shall receive the requisite notice of the Extraordinary General Meeting of the Society to be held in London, on May 19th, to adopt the revised Constitution.

MATERNITY AND CHILD WELFARE GROUP.

A meeting of the Group will be held at the house of the Society on Friday, April 28th, 1933, at 8.30 p.m. T. B. Layton, Esq., D.S.O., F.R.C.S., will open a discussion on "Acute Otorrhoea—In-patient and Out-patient Treatment."

DENTAL OFFICERS' GROUP.

The next meeting of this Group will be held at the house of the Society, on Friday, May 5th, 1933, at 8 p.m., when Surgeon-Commander D. H. C. Given, R.N. (ret.), M.D., R.U.I., D.P.H., D.T.M., will read a paper, illustrated by lantern slides, entitled "Lessons from the Study of Dental Disease on the Outposts." Fellows of the Society interested in the subject will be welcomed.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on Friday, March 24th, 1933.

The President (Dr. G. H. Pearce) was in the Chair, and there were also present Drs. A. E. Baker, G. F. Buchan, A. F. Cameron, A. K. Chalmers, J. A. Charles, R. Veitch Clark, James Fenton, Sir Francis Fremantle, Drs. C. E. E. Herington, J. Howard-Jones, J. B. Howell, W. W. Jameson, A. Joe, G. W. N. Joseph, J. Mair, C. Killick Millard, H. J. Milligan, W. A. Muir, E. H. T. Nash, W. Paterson, Charles Porter, T. N. V. Potts, E. H. Snell, V. F. Soothill, P. H. Stirk, J. A. Stirling, E. Ward, H. Gibbons Ward, R. H. Wilshaw, and F. T. H. Wood.

Minutes of the last meeting were confirmed and signed, and apologies for absence were received from Drs. T. W. N. Barlow, J. J. Buchan, R. M. F. Picken, G. C. M. M'Gonigle and T. P. Puddicombe.

Correspondence.—Letters were received from Drs. W. Hanna, H. H. I. Hitchon, and A. E. Wear, expressing thanks to the Council for their election as life members of the Society.

A reply was received from the Ministry of Health in regard to the memoranda on clerical assistance for tuberculosis officers and employment of tuberculous staff in sanatoria forwarded by the Society. In regard to the latter, the Ministry's letter stated that the questions involved as affecting nursing and domestic staff are not at present the subject of such definite conclusions as to warrant the making of special recommendations to local authorities.

An appeal for a subscription to the International Union of Local Authorities was considered; but the Council decided that it was not yet expedient to make an annual subscription to this body.

Report of the General Purposes Committee.—The Council confirmed the following report and recommendations of the General Purposes Committee:—

Loan of £1,000 to Paignton U.D.C.—The Executive Secretary reported that since the original information had been obtained, the rate of interest had been lowered from 3½ per cent. to 3¼ per cent. He had asked the Clerk to the Paignton U.D.C. to defer preparing the

mortgage deeds pending a decision by the Committee.

The Committee decided to carry out the loan on the new terms, no better interest being offered by other local authorities. They ask the Council to confirm their action.

Vaccination Administration.—A letter received from the Association of Municipal Corporations reported that the Society's recommendations in connection with the administration of the Vaccination Acts have been adopted by the Association and forwarded to the Ministry of Health.

A letter was also reported from Dr. James Bennett, asking whether it was too late to confer with the Association of Public Vaccinators on this subject.

The Committee decided to invite representatives of the Public Vaccinators' Association to their next meeting, and ask the Council to confirm their action.

Social Hygiene Propaganda.—A letter was received from the British Social Hygiene Council requesting the views of the Society in regard to the services rendered by the B.S.H.C. from the Central Grant for national propaganda (quota allocations from local authorities), and asking whether there was any other service which they could render without incurring considerable fresh expenditure.

The Committee were unable to suggest any such additional service.

Conduct of D.P.H. Examinations.—A letter was received from the Fever Hospital Group referring to the section of their memorandum on the part of the D.P.H. examination concerned with infectious diseases. As the Council of the Society did not see their way to making an official representation to the General Medical Council on the conduct of this examination by any particular University, the Group suggested that their object might be attained by the passing on of their information to a member of the G.M.C. with whom the Society was in touch.

The Committee recommend that Sir Henry Brackenbury be informed of the facts as ascertained by the Group's enquiry, and that further action be left to his discretion.

Sanitary Inspectors' Association.—A reply was received from the Sanitary Inspectors' Association regarding the Council's suggestion for co-operation on matters of mutual interest.

Co-ordination of Stokers' Classes and Examinations.—The National Smoke Abatement Society wrote reporting that they were acting in conjunction with the regional smoke abatement committees with a view to co-ordinating classes for stokers, standardising the syllabus and examinations and issuing a certificate of a national character.

The Secretary was instructed to reply that the Society would be glad to give assistance on any special points referred to them by the N.S.A.S.

Supply of Dried Milks, etc.—A further letter was read from Dr. W. F. Corfield asking the attitude of the Society in regard to the policy of dried milks, etc., being supplied through local chemists on orders signed by the medical officers in charge of municipal welfare centres.

The Committee recommend the Council to re-affirm their opinion that the policy involved is a matter for the local authority to decide.

Notification and Institutional Care of Leprosy.—A letter was received from the Urban District Councils' Association enclosing copies of the following resolutions forwarded by the Wood Green U.D.C.

"(i) That in the opinion of this Council, leprosy should be made compulsorily notifiable under the Infectious Disease Notification Acts, and that the necessary steps should be taken by the Ministry of Health to ensure that adequate institutional accommodation is available for the reception and treatment of all cases of leprosy notified in this country; and

"(ii) That the Urban District Councils' Association be requested to support the attitude of the Council in this connection."

The Wood Green Council also reported a reply received from the Ministry of Health in which the Minister stated that he was advised that a case had not been made out for the compulsory notification of leprosy in this country; that the disease was not likely to spread from person to person and that any danger might be obviated by the taking of certain precautions; and that if these precautions were taken and the patient had proper lodging and was kept under observation, ordinary institutional treatment would not be required. The Minister further had no funds out of which he could make a grant towards the provision of accommodation for the segregation of lepers.

The Committee recommend that a reply be sent to the Urban District Councils' Association stating that the Society is in agreement with the view of the Ministry of Health as to compulsory notification and that the question of accommodation for these cases requires consideration.

Administration of Anæsthetics by a Dental Officer.—The Committee considered the circumstances in which a dental officer had been asked to send in his resignation on the grounds that he had administered anæsthetics to patients contrary to a ruling of his Council.

The Committee understand that the dental officer in question is receiving legal advice from one of the medical defence societies, and recommend that no action be taken on his behalf unless requested by his advisers.

Reduction of Disease among Milch Cattle.—The Committee considered the memorandum prepared by a Special Sub-committee and made certain amendments.

The Committee recommend that the memorandum be confirmed and forwarded to the Committee on Cattle Diseases of the Economic Advisory Council; and that, if oral evidence is required, the following be appointed to represent the Society: Drs. J. J. Buchan and T. Orr, and Major D. S. Rabagliati, F.R.C.V.S.

The Council decided to add the name of Dr. H. J. Milligan to the above.

They also recommend that the separate memorandum prepared by the Scottish Branch of the

Society be forwarded with the above, and that any request for oral evidence on this question as affecting Scotland, be referred to the Scottish Branch.

Licensing of Grade A (T.T.) Milk Producers.—A letter was received from the West of England Branch drawing attention to the unsatisfactory position with regard to the licensing of Grade A (T.T.) farms, whose herds were frequently found to contain reactors.

The Committee recommend that Drs. J. J. Buchan, T. Orr, C. E. Tangye and Major Rabagliati be authorised to approach the Ministry of Health with a view to the tightening up of administration in this direction.

A question regarding the licensing of Grade A Milk producers, brought forward by Dr. Gibbons Ward, was referred to the General Purposes Committee.

Advertisements of Public Health Appointments.—The Committee confirmed a letter sent to the Editor of the *Lancet* regarding an advertisement (appearing in that journal, February 28th, p. 53), of a post under the Kent C.C., which, although sound in itself, had been refused by the "B.M.J." and "Medical Officer" on the ground that the salary agreement has not been applied to all existing posts in that county. It was reported that the Medical Secretary of the B.M.A. was meeting the Editor of the *Lancet* with a view to ensuring that there should be closer co-operation in future in regard to such advertisements.

Dr. W. Paterson reported to the Council that agreement had now been reached with regard to future co-operation.

Superannuation.—The Committee had before them details of the powers obtained by Cardiff to make allowances to widows of pensioners under their superannuation scheme.

The Committee recommend that the Council ask the National Association of Local Government Officers to continue pressing for legislation to make compulsory the adoption of superannuation schemes by all local authorities; to urge that medical officers of local authorities shall have the right to added years (not exceeding ten years) to their period of service for superannuation purposes; and, further, to seek the extension of superannuation schemes to cover the widows of pensioners, on some such basis as that adopted at Cardiff. The Committee recommend also that the B.M.A. be informed of the action taken.

The Law Relating to Food Supplies.—The Committee considered the request of the Royal Sanitary Institute for the Society's observations on the proposal to press for the consolidation and amendment of the law relating to food supplies in England and Wales.

The Committee understand that the consolidation of the public health laws is under consideration at the Ministry of Health, and consider it advisable to defer action until the Ministry's intentions are known.

Advertising of Patent Medicines and Appliances.—The Committee nominated Dr. Charles Porter and the Executive Secretary to attend the adjourned Conference called by the Parliamentary Committee on Food and Health for March 22nd, when a draft Bill to regulate the advertising of patent medicines and appliances will be considered.

Book of Constitution and By-Laws.—The Committee considered estimates for the printing of the above.

They recommend that 4,000 copies be printed with thick paper cover at a cost of £23 12s. 6d.

Advisory Committee on Salaries.—Dr. Picken reported on the meeting of the Advisory Committee held on January 11th, 1933.

The Society and Kindred Bodies.—The Committee have had under consideration the question of the Annual Dinner of the Society and the opportunity it affords for reciprocity between the Society and kindred bodies. The Committee would point out that although from time to time distinguished representatives of other Societies are invited to and attend the Society's Annual Dinner, through some oversight the same courtesy is not extended to representatives of the Society.

The Committee, therefore, recommend that a Sub-committee consisting of the President, the Chairman of the General Purposes Committee, Drs. Charles Porter and James Fenton, be formed to consider this matter and to make arrangements for the Annual Dinner of 1933.

The Council resolved that the President-elect be also included in the above Sub-committee.

Recruitment.—The Executive Secretary reported that 51 Fellows and 7 Associates had so far been elected to the Society during the present session. The numbers for a corresponding period in previous sessions were: 1931-32, 25 Fellows, 15 Associates; 1930-31, 68 Fellows, 5 Associates; 1929-30, 71 Fellows, 9 Associates; 1928-29, 63 Fellows, 13 Associates.

Medical Appointments in County Districts.—The Committee have referred back for further information an enquiry received from the West of England Branch on the above subject.

Accounts' Sub-Committee.—Following a discussion on the report from the General Purposes Committee that a Sub-Committee be appointed consisting of the Chairman (Dr. G. F. Buchan), Drs. T. W. N. Barlow and James Fenton, to pass the Society's accounts from time to time and to report thereon to the main Committee, the Council decided to refer to the General Purposes Committee the question of the form in which Statements of Accounts should be placed before the Council.

Annual Provincial Meeting.—The President informed the Council that the original suggestion had been to hold the Annual Provincial Meeting at York, on Friday and Saturday, June 16th and 17th, the week-end preceding the Congress of the Royal Sanitary Institute at Blackpool. There was now, however, a suggestion that seemed preferable that the meeting be held at Scarborough to coincide with the visit by the British Health

Resorts' Association. It was necessary for the Council to hold a meeting in London in September, but it is hoped that the provincial meeting will take place at Scarborough either early in July or in September.

British Medical Association.—The Council decided to recommend the following for election by the Public Health Service members of the British Medical Association: Two members on the Council of the Association, 1933-34—Drs. H. J. Milligan and R. M. F. Picken. Representatives on the Representative Body: Drs. C. Killick Millard, E. H. T. Nash and R. H. Wilshaw. It was left to the President to suggest further names for representatives and deputies.

Representation of the Society.—The Council confirmed the re-nomination of Drs. James Fenton and Agnes Nicoll as their representatives on the National Baby Week Council for the current year.

The Council decided to nominate Dr. R. H. Wilshaw as a representative on the Medical Advisory Committee of the British Health Resorts' Association.

League of Nations' Interchange in Poland.—The President consulted the Council in regard to an English representative on the above interchange, and it was decided to put forward the name of Dr. J. J. Paterson.

The meeting then adjourned.

ORDINARY MEETING.

An Ordinary Meeting was held at the house of the Society, on Friday, March 24th, 1933.

The President was in the chair, and there was a very large attendance of some 80 members and visitors.

Minutes of the last meeting having been confirmed and signed, and apologies for absence received, the following candidates were elected as members of the Society:—

As Fellows.—

Bursey, Elspet, M.B., CH.B. (EDIN.); Dewar, Alice, M.B., M.B., CH.B. (GLAS.), D.P.H. (CAMB.); Dunstan, Walter Robert, M.B., M.Sc. (LOND.), D.P.H.; Fairweather, Anne, M.D., B.S., B.H.Y., D.P.H. (DURH.), D.P.M., PSYCH., D.P.M. MENT. DEFIC. (LOND.); Fraser, Alexander Mackenzie, M.D., D.P.H. (ABER.); Harris, Sarah, M.B., B.Ch., B.A.O., D.P.H. (BELF.); Hay, Charles Patrick, M.B., CH.B. (EDIN.), D.P.H.; Henderson, Winnifred Nora, M.B., CH.B. (EDIN.); Hilton-Sergeant, Frederick Cavendish, M.B., CH.B. (LIV.), Capt.

R.A.M.C.; Horne, Kathleen, M.R.C.S., L.R.C.P.; Kirkhope, David Connor, M.D., C.M. (GLAS.), D.P.H. (CAMB.); Masson, George Henry, M.D., C.M., D.Sc. (P.H.), F.R.C.P., F.R.S. (EDIN.); Mayhall, Gertrude Mary, M.R.C.S., L.R.C.P.; O'Riordan, Teresa M., B.A., M.B., B.Ch., B.A.O., D.P.H., N.U. (IREL.); Owen, Evelyn Doris, M.B., B.S., D.P.H. (LOND.); Phillips, Frank, M.R.C.S., L.R.C.P., D.O.M.S., D.L.O., D.O. (OXON.); Rhodes, Florence M., M.R.C.S., L.R.C.P., D.P.H. (LOND.); Struthers, James Arthur, M.D., B.Ch. (CAMB.), M.R.C.P., D.P.H.; Thomas, Graham McKim, M.R.C.S., L.D.S. (ENG.), L.R.C.P., D.P.H. (LOND.); Thompson, Anthony Radcliffe, M.D., D.P.H. (LOND.).

As Associates.—

Donaldson, S. K., L.D.S. (GLAS.); Jackson, Joseph, L.D.S. (LEEDS); Taylor, A. Gordon, L.D.S., R.C.S. (ENG.).

Dr. E. H. T. Nash, M.O.H., Heston and Isleworth, then opened a discussion on "Diphtheria Immunisation—Its Possibilities and Difficulties," illustrated with many interesting statistical charts from America, and lantern slides showing the methods of propaganda followed in that country. At the conclusion of his paper, Dr. Nash showed a film recently taken at the Diphtheria Immunisation Clinic, under ordinary working conditions. He explained that the object of the film was to encourage the public to have their children immunised by showing that the children will suffer no pain from the injections; for this reason the needle was seen entering the skin in every case and the faces of the children indicated that they did not find the injection a great ordeal.

Dr. J. Graham Forbes (L.C.C.) followed with an outline of recent progress made in Great Britain and Ireland in Diphtheria Immunisation work, and others joining in the discussion were the President, Drs. Guy Bousfield (M.O., Diphtheria Immunisation Clinics, Camberwell, Lambeth, Heston and Isleworth), J. Greenwood Wilson (Dewsbury), R. A. O'Brien (Wellcome Physiological Research Laboratories), H. A. Bulman (St. Marylebone), A. B. McMaster (Dover), J. S. Logan (Swindon), E. W. Caryl Thomas (Dagenham), A. H. Macdonald (Dr. Barnardo's Homes), H. E. Marsden (West Lancs. R.D.), D. J. Thomas (Acton), W. G. Booth (Holland, Lincs.), and R. Veitch Clark (Manchester), who proposed a vote of thanks to the speakers. This was carried by acclamation, and was conveyed to the openers of the discussion by the President on behalf of the Society.

A full report of the discussion will appear in a later issue.

THE METROPOLITAN BRANCH.

President: Dr. A. F. Cameron, Medical Superintendent, River Hospital Service, London County Council.
Hon. Secretary: Dr. James Fenton, M.O.H., Kensington.

A meeting of the Council of this Branch was held at the London School of Hygiene and Tropical Medicine, on February 24th, 1933. The President occupied the chair, and nineteen other members were present.

The Council had before them a letter from the Amalgamated Master Dairymen Limited, putting forward arguments against the promotion of legislation to enforce pasteurisation of milk. After some discussion, during which reference was made to the decision of the Branch Council in October, 1932, in favour of compulsory pasteurisation, it was decided to take no action on the letter.

The Hon. Secretary reported that he had received a communication from the North-Western Branch stating that they would support the nomination of Dr. Charles Porter for the office of President of the Society during the session 1933-34, and expressing the intention to nominate Dr. Veitch Clark for the Presidency during 1934-35.

The Hon. Secretary reported that he would probably be receiving an invitation for the Branch Council to pay a visit of inspection to the Bemax Factory of Vitamins Limited at Hammersmith, and it was decided that this invitation should be accepted.

After the Council meeting, a Branch meeting was held in the Lecture Theatre at the School of Hygiene. The President occupied the chair, and there were also present twenty other members of the Metropolitan Branch and many members of the Home Counties Branch who had been specially invited.

Messrs. Siebe, Gorman and Co., Ltd., presented an interesting demonstration of their "Novox" and other resuscitation apparatus. Dr. Crowden, of the School of Hygiene, and a representative of the firm gave explanations. A vote of thanks was accorded to the firm and the demonstrator.

The Branch were then shown a film produced by United Dairies, Limited, which demonstrated the means by which an unhygienic dairy farm may be economically improved. In his introductory remarks, Mr. P. B. Tustin, of United Dairies, said that very great improvements had been noticed as

a result of showing it to various farmers' organisations. Dr. Porter expressed his appreciation of the film, and proposed a vote of thanks to Mr. Tustin, which was unanimously accorded.

The Hon. Secretary drew attention to the Council's decision of December 9th, 1932, to send in at once the nomination of Dr. Charles Porter for the office of President of the Society for the session 1933-34, in accordance with the resolution of the Branch at their meeting on March 9th, 1932. The Branch approved the action taken.

A programme of meetings for the remainder of the year 1933 was approved. It was moved and seconded that the Branch meetings should be held at 5 p.m. instead of 4 p.m. This was put to the vote and, as there were ten for and ten against, the Chairman gave his casting vote against the motion.

Dr. Howell reported that the Special Purposes Committee of the Branch had supported the tuberculosis officers by writing to Sir Frederick Menzies a letter suggested by the Tuberculosis Group, in regard to the importance of the retention of tuberculosis officers as consultants at London County Council hospitals.

The Branch passed a unanimous vote of thanks to Professor Jameson and the authorities of the London School of Hygiene for their kindness in allowing the use of their lecture theatre and in providing tea for the Branch before the meeting.

THE YORKSHIRE BRANCH.

President: Dr. T. N. V. Potts, M.O.H., West Riding of Yorkshire.
Hon. Secretary: Dr. James Mair, M.O.H., Harrogate.

A joint meeting of the Yorkshire Branch and Dental Sub-Group was held at the School of Dentistry, Leeds, on February 24th, 1933, the President occupying the chair. Twenty-five members and visitors were present.

A letter was read from Colonel A. E. L. Wear, C.M.G., expressing appreciation of the action of the Branch in recommending him for election as a Life Member of the Society.

The President reported the death of Dr. D. R. Hamilton, Medical Officer of Health of Shipley. All present stood in silence, and the Hon. Secretary was instructed to write to Mrs. Hamilton, conveying the sympathy of the members of the Branch.

Professor T. Talmage Read gave an address on "**Clinical Cases of Dental Disease**," illustrated by lantern slides. He emphasised the importance of oral sepsis from the point of view of individual health and economic value to the state, and thought that there was a tendency to pay too little attention to sepsis.

After a short discussion, in which the President, Mr. Townend, and Dr. Thornley took part, a vote of thanks to Professor Read, moved by the President and seconded by Dr. Thornley, was carried unanimously. Professor Read suitably replied.

Tea was kindly provided by the School of Dentistry, and afterwards the members were conducted round the School and shown examples of the work done in the Dental Hospital.

It was the view of those present that the meeting had been most helpful, and the Hon. Secretary was instructed to convey the thanks of the Branch to the School of Dentistry for their hospitality.

A further meeting of the Branch was held in the Municipal Offices, Harrogate, on March 17th, 1933, the President occupying the chair. Twelve members were present.

Consideration was given to the question of nominations for the Presidency of the Society for the ensuing session, and it was unanimously resolved that Dr. Charles Porter be nominated for this office. The Hon. Secretary was instructed to convey this nomination to the Executive Secretary.

The question of the Annual Provincial Meeting of the Society was also considered, and it was resolved that it be a recommendation to the Council of the Society that this meeting be held in Scarborough about the middle of September, and that the arrangement of details in connection therewith be left in the hands of Drs. Potts, Pearce, Buchan, Linton, and the Hon. Secretary.

The meeting then closed, and members proceeded to take part in the sessional meeting of the Royal Sanitary Institute.

THE NORTHERN BRANCH.

President: Dr. A. Stuart Hebblethwaite, M.C., M.O.H., Sunderland.
Hon. Secretary: Dr. J. A. Charles, M.O.H., Newcastle-upon-Tyne.

A meeting of this Branch was held at the Municipal Hospital, Sunderland, on February

24th, 1933, the President occupying the chair. Five members and two visitors were present. Owing to the snowstorm, which had rendered travelling by road in many cases impossible, several members who had previously stated their intention of attending the meeting were unable to be present.

Before the meeting the members had tea, and Dr. Dickinson, on behalf of the Branch, thanked the Matron of the Hospital for her kindness in making the necessary arrangements.

Dr. Charles R. Corfield (Medical Superintendent, Municipal Hospital, Sunderland) delivered an address on "**Post-Encephalitis**." After a brief summary of the history of the disease and its continental distribution, Dr. Corfield described how he had discovered neglected cases of Parkinsonianism in the workhouse and had brought them into the municipal hospital and endeavoured to re-educate them. He believed all had followed attacks of influenza. In re-education it was clear that the patients could not be classified as mental defectives, and cases were demonstrated to show that they were able to reason by playing a creditable game of draughts and placing square and round pegs in corresponding holes. Exercise to improve movement was well indicated by a series of lantern slides and cinema films taken by the lecturer. It was obvious to all that the main features in dealing with these pathetic cases consisted in suitable institutional accommodation and a bond of sympathy between doctor and patient.

The President quoted figures showing the incidence of encephalitis lethargica from 1919 to 1932 in Sunderland, and stated that of the 101 cases which had been traced, 49 per cent. had died, 33 per cent. had remained defective either at home or in hospital, and 18 per cent. had recovered.

Drs. Dickinson and McIntyre also took part in the discussion, and after Dr. Corfield had replied, a very hearty vote of thanks was accorded him for his instructive address and demonstrations.

THE NORTH WESTERN BRANCH.

President: Dr. T. W. Naylor Barlow, M.O.H., Wallasey.
Hon. Secretary: Dr. J. E. Spence, M.O.H., Eccles.

An ordinary meeting of this Branch was held in the Armoury, Stockport, on March 10th, 1933, the President occupying the chair. Twenty-six members were present and, in

addition, twenty-five members of the medical profession in Stockport attended as visitors.

The meeting was held in connection with **Health Week at Stockport**, and after the opening of the Exhibition, the Mayor (Mr. Councillor Gill) extended a civic welcome to the members, which the President suitably acknowledged.

Professor Ainsworth Davies (Lecturer to the British Empire Cancer Campaign) demonstrated the Canti cancer film, which dealt with the cultivation of healthy and cancerous tissue *in vitro*, the action of radium on them, and the normal growth of embryonic tissue in the rabbit and chick. The demonstration was intensely interesting and greatly enjoyed by the members, and on the proposition of the President a hearty vote of thanks was accorded Professor Ainsworth Davies, and also the Health and Cleanliness Council for the loan of the projector.

A representative of Messrs. Siebe Gorman & Company demonstrated three types of Novox resuscitation apparatus, which supplies a mixture of air in oxygen and carbon dioxide in varying proportions. The apparatus demonstrated were designed (a) for use by ambulance brigades; (b) for cases of pneumonia; and (c) for resuscitation of the newly born.

After the meeting the members were entertained at tea by the Mayor of Stockport, and the President conveyed to His Worship the thanks of the members for his hospitality, and also to Mr. Councillor Stansfield (Chairman of the Health Committee) and Dr. E. K. Macdonald (Medical Officer of Health) the appreciation of the Branch for the excellent arrangements which had been made for the meeting.

THE WELSH BRANCH.

President: Dr. E. Lewys-Lloyd, County M.O.H., Merionethshire.
Hon. Secretary: Dr. D. J. Thomas, Deputy M.O.H., Rhondda.

A meeting of the Welsh Branch was held at Swansea on February 4th, 1933. Thirteen members and visitors were present and, in the unavoidable absence of the President, Dr. T. Evans (Swansea), was elected to the chair.

Dr. H. R. Tighe (Senior Assistant Medical Officer of Health, Swansea) read a paper on "**A Criticism of some Recent Reports and Publications on the Tonsils and Adenoids Problem.**" In introducing his paper, Dr. Tighe remarked that what he proposed to say had been considerably modified compared with

what he originally intended to state, after reading some of the recent literature on the subject of tonsils and adenoids. He referred to the extraordinary amount of contradictory statements which had been made. At present, the fiercest arguments centred round the after-results of operative treatment, and the opponents of surgical interference seemed to be in the ascendant. The Interim Report of the Medical Committee on Adenoids and Enlarged Tonsils, 1929, and the paper of Drs. Glover and Wilson read at the Centenary Meeting of the British Medical Association on the End Results of the Tonsil and Adenoid Operation in Childhood and Adolescence were reviewed. In the former the section on the end-results of operative treatment was based on a study of a surprisingly small number of cases, and in regard to the latter it would not be difficult to quote authors who gave figures showing results equally favourable as those indicated in the paper by Drs. Glover and Wilson were unfavourable. Dr. Tighe gave interesting details of several hundred re-examinations carried out at Swansea, the results of which, after making all allowances, were at variance with those quoted in the Interim Report and in the paper of Dr. Glover and Dr. Wilson. In the latter case, it was suggested that an explanation might be found in the supposition that the investigators had been dealing with material which presented varying standards both in the selection of the cases and in the technique of the operations. (Further reference to Dr. Tighe's paper will be found in the editorial columns of this number.)

All who were present at the meeting took part in the discussion which followed, and amongst the topics raised were the refutation, as exemplified by the value of Dr. Tighe's paper, of the recommendation of the Ray Commission that researches by the school medical staffs should be discouraged or abandoned; the desirability of adopting measures for checking the results obtained from operative treatment of tonsils and adenoids; the difficulty experienced in rural districts in obtaining consent to the operation; the dangerous risks attending upon the submission of children suffering from rheumatic affections to the operation, and the futility of the removal of the tonsils as a method of treatment or for the prevention of sub-acute rheumatic disease; the importance of the removal of adenoids for the prevention of dental irregularities which were prone to develop in mouth-breathers; and the satisfaction almost

invariably expressed by parents in the after results of operative treatment.

Dr. Tighe, in reply, mentioned that he used the O'Malley's Guillotine for the removal of tonsils, and care was taken that the children were free from dental sepsis and in the best possible physical condition at the time of operation.

Dr. L. W. Pole (Medical Officer of Health, Llanelli) subsequently gave some observations on "**The Medical Supervision of a School Camp.**" A seaside camp established by the Llanelli Education Committee had accommodation for 165 children, and the chief points which had to be considered from the medical aspect were housing, feeding, sanitation, and the treatment of any illness which might arise. The burial of excreta was being resorted to as other methods had been found to be unsatisfactory. It was intended to secure the disposal of soapy water from the ablution sheds by soakage through rubble into pits, 6 feet deep, and economy of soap and water would be obtained by ablution under sprays. The feeding of the children was limited to three meals per day; no food was allowed during the intervals between the regular meals. This rule was of the greatest importance as many children in the early days of their stay at the camp expressed a distaste for the nutritious food provided, largely owing to the unaccustomed nature of the diet in most instances. The combined effects of a nutritious diet and open-air life invariably produced a gain in weight of from 12 ounces to 2½ pounds in respect of each child who had been in the camp for a fortnight.

In thanking Dr. Pole for his observations, the Chairman remarked that the system of sanitation adopted closely resembled that advocated by Dr. Vivian Poore, which had also been used with satisfactory results in an outlying portion of the Swansea borough much frequented by trippers and which was inaccessible to any water-carriage system of disposal.

The meeting concluded with a hearty vote of thanks to Drs. Tighe and Pole for their valuable papers.

ASSISTANT MEDICAL OFFICERS' AND SCHOOL DENTISTS' SUB-GROUP.

Chairman: Dr. D. P. Holmes, Assistant Medical Officer of Health, Glamorgan County Council.
Hon. Secretary: Dr. W. P. Phillips, Assistant Medical Officer of Health, Cardiff City Council.

A meeting of the Sub-Group was held at the

Institute of Preventive Medicine, Cardiff, on February 17th, 1933. The Chairman occupied the chair, and nineteen members and visitors were present.

Mr. D. Leighton Davies (Senior Ophthalmic Surgeon, Royal Infirmary, Cardiff), in an address on "**The Theory of the Causation and Treatment of Squint in Children,**" dealt with the different varieties of squint, paying particular attention to the differential diagnosis of a latent from an apparent squint. He outlined the various theories as to causation, and in treatment laid stress on the value of periodical measurement of the squint as an estimation of the degree of recovery. Operative treatment and the value and limitation of optic training were also discussed.

Numerous questions were answered by the lecturer, who received a cordial vote of thanks, proposed by Dr. David Lewis and seconded by the Chairman.

THE EAST MIDLAND BRANCH.

President: Dr. Cyril Banks, M.O.H., Nottingham.
Hon. Secretary: Dr. J. A. Stirling, M.O.H., Chesterfield.

A meeting of this Branch was held in the Guildhall, Nottingham, on March 9th, 1933, Dr. J. A. Fairer occupying the chair. Eighteen members and one guest were present.

Dr. Fairer installed Dr. Cyril Banks as President of the Branch for the session 1932-33, and conveyed to him the pleasure of the members at seeing him fully restored to health after his serious illness. Dr. Banks suitably replied.

It was unanimously agreed that the Branch support the nomination of Dr. Ernest Ward for the office of President of the Society for the session 1933-34.

Dr. A. A. E. Newth (Senior School Medical Officer, Nottingham) gave a very original, instructive and stimulating paper on "**Feeble-mindedness and the Social Problem Group.**" Following an interesting discussion, Dr. Cowen proposed and Dr. Campbell seconded a hearty vote of thanks to Dr. Newth for his contribution.

It was decided that the next meeting of the Branch be held at the Guildhall, Nottingham, on Thursday, April 6th, 1933.

THE SOUTHERN BRANCH.

President: Dr. H. C. Maurice Williams, M.O.H., Southampton.

Hon. Secretary: Dr. H. D. Kelf, Asst. M.O.H., Hants. County Council.

A meeting of this Branch was held at East Park Terrace, Southampton, on February 3rd, 1933, the President occupying the chair. Eleven members and one visitor were present.

Letters were read from the Executive Secretary regarding (a) the offer of a lecture on the Canti film by the British Empire Cancer Campaign; and (b) a lecture by Dr. C. V. Craster, of Newark, New Jersey, on diphtheria immunisation. The Hon. Secretary was requested to obtain further particulars with reference to the latter.

A letter from the Metropolitan Branch, asking for support of the nomination of Dr. Charles Porter as President of the Society, 1933-1934, was submitted. It was proposed by Dr. H. C. Maurice Williams, and seconded by Dr. Livingston, that the Southern Branch nominate Dr. R. H. Wilshaw again for the office of President.

Dr. Hilda Bond gave notes of two cases seen at a recent school clinic—(a) subperiosteal abscess in lower condyle of femur; (b) ear discharge and right facial paralysis in a boy of 12. Dr. Stewart gave a few notes on recent cases of cerebro spinal fever.

Dr. T. A. Seekings (Assistant Medical Officer of Health, Southampton) addressed the meeting on "Some Practical Considerations regarding Clearance Areas." He referred to the Acts of Parliament dealing with slum areas; the sections differentiating between property capable of being repaired and incapable of being repaired; and the proceedings necessary in determining clearance areas and improvement areas. Recent cases where steps had been taken to make clearance areas of three courts at the lower end of High Street, Southampton, were described, Dr. Seekings first dealing with the various defects necessitating such a procedure, and then with arguments of the owner against the order at the inquiry.

After the address the members proceeded to the areas in question, and personally inspected the narrow unlit courts and the interior of several of the houses.

A hearty vote of thanks was accorded Dr. Seekings for his interesting paper, which was also illustrated by actual photographs and plans.

The members were afterwards entertained at tea by the President.

A further meeting of the Branch was held at Southampton on March 3rd, 1933. The President occupied the chair, and eleven members and one visitor were present.

A visit was made to the Ordnance Survey Office, Southampton, by kind permission of Brigadier Winterbottom. The members were received in the Library, and then were shown the following departments:—small-scale drawing (including the preparation of the 1 inch map of England and Wales—5th edition); large-scale and reduction drawing—of 12 inches and 6 inches to 1 mile; photo department, including exposure and developing, wet plate preparation, line printing, presses, colouring and machine printing.

At the conclusion of the visit, a cordial vote of thanks was passed to Brigadier Winterbottom and Colonel Cooke for a most interesting demonstration.

On the return of the party to East Park Terrace for tea (kindly provided by the President), several members having left it was decided to postpone the usual business until the next meeting.

THE WEST OF ENGLAND BRANCH.

President: Dr. R. H. Parry, M.O.H., Bristol.

Hon. Secretary: Dr. P. H. Stirk, M.O.H., Exeter.

A meeting of this Branch was held at St. Peter's Hospital, Bristol, on February 15th, 1933, the President occupying the chair. Fifteen members were present.

A letter from the Metropolitan Branch, stating that that Branch had nominated Dr. Charles Porter for the office of President of the Society for the session 1933-34, was read. The meeting unanimously decided to again put forward the name of Dr. Ernest Ward, whom they had nominated for the past three years, and the Hon. Secretary was instructed to inform the Metropolitan Branch and explain that, as they were nominating Dr. Ward, they regretted being unable to support Dr. Charles Porter.

Dr. C. E. Tangye (County Medical Officer of Health, Wiltshire) opened a discussion on "New Medical Appointments in County Districts as the result of the Local Government Act, 1929." Dealing with the amalgamation of districts and the consequent displacement of part time officers by whole time officers, he indicated the forthcoming expansion in the whole time health service and the need for this development to receive full attention from the

THE MATERNITY AND CHILD WELFARE GROUP.

President: Dr. Margaret Emslie.

Hon. Secretary: Dr. Isobel Wright, Public Health Department, 121-131, Rosebery Avenue, London, E.C.1.

The annual provincial meeting of this Group was held in Liverpool, on February 23rd, 24th and 25th, 1933. An excellent and well-planned programme had been arranged by Dr. Ruby Bell, the Assistant Medical Officer of Health.

On the morning of the first day the President and members were received at the Carnegie Welfare Centre by the Chairman and members of the Maternity and Child Welfare Committee, and Dr. W. M. Frazer, the Medical Officer of Health. A tour of the centre followed, and lectures on "The Lead Treatment of Cancer" by Dr. M. M. Datnow, and on "Some Further Aspects of Hospital Administration" by Dr. C. O. Stallybrass, were given at the School of Hygiene. In the afternoon the party drove to Alder Hey Hospital for Children for a lecture-demonstration by Mr. T. P. McMurray on "Diseases of the Hip Joint." The members afterwards viewed the hospital and were entertained at tea.

On February 24th, two municipal welfare centres, a milk depôt, a day nursery, and the municipal maternity home were inspected. The party also visited Fazakerley Isolation Hospital, where an interesting afternoon was spent with Dr. C. Rundle, O.B.E., the Medical Superintendent. At the conclusion of the visit the members were entertained at tea.

On February 25th, a lantern-lecture was given by Professor A. Leyland Robinson, at the School of Obstetrics and Gynaecology, and excellent X-ray plates dealing with pregnancy were shown by Dr. Roberts. A very interesting visit was paid to the well-planned and equipped Women's Hospital, Catherine Street.

Members of the party visited the docks and the cathedral, and a very enjoyable and informal dinner was held at the Adelphi Hotel on February 24th.

YORKSHIRE SUB-GROUP.

President: Dr. J. Johnstone Jervis.

Hon. Secretary: Dr. Gladys J. C. Russell, Asst. M.O.H. (M. & C.W.), Leeds.

A meeting of this Sub-Group was held on

Society from its beginning. In his view, an opportunity now existed, which had hitherto been lacking, for the formation of graded posts between assistants and chiefs, which should be a great step towards a satisfactory service, and the Hon. Secretary was instructed to ascertain whether the matter was under consideration at headquarters by the General Purposes or other Committee, as there was fairly general agreement with these views. It was felt that several combinations of duties at present suggested were open to objections, and that care was needed before it was too late to direct this development on a proper basis.

The President and Drs. Remmett Weaver, Dunstan Brewer, Lowe, Date and Rhind took part in the discussion which followed.

A hearty vote of thanks to Dr. Tangye for his paper was moved from the chair, seconded by Dr. Horton Date, and carried unanimously.

It was decided to hold the next meeting of the Branch at "Northwoods," Bristol, in May, Dr. Cates having kindly invited the members to view his Institution.

Dr. Tangye raised a further question—that relating to designated milks, and drew attention to the unsatisfactory administration of the Ministry in regard to Grade "A" (T.T.) Farms. He said that when pasteurisation of milk was advocated, "Certified" and Grade "A" (T.T.) milk seemed to be always considered as not requiring pasteurisation. This, in his opinion, was a mistake with the present position of affairs on Grade "A" (T.T.) farms. His area was a milk producing county. He gave an instance in which he had received complaints from London that tubercle bacilli were found in the milk from one of the Grade "A" (T.T.) farms in his district. When tests were carried out at the farm, nine reactors were discovered and confirmed by the Ministry, the animal producing tuberculous milk being found, on slaughter, to be badly infected. Other similar cases were known to members of the Branch.

Dr. Tangye advocated that unless and until successful representations had been made to the Ministry to tighten up matters by consultation with the county councils before the granting or renewal of licences, Grade "A" (T.T.) milk should not be regarded as beyond suspicion.

The Hon. Secretary was instructed to communicate with headquarters on this subject.

February 16th, 1933, at the Central Clinic, Bradford.

A very instructive address was given by Dr. J. J. Buchan (Medical Officer of Health, Bradford, and the Society's representative on the Central Midwives' Board) on the "Proposed Revision of the Rules of the Central Midwives' Board." Dr. Buchan first dealt with representation on, and general working of, the Board and, after reviewing the Midwives Act and the duties it imposed on midwives and local supervising authorities, went on to describe the proposed revisions to be made in section E of the Rules, which are at present being considered by the Ministry of Health and the Board.

At the conclusion of an interesting discussion, a cordial vote of thanks to Dr. Buchan was proposed by Dr. G. H. Pearce, seconded by Dr. Russell, and carried by acclamation.

BIRMINGHAM AND MIDLAND SUB-GROUP.

President: Dr. Jessie Balsillie, M.O. (M. & C.W.), Stoke-on-Trent.
Hon. Secretary: Dr. G. I. Brodie, Aast.M.O. (M. & C.W.), Birmingham.

A meeting of this Sub-Group was held in the Shire Hall, Warwick, on January 21st, 1933. Dr. Ethel Cassie (Vice-President) occupied the chair.

After a tour of inspection of the new county health offices, Dr. A. V. Neale (Physician, Birmingham Children's Hospital) read an interesting paper on "Some Recent Advances in Endocrine Diseases and Jaundice in Children." A cordial vote of thanks was accorded the speaker on the proposition of Dr. A. Hamilton Wood (County Medical Officer of Health, Warwickshire), seconded by Dr. Young.

Tea followed, and the thanks of the members were expressed by Dr. Cassie for the kind hospitality shown by Dr. Hamilton Wood and his colleagues.

A further meeting of the Sub-group was held at Hanley, Staffordshire, on March 18th, 1933.

A tour of inspection was made of the Twyford Infant Welfare Centre, followed by a paper on "The Psychology of Pregnancy" by Dr. Gwendoline M. Cogswell (Assistant Medical Officer for Child Welfare, Stoke-on-Trent). The discussion which ensued was opened by Dr. T. H. Richmond, O.B.E. (Obstetrician, North Staffordshire Royal Infirmary).

Members were afterwards entertained at tea by the President (Dr. Balsillie) and her staff.

Votes of thanks to those who had contributed to the success of the meeting were proposed by Dr. Cassie, and seconded by Dr. Morris Jones.

THE DENTAL OFFICERS' GROUP.

YORKSHIRE SUB-GROUP.

President: B. R. Townend, Esq., L.D.S. (LIV.), D.O., Yorks. (W.R.) C.C.
Hon. Secretary: Jeffrey Fletcher, Esq., L.D.S., R.C.S. (ENG.), D.O., Yorks. (W.R.) C.C., Heathersett, Listerdale, Rotherham.

A meeting of this Sub-Group was held at the New County Offices, Wakefield, on January 25th, 1933, the President occupying the chair. Nine members were present.

Mr. G. Kilvington, L.D.S., Dental Officer, Yorks. (West Riding) County Council, read a paper entitled: "Some Impressions of a Post-Graduate Course in Children's Dental Treatment," in which he described a post-graduate course held at the Eastman Dental Clinic, London, in March, 1932. His remarks on dental hygienists, orthodontics, pulp-capping and recommended diets, caused considerable interest, and an excellent discussion ensued in which most of those present took part.

The draft of a questionnaire on the diet, etc., of caries-free children, which had been drawn up by a special committee appointed for the purpose, was approved. The Hon. Secretary was instructed to have a number of copies of the questionnaire printed for distribution to members.

The University of Birmingham has decided to abolish the degree of B.Sc. in Public Health, and to establish a degree of M.D. (State Medicine) under regulations approved.

The Central Association for Mental Welfare has again rented the Green Lady Hostel, Littlehampton, for the use of local authorities, institutions, and others as a holiday home for mental defectives. The hostel will be available for two periods: from March 31st to May 26th, and from September 1st to October 27th. Application for admissions should be sent to the Secretary of the Association, 24, Buckingham Palace Road, London, S.W.1, from whom further information may be had.

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 21st, 1933. Dr. G. Lissant Cox occupied the chair, and 26 members were present.

The Hon. Secretary announced that he had written to the Ministry of Agriculture, the Ministry of Health, and the People's League of Health, conveying the Council's endorsement of the recommendations and conclusions of "The Survey of Tuberculosis of Bovine Origin," and had received acknowledgments.

Dr. G. Lissant Cox was elected Chairman of Council for 1933; Drs. S. Vere Pearson and L. S. T. Burrell, Vice-Chairmen; Dr. Ernest Ward, Hon. Secretary; Dr. G. Jessel, Hon. Treasurer; and Dr. D. P. Sutherland, Hon. Auditor. Cordial thanks were expressed to these officers for their services during the past year.

It was decided that as the Yorkshire Tuberculosis Society had not been resuscitated, and as Dr. Vallow had himself suggested he could not reasonably continue to represent that body, Dr. Esther Carling should be elected a co-opted member in his stead. Sir Henry Gauvain, who had not attended for a year, was re-elected a member of the Council, but the Chairman was asked to ascertain from him if he wished to continue his membership. The representative from the Ministry of Health pointed out that he was present as an observer, and that neither he nor the observer for the Ministry of Pensions were really to be considered members of the Council, and they did not vote. It was agreed that this was the correct view, and that the election of two further members should, therefore, appear on the agenda for the next meeting.

The Hon. Secretary presented a verbal report. Three meetings had been held in 1932 with an average attendance of 23.6—some 77 per cent. of the membership. He belonged to two other bodies with similar aims: (1) the Central Council for the Care of Cripples, with a membership of about 200, which also held three meetings yearly, not very well attended, the important and urgent business being transacted by an Executive Committee; and (2) the Central Council for Health Education, with a membership of 26, meeting with similar frequency, the meetings being sparsely attended. Both these bodies had paid secretaries and a considerable annual expenditure, whereas the expenditure of the Joint Tuberculosis Council for the work done was negligible. The name "Central Council" appeared in some ways more suitable than "Joint Council." Their own body was first in the field of these unifying organisations. Although fully realising that reports from committees should be carefully considered, as a secretary he wished their work could proceed rather more swiftly; it was sometimes depressing to a convener of a committee to find that his painstaking report, representing many hours of labour and hard thought, was ruthlessly slaughtered by the Council and referred back. The Council was unable to pay travelling expenses for its members and it was therefore difficult to secure attendance at committees, but in such cases it was always possible for a convener to draft a memorandum, circulate it to his members, and thus build up something to present to the Council without actually holding a meeting.

Dr. Jane Walker gave notice of a motion: "That

the name of this Joint Tuberculosis Council be altered to the Central Council for Tuberculosis."

The Institutions Committee, the Children's Committee, and the Artificial Pneumothorax Committee had no report to present, but the respective conveners explained their position. The Artificial Pneumothorax Committee had come to a decision regarding definitions and were now in a position to send their questionnaire.

Concerning post-graduate study, Dr. Brand announced that Dr. Peter Edwards would again be holding his short intensive and much appreciated courses at the Joint Counties Sanatorium, Cheshire, and there was prospect of a useful course in surgical tuberculosis at Carshalton and Margate. Reference was also made to the provision of facilities for foreign workers who might wish to observe the work in this country.

The Hon. Secretary's scheme for the proposed investigations at Papworth, Preston Hall and Barrowmore Hall was considered. Recently Papworth had withdrawn their promise of co-operation previously made. The Hon. Secretary was instructed to write an explanatory letter to Sir Pendrill Varrier-Jones.

The Ray Report on economy in local expenditure was discussed, and the Chairman was asked to prepare a memorandum on the subject for consideration at the next meeting.

The Tuberculosis Group Committee of the Society of Medical Officers of Health desired to obtain an opinion whether a wider employment of the Mantoux or similar diagnostic tuberculin tests should be advocated. The Hon. Secretary was instructed to ask Professor Lyle Cummins if he would provide a note on this subject for circulation and discussion at the next meeting, which will be held on Saturday, May 20th, 1933, at 10 a.m.

After the meeting the members were entertained at lunch at the Hotel Russell by the Chairman (Dr. Lissant Cox). Although influenza had played havoc among the expected guests, there were present Dr. A. B. Howitt, M.P. (Secretary of the Parliamentary Medical Committee), Sir Henry Jackson, M.P., Dr. W. J. O'Donovan, M.P., Capt. G. S. Elliston, M.P., Dr. Charles Porter, and Mr. G. L. C. Elliston. After a bright and successful luncheon party, Dr. Lissant Cox proposed the health of the guests who had honoured him with their presence, and Dr. Howitt replied, praising the co-ordinating work of the Council. Dr. O'Donovan, in a thought-compelling speech, proposed the health of the Council, and Dr. Ernest Ward, in his reply, stressed the disgrace to the medical profession of the continued mortality and crippledness caused by tuberculosis of bovine origin. There was a striving after detuberculation of dairy herds, which was praiseworthy but would take forty years, or pasteurisation, which was expensive, often inadequate, and would take perhaps ten years to secure; whereas the remedy was simple—the boiling of milk before use in each individual household should be advocated wholeheartedly. Capt. Elliston proposed thanks to Dr. Lissant Cox in a witty speech, during which he praised the work of the Chairman and the Hon. Secretary. Dr. Jane Walker seconded, and Dr. Lissant Cox briefly replied.

AN AMERICAN LETTER.

Our Correspondent speaks of the latest Report of the U.S. Public Health Service—the High Level of Health maintained—the Incidence of Poliomyelitis, Smallpox, Typhoid Fever, and Influenza—the Effect of the Depression on Hospitals—Juvenile Unemployment—Proposals for the Re-organization of the Health Service—the Final Report of the Commission on Medical Education—and Radium Poisoning.

The Surgeon-General's Report for 1932.

The report of the Surgeon-General (Dr. Hugh S. Cumming) for the fiscal year 1932 has just appeared, and while, like most government publications, it is not strictly up to date, it contains much of value and interest. In spite of the depression which has existed for nearly three years, and which all sanitarians have expected to bring an increase in many diseases, the general health of the people of the United States has been maintained at a very high level. It is believed that the maintenance of good health conditions is due to the direct result of efforts on the part of health agencies, to the absence of any serious widespread epidemics, and to the good organization which existed before the depression began; but it is easy to see that these statements are largely surmises and do not really account for such conditions as we have experienced. Doubtless the mild winters and abundant crops which most parts of the country have enjoyed have had something to do with it.

The Decline in Tuberculosis Mortality.

One of our surprises has been the low death-rate from tuberculosis. Recent surveys by the Metropolitan Life Insurance Company have corresponded entirely with the general experience. The mortality from tuberculosis has kept up its gratifying decline, and the rate is now 60.3 per 100,000, according to reports from 45 states, or 62 per 100,000, as reported by the Metropolitan Life Insurance Company. For the calendar year 1932, this company estimates that the rate will be around 59.5 per 100,000. These findings are particularly interesting in view of the report just issued in the *Quarterly Bulletin of the Health Organisation of the League of Nations*, in which the doctrine is fairly well laid down that efforts for the prevention of tuberculosis "can at most retard or arrest any increase in the death-rate or hasten its decline, when it has already spontaneously begun."

Epidemics of the Year.

The most serious epidemic of the year under discussion has been poliomyelitis, which

began during the summer and early fall of 1931, being most severe in New England, though it was seen also in Minnesota, Wisconsin and Michigan. From 37 states, 15,700 cases were reported, the greatest number for any year since 1916, when 27,500 cases were notified. The occurrence of smallpox in the United States is one of the blots on our escutcheon, 30,000 cases having been reported by 46 states. This, however, is 18,000 less than for the previous year, which is encouraging. The disease was extremely mild, and only 102 deaths were reported. Typhoid fever, which the professors have been calling a vanishing disease for several years, showed an increase, 26,250 cases having been reported by 46 states. For many years we averaged some 35,000 cases a year. Beginning in November, 1932, influenza of a mild form appeared in the south-west, spread rapidly over the south, and extended northward. Incomplete reports show a jump from the week ending December 10th of 25,000 cases, to 80,000 for the week ending December 31st. Fortunately, there are very few complications, and little pneumonia, but it has caused considerable uneasiness and loss of time.

Conditions in the Health Service.

In matters concerning public health, as well as politically, this is a period of considerable unrest. Although the elections were over in November, 1932, most of the new officers took office in January, 1933, and the legislatures of many states are now in session. Unfortunately, in this country there is no certain tenure of office for health officers, and it is not too much to say that in the majority of our states there is uneasiness among those engaged in health work. Salary cuts are widespread, and if positions were not so scarce in every line of work, doubtless many good men would resign and seek other employment.

Some Effects of the Depression.

Two sinister results of the depression which concern health and public welfare are manifesting themselves. One is the effect on hospitals. More than one hundred of these institutions have been compelled to discharge

patients and to refuse to take more. The general earnings have decreased something like 20 per cent., while the income from endowments has also diminished greatly. The other is the army of unemployed boys. Fortunately, Brigadier-General Glassford, formerly Superintendent of Police in Washington, who resigned after the expulsion of the bonus marchers from that city, has taken up the task for the organization of relief of nomads, who are estimated at more than one million, of whom some 200,000 are boys. The majority of these boys are of the better type, manly, courageous, and adventurous. They come from the overcrowded homes of unemployed parents, and unless something can be done for their relief promptly, it is feared that the hardships they undergo, combined with the enforced association with professional tramps, who are often law-breakers, will result in destruction of their character.

Proposed Schemes of Re-organization.

A somewhat belated proposition was made by President Hoover to re-organize the departments of the government in Washington. His plan was much like that of General Sawyer, of the Harding régime. The proposal then was to combine our public health service with education, women's organizations, and veterans' bureau, under one assistant secretary. The people in education objected, and have held to their point of having a cabinet officer for themselves, or else staying as they are. The health workers have very much the same feeling, though they have been willing to co-operate. It is useless to go further into Mr. Hoover's suggestions, as Congress definitely decided to pay no attention to them, leaving the matter for President Roosevelt to settle. Some years ago a group of business men, life insurance officials, and others, spent much time and a good deal of money in working out a plan for re-organization of the government. It has been pointed out often that some forty bureaus, boards, etc., have been dipping into the Treasury in the name of public health, and it seems evident that money could be saved and efficiency increased by some re-arrangement of the whole service.

Medical Education.

Almost coincidently with the report of the Committee on the Cost of Medical Care,

already referred to, comes the final report of the Commission on Medical Education, founded by the Association of American Medical Colleges in 1925, to make a study of the educational principles involved in the training and licensing of physicians, and to offer suggestions which would accord with the newer conceptions and methods of education and the present needs of society. The Commission has collected a great amount of material. There are in the United States, 156,440 licensed physicians, an estimated excess of 25,000 over needs. About 5,000 new doctors are graduated yearly from approved schools, and some 400 additional from unapproved and foreign schools. This will soon bring about the ratio of 1 physician to 750 population. The distribution is uneven, but there is a general movement of the doctors toward cities, and many of our rural districts are practically without doctors. One reason for this is probably specialism, which, while it has unquestionably led to advances in medical knowledge, has disadvantages, especially when men poorly trained in the fields in which they profess to be specialists, as well as in general medicine, set themselves up as experts. Another reason seems to be "group practice," which has some features which commend it, but which has all too often led to excessive charges for services which were neither needed nor competently rendered. The Committee stressed the fact that "sound medical service can be rendered only when a single physician assumes the direct responsibility for a given patient." The expenditures for medical services on all cases are estimated at about 2½ billion dollars annually, 25 per cent. of which is borne by some 5 per cent. of the people. It is obvious that the most serious problem is not to meet the average cost of medical care, but those emergencies which occur in every family and consume a large part of the income. There is a growing tendency to hospitalize all except more or less ordinary cases of illness. Hospitalization for obstetrical cases is the rule wherever hospitals are available. The increase in hospitals, from 1,000 in 1920 to 6,600 at the present time, has played a considerable part in this change in medical practice, and, where roads are good, in doing away with the necessity of having physicians at hand in rural populations. On account of modern equipment in the way of laboratories, X-ray outfits and trained nurses, physicians naturally tend to move toward them, and automobiles are available practically everywhere for the rapid movement of patients.

The Cost of Training.

The cost of medical schools in the United States and Canada (1927) is estimated at \$11,983,863. The average cost per medical student was \$704 against fees of \$254. In other words, some \$450 per student had to be contributed from some other source. It is the fixed principle that any school which pays its way by fees is not doing good work. America was formerly cursed by the private medical college conducted for profit, the teachers of which serve largely for the commercial advantage of having the title of professor attached to their names. This has fortunately been changed, largely through the Association of American Medical Colleges, the Carnegie Foundation, and the American Medical Association. However, there are still too many men, without sufficient preliminary education in the sciences, languages, etc., who are able to enter the medical profession, notwithstanding the fact that, in addition to graduating from a recognized medical college, they must pass their state boards of licensure. Many also pass the examinations of the National Board of Medical Examiners. Each state has its own laws regarding registration and medical practice, but a number of them now accept the examination of the National Board for licensure, and the number is constantly increasing.

The Curriculum and Methods of Teaching.

Only a few points concerning courses can be mentioned. The Committee advocates placing greater responsibility on the student for his own training than now exists. The general programme is built up largely on small sections, personal contact between the teachers and students, seminars, conferences, reading, independent work and clinical clerkships. There is, perhaps, still too much time given to didactic lectures and the old amphitheatre clinics in which five or six hundred students, many of them at a great distance, were supposed to learn the diagnosis of disease or the technique of operations. Efforts are being made to lessen the number of subjects taught in great detail, and instead of the student gaining a lot of knowledge by rote, he is being taught to observe and to think. Needless to say, the ideal is a long way from having been accomplished. It is urged that more attention be given to prevention and control of contagious diseases, to early diagnosis, and the correction of defects. In practically all schools there is entirely too

little time given to hygiene and to preventive medicine. In some this fault is corrected to a greater or less extent by teaching prevention along with the disease. There seems to be too small an amount of psychiatry taught, and a lack of basic knowledge of the underlying mechanism of functional disturbances. Dental education is at present the field of a more or less hot controversy. There has been an orgy of tooth-pulling and a tendency to blame all sorts of illnesses on abscesses at the roots of the teeth. Dental education should be more closely correlated with medicine. We have dental schools in most of our large universities, and in some the fundamentals are taught to the dental along with the medical students. For pre-medical training, since 1918, two years' of college work is required, including chemistry, physics and biology. In general, it may be said that the preliminary education required in this country is inferior to that abroad.

Post-Graduate Teaching.

There is little or no study of the character of the medical student. Some schools require the taking of the Hippocratic oath, but others depend entirely upon the knowledge gained of the student during his years of study, and in some the principles of medical ethics receive very scant attention. We have developed post-graduate teaching, and many opportunities are now given for practitioners to take short courses in practically every branch of medicine and surgery in order to freshen up. This is being carried out by some universities through their extension divisions, and by state medical societies which send lecturers and clinical teachers to various parts of their territory in order to avoid the necessity of making the practitioner leave his home. There is no question that medical education is much more efficient than it was a few years ago, and that it is improving year by year. The drive is coming from within the medical profession. The public demands certain facilities and, in some cases, competent medical supervision, but we are over-run with "pathies" of every sort, and the patronage of the irregulars is not confined to the uneducated. In New York City there are upwards of 40 different cults engaged in the so-called healing art, but this city is not the only place in this country where quackery flourishes. There is not a community, even where only "two or three are gathered together," in which quacks cannot be found, often protected by

the law. Regeneration of the human being will be required to exterminate them.

Radium Poisoning.

We have recently had examples of the old adage, "Mortals rush in where angels fear to tread." The discovery of radium and its effects naturally brought to the front a swarm of uneducated people to exploit its alleged health-giving qualities. A recent number of the Journal of the American Medical Association gives the report of the case, with *post-mortem*, of a man who, during five years, had taken 1,400 bottles of a water (said to be "Radithor") containing radio-active substances. His expired air contained a radio-active substance. Death was unquestionably due to radium poisoning. From his bones, 73.27 micrograms of radium

were recovered, and from the soft tissues, 0.39 micrograms. It will be recalled that in 1928, quite a furor was raised over the poisoning of women near New York engaged in painting watch dials and hands to make them luminous. Symptoms of poisoning were observed, and one of the women died very soon after. Within the last week another has died with the diagnosis of radium poisoning. The United States Radium Corporation which employed them gave a number of the women \$10,000 each, full medical care, and annuities of \$400. The chief source of poisoning was due to the pointing of the brush with the tongue and lips. Better methods were insisted upon, and no new cases have been reported since that time.

MAZYCK P. RAVENEL, M.D.*

THE lowest birth-rate on record for England and Wales is shown in the provisional figures for 1932, issued recently by the Registrar-General. The rate (15.3 per 1,000) is 1.0 below that of 1929 and 1930, and 0.5 below that of 1931. The death-rate (12.0) is 0.3 below that for 1931; and the infant mortality rate (65) is 1 per 1,000 below that for 1931, the only year showing a lower rate being 1930.

THE Institute of Medical Psychology (The Tavistock Clinic) has arranged a number of post-graduate courses in psycho-therapeutic theory and method, to be held at various periods throughout the year. Qualified medical practitioners desirous of taking these courses are invited to apply to the Hon. Lecture Secretary at the Institute, 6, Torrington Place, London, W.C.1, for detailed information, scale of fees, etc.

In the competition arranged by the Royal Sanitary Institute in connection with the celebration of Empire Health Week in 1932, two challenge shields have been awarded to schools sending in the best answers to a set of questions on food and nutrition. The shield for senior scholars has been awarded to St. Peter's School, Scarborough, and the shield for junior scholars to Ballance Road Roman Catholic School, Homerton.

A SESSIONAL Meeting of the Royal Sanitary Institute will be held at Dover on Friday and Saturday, April 21st and 22nd, 1933, under the chairmanship of Dr. Charles Porter (Chairman of Council of the Institute). On Friday, at 4 p.m., in the Town Hall, the Mayor will receive the members and entertain them to tea. At 4.45 p.m. there will be discussions on "Difficulties in the Administration of By-laws and Regulations," to be opened by W. Boulton Smith, M.Sc.(ENG.), M.INST.C.E., Borough Engineer, Dover, and on "Diphtheria Immunisation," to be opened by T. J. Nicholl, F.R.C.S.I., D.P.H., Assistant Medical Officer of Health, Dover. On Saturday, at 10.15 a.m., members will assemble at the Town Hall for visits to (a) Dover Castle, and (b) new schools, a housing site, and the isolation hospital. Dr. A. B. McMaster, Medical Officer of Health, Dover, is acting as Hon. Local Secretary of the meeting.

THE Minister of Pensions has appointed, as from April 1st, 1933, Mr. John Harry Hebb, C.B.E., B.A., M.B., B.CH., OXON., to be Director-General of Medical Services in the Ministry of Pensions in succession to Sir Lisle Webb, K.B.E., C.B., C.M.G., who retired on March 31st. Mr. Herbert Lightstone, D.S.O., M.C., M.D., C.M., will succeed Dr. Hebb as Deputy Director-General of Medical Services.

The Literature of Preventive Medicine.

A Synopsis of Public Health. By E. W. CARYL THOMAS, M.D., B.Sc., D.P.H., Barrister-at-Law, Medical Officer of Health, Dagenham. London: Simpkin Marshall, Ltd., 1932. pp. 646. Price 21s. net.

This is one of the Synopsis Series published by Messrs. John Wright and Sons, Ltd., of Bristol. According to the author it is intended for the use of "students working for their Diploma of Public Health or their Degree in State Medicine or Sanitary Science." Speaking generally, having regard to the fact that the qualifications referred to are post-graduate and intended for specialists, it might have been thought that the synopsis type of text-book would not have been quite appropriate. It might have been supposed, in fact, that the student would have preferred, if he is not expected indeed, to indulge in very wide reading and thinking rather than resort to cramming. Presumably, however, there are people who, whatever age or stage they have reached, can only think of examinations as something to be prepared for by stuffing the memory with facts such as, it is believed, examiners will demand. For such individuals amongst those seeking a public health qualification this book will be the very thing that is wanted, and by them will be hailed with joy. By others, its resemblance to the catalogue of a botanical gardens will be found so distressing that its use as a text-book will prove entirely impossible.

Practical Food Inspection. By CHARLES R. A. MARTIN, M.R.S.I., A.M.I.S.E., Senior Sanitary Inspector, Whitstable. In Two Volumes. Vol. I, Meat Inspection. London: H. K. Lewis and Co., Ltd., 1932. pp. 312. Price 15s. net.

The author in his preface claims, in presenting a work on food inspection, of which this is the first volume, as a desire that there shall be available to inspectors, students and others, at least one book, dealing with important post-war technical and administrative developments, written by a *practical inspector*. The italics are the author's, as is also the further claim that he has omitted much ultra-scientific detail, which may be regarded as superfluous to the workaday needs of the inspector. The book has many excellent points, and contains many useful illustrations and much information that is good and practical. If it has a fault, it is that it

contains too much scientific detail that is out of place in a book written by an inspector for inspectors, and that requires the backing of a specialised training in pathology and the diseases of animals as evidenced by the possession of a veterinary qualification. That there is room for books of the type referred to by the author of this volume, and that it is possible to produce them without trespassing too far upon the domain of the veterinarian, is certain. For that reason it is all the greater a pity that the author in this case should have rather spoiled the really practical inspector's part of the contents by giving too much attention to scientific and clinical material.

Applied Sanitary Science. Administration and Model Answers for the Examinations of the Royal Sanitary Institute and other Examining Bodies. By ROBERT KEELEY, M.R.S.I., County Sanitary Officer, Lancashire. London: The Sanitary Publishing Co., Ltd., 1932. pp. 296. Price 7s. 6d. net.

In its first edition this book received warm commendation in these columns. The fact that in less than ten years it has reached a third edition is evidence that the commendation was deserved. In preparing this latest edition the author has quite obviously gone to the greatest trouble to secure accuracy and to bring his matter up to date. The experience he obtained in his earlier editions has stood him in good stead in that connection and, in addition to justifying the commendation already given, earns for him renewed approval. By the persons for whom it is intended—those studying for various qualifications in public health—and no less by those actually occupying positions in the service, it will prove extremely useful, and to them it is warmly recommended.

Man and Medicine. By HENRY E. SIGERIST. London: George Allen and Unwin, Ltd., 1932. pp. 340. Price 12s. 6d. net.

The sub-title, "An Introduction to Medical Knowledge," describes more adequately than does the title the object of this book, although it does not give any better an idea of the delightful manner in which the author has dealt with his subject.

In a work having for its aim the revealing to the medical student not only the course he

is to follow and the goal to be attained, but something also of the tradition of the profession he proposes to enter, naturally there must be much of the history of medicine. Since Dr. Sigerist is Professor of the History of Medicine and Director of the Institute of Medical History in the University of Leipzig, it may be taken that this aspect of the subject has received full and proper treatment. As a matter of fact, it has been dealt with in such a way that it must interest and inspire the reader even if he be neither medical student nor medical practitioner. To such an individual, indeed, the book must have a very definite interest and appeal, surveying as it does so very simply and attractively the field of medicine of to-day, comparing it with that of earlier days, and explaining and demonstrating its growth and the method of its development.

The veteran Dr. William H. Welch, of Johns Hopkins, himself a medical historian and possessed of an extraordinary capacity for making medicine appear the most wonderful and attractive of professions, has provided a foreword to Dr. Sigerist's book. From this it is clear that he found it a delight to read. This makes the commendation and recommendation of the book it is proposed to offer all the more easy and safe.

A General History of Nursing. By LUCY RIDGELY SEYMER, M.A. (OXON.), S.R.N. London: Faber and Faber, Ltd., 1932. pp. 307. Price 12s. 6d. net.

It is time that there was a good book dealing with the history of nursing, not only for the use of candidates for the Diploma of Nursing of London University and elsewhere, but also for what may be called record purposes. This book of Mrs. Seymer's may be accepted as that good book, and she should be thanked most cordially for having prepared it. The work involved must have been immense, very largely because she has come so early into the field and she has had so few guides. Fortunately, she is not without training, experience and inclination in the kind of study required, and as a result she has produced a volume that is a credit to herself, that is certain to be of value to the student, and full of interest to all its readers.

As it must inevitably become a standard as well as a text-book, further editions are sure to follow, when parts that, in the course of use by teachers and students, appear to require amplification or strengthening will receive attention.

So far as can be seen at present, these parts are few and constitute no obstacle to offering the book a very warm welcome and the heartiest commendation.

James Stansfeld. A Victorian Champion of Sex Equality. By J. L. HAMMOND and BARBARA HAMMOND. London: Longmans, Green and Co., 1932. pp. 312. Price 15s. net.

The number of people to-day who know anything about the Contagious Diseases Acts is few: the number who talk about them fewer still, though there is here and there an odd woman or so who drags in a reference to them and simulates terror at any suggestion, which nobody ever offers, of the introduction or re-introduction of their provisions. The subject of this volume—the authors do not call it a biography—earned fame because, side by side with another worker equally well known to present-day Britons, Josephine Butler, he fought the Acts and secured their repeal. So important did Sir James Stansfeld consider it that the Acts should be fought, that he abandoned a most promising political career—he held cabinet office under both Palmerston and Gladstone—to do so.

Mr. and Mrs. Hammond are well-known and skilful writers, and out of the information they have been able to secure with regard to Stansfeld, and as to the operations conducted along with Josephine Butler, they have made a story quite definitely interesting of something which, though they may not be called "forgotten incidents," might with justice be described as half forgotten.

An Empire Problem. The House and Village in the Tropics. By D. B. BLACKLOCK, M.D., Professor of Parasitology, Liverpool School of Tropical Medicine, University of Liverpool. London: Hodder and Stoughton, Ltd., 1932. pp. 100. Price 3s. 6d. net.

The main object the author of this work had in mind was to interest non-medical readers in certain problems upon the solution of which the whole future of the natives of our tropical possessions, in his opinion, depends.

A great part of his space he devotes to discussion of methods of improving the material condition of the native. For this reason he has much to say on such subjects as housing, and the necessity for the co-operation of large industries

here with the Imperial and local governments in order to secure improvements in this and other matters affecting sanitation and the prevention of diseases which impair the usefulness of the native as a worker and producer.

Amongst other suggestions offered is that annually there should be an exhibition in London "where the existing village defects of the various tropical countries could be demonstrated, together with the advances in house and village construction intended to meet the requirements."

The book is, of course, very well written and makes interesting and, in parts, fascinating and thought-provoking reading.

In the Annual Reports.

THE WORK OF THE SCHOOL MEDICAL INSPECTOR.—Complete pre-occupation with school medical inspection is, in my opinion, a drawback to the medical service in that it impairs the freshness of approach to the work. While argument has run on the question whether medical inspection is dull work, it is beyond doubt that it runs on a narrow gauge, and of those who practise it day in and day out there are few who do not need the refreshment of occasional variation. There is, further, a considerable drawback in working in isolation. It would be an undoubted benefit if, after a specified number of years of continuous service, a member of the staff could have study leave to attend approved courses of post-graduate study, and that such expenditure should be approved and sanctioned by the Board of Education.—*Dr. T. N. V. Potts, West Riding of Yorkshire.*

SPREAD OF INFECTION IN WHOOPING COUGH.—There is much difficulty in getting parents to realise that the child of pre-school age must be sheltered from the risk of infection as much as the child attending school. Parents realise that the school child is a potential focus of infection for many other children, and should be guarded from infection; they fail to realise that the pre-school child, although less likely to spread the disease, is less able to resist the dangers of an attack; many parents state candidly that they send children with whooping cough into the squares and streets during school hours when "there are no other children about." The continued advice to parents to look upon a child suffering from whooping cough as a serious menace to others has drawn their attention to the fact that this disease is one which should be viewed with more concern than it is at present. Parents frequently express the view that there is need to educate public opinion in the dangers of whooping cough and the way in which it is caught. The treatment of children suffering with whooping cough in out-patient departments is viewed by many medical officers of health with disfavour. Surely some, possibly many, of these children are still infectious. They travel to the hospitals in

public vehicles; although admitted to canteens now provided by many hospitals, some are taken into eating-places. There can be no doubt that the disease is spread in some measure by these practices. Again, when a child contracts whooping cough in hospital or at a convalescent home, surely all such children should be removed in an ambulance or some other suitable vehicle, and not in a public conveyance. Once a child has been taken into a hospital, convalescent home or any such place on account of its health, it is a very poor result if the child has to be sent back home still suffering from disease, even if it is a new one. The job of improving the child's health, once undertaken, ought to be finished. If the child falls ill with another disease and this new disease cannot be treated in the first institution, it would seem only fitting that the child should be transferred to another institution. Fortunately, the London County Council fever hospitals accept patients with whooping cough. Last year 24 children (44 per cent. of the notified cases) were admitted from Holborn to such hospitals.—*Dr. C. W. Hutt, Holborn.*

THE PHYSICAL WELFARE OF THE SCHOOL CHILD.—After diet, rest comes next in order of importance for growing children. An extra hour in bed at night is equal to 15 days' complete rest in the year. The young school child who goes to bed at 9 to 10 p.m. instead of at 6 p.m. is losing six to eight weeks' rest per annum. No wonder that some of these little ones look tired and old! After diet and rest, I would place physical exercises next in order of value in promoting growth and establishing sound physique—especially exercises designed to improve shape, posture and breathing capacity. For the class of children I have in mind I suggest that a portion of the school time now being devoted to shaping their minds would be profitably devoted to shaping their bodies.—*Dr. R. P. Garrow, Hornsey.*

MUNICIPAL DUSTBINS.—Since April, 1929, the ownership of all the ashbins in use in the borough in connection with private dwelling houses has been vested in the corporation. Owing to the poor quality of many of the bins taken over on the above date, the replacement rate has been rather high. During the first two-and-three-quarter years that this scheme has been in force, 15,000 worn-out and dilapidated bins have had to be replaced by new ones. The annual amount payable by the householder for dustbin maintenance has again been reduced and now stands at 1s. 6d. per bin. It would appear desirable for the department concerned with the maintenance of these bins to consider the question of setting up a repair depot for ashbins. It is possible that a considerable number of the bins condemned might be rendered fit for several years' further service at a small cost. It may, at any rate, be assumed that all the poorest and cheapest types of portable ash receptacles have now been replaced by ones of an approved size and weight, and that the remainder of those taken over were good quality bins when supplied, and therefore likely to have a fairly long life.—*Dr. R. H. H. Jolly, Wolverhampton.*

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Editorial.

The Clearance of Slums.

FOR some time it must have been evident that there was something definite in the wind so far as the slum problem is concerned. The talk in the Press and elsewhere about building societies and such like, and pronouncements by distinguished persons, Sir Austen Chamberlain and others, on the subject, certainly suggested that a call for drastic action on the part of housing authorities alone or jointly was likely to be heard. Ministry of Health circular 1331, of April 6th, 1933, on the Housing Act, 1930, Part I, addressed to housing authorities in England and Wales, reveals the accuracy of such anticipations. Possibly the tone of the communication is rather more urgent than had been expected, and to some authorities it may appear that it is cutting it

rather fine to allow six months only in which to prepare and adopt a programme, and no more than five years for carrying it out. In this connection, however, it is interesting to note how very friendly, in the main, has been the comment in the Press upon the circular, and how very rarely newspapers have had to call attention to dissent from any particular source. In the large cities generally, since there appears to be a tendency to view with considerable complacency the results already secured, there is some difference of opinion between them and the Government as to rate of progress; there is evident, nevertheless, a desire to give the impression of willingness to meet the wishes of the Minister of Health that there should be a speedy end of the slum problem. Conceivably this may be because of the

that conditions are now more favourable than they have ever been or are likely to be; money is cheap; building costs are low, and the exchequer subsidy sufficient to encourage the belief that houses can be built to let at rents well within the capacity of the poorest of the working-classes, and that the average inclusive rents payable will "compare very favourably with the average rent paid by tenants of slum houses." In the first place, what the authorities are required to do is (a) to prepare and adopt a programme, the components of which should be (i) a list of the areas in which clearance is necessary, with information of the number of houses to be demolished in each, and of the number of their inhabitants; (ii) a list of the areas in which improvement by way of reconditioning or otherwise is necessary, with information as in (i) above; (iii) a time-table for the initiation, progress and completion of action to secure clearance or improvement, as the case may be, of all these areas; and (iv) a time-table of rehousing co-ordinated with the displacements contemplated by the time-table of clearance operations; (b) to make an immediate beginning with the programme by the declaration as clearance or improvement areas of such areas as can be immediately dealt with, and by making the necessary orders. The date fixed for sending in the programme is September 30th, though many programmes may be available substantially sooner. The clearing of all areas that call for clearance should be completed by 1938. To facilitate this the Minister is prepared to entertain applications for loan sanctions in respect of a "reasonable proportion" of the rehousing likely to be required if forwarded at the same time as the resolution declaring a clearance area. Also the Ministry staff is being augmented so that some of the delays arising out of the legal and other processes, the holding of enquiries, for example, will be obviated, and perhaps some of the worries of those concerned in the preparation of programmes, reports and evidence lessened. Of this circular it may be said that it is one of the most remarkable and spirited ever issued in regard to housing. It breathes a strength and enthusiasm that may very readily affect the authorities to whom it is addressed, and produce the results long desired by all concerned for the health, happiness and well being of the people, and not least by members of the health services.

Tuberculous Disease in Children.

IN a report* recently issued by the Medical Research Council, are published the results of much painstaking and accurate work carried out at Glasgow University and the Glasgow Royal Hospital for Sick Children. The material was obtained from 1,800 autopsies conducted during eight years upon children from birth to 13 years of age. Tuberculosis was present in 283 cases and in 183 of these the type of organism was ascertained. The bacilli from 52 of 65 surgical cases were also typed.

The primary lesion was thoracic in 61.1 per cent., abdominal in 35.7 per cent., and in the cervical glands in 2.1 per cent. Of the 283 cases showing evidence of tuberculosis, 90 per cent. died from the disease, indicating a very high mortality from tuberculous infection among Glasgow children. From experience with adult autopsies, the author is led to believe that healed infantile lesions in adults dying of tuberculosis are rare, and he is opposed to the view that adult tuberculosis is due to the activation of an infantile lesion.

It must be said that Dr. Blacklock's material was mainly from post-mortem sources, and those used to radiographic study of adult tuberculosis in this country see a large percentage of "Parrot's Nodes" with corresponding glandular disease, which are usually interpreted as evidence of an earlier infection. Whether the actual adult lesion is an exacerbation of this earlier trouble or the result of a re-infection is more difficult to decide. No doubt both events are possible.

The author concludes that nearly all pulmonary disease is air-borne, and due to the inhalation of bacilli, with which view most workers in this country will cordially agree. Ninety-seven per cent. of lung cases were due to the human type of bacillus; 80 per cent. of abdominal disease were of bovine origin.

It is welcome to find all steps of the investigation carefully described, and the details will be most helpful to colleagues conducting similar research. Microscopy was extensively employed, and in a number of cases serial sections of the

*TUBERCULOUS DISEASE IN CHILDREN: ITS PATHOLOGY AND BACTERIOLOGY. By JOHN W. S. BLACKLOCK, M.D., Gardiner Lecturer on the Pathology of Diseases of Infancy and Childhood, the University, and Pathologist, Royal Hospital for Sick Children, Glasgow. Medical Research Council, Special Report Series, No. 172. H.M. Stationery Office, 1932. pp. 155, illustrated. Price, 3s. net.

primary lesion were examined. Two guinea-pigs were inoculated from each lesion; anti-formin was used to prevent other infections. A useful aid to differentiation of the two types of bacilli was found in the formation of a red or yellow pigment at the edges of cultures of the human type, and this was found to be encouraged by running paraffin wax from a pipette down the egg slant. Pigment and profuse growth appeared at the edge of the wax.

It is interesting to note that in 12.7 per cent. of cases in which a von Pirquet test was positive, no lesion was found, and this was also the case in 7.5 per cent. of instances which had yielded a positive Mantoux test; while in 9.7 per cent. of cases negative to a von Pirquet test, and in 8.5 negative to a Mantoux test, a lesion was none the less present.

The value of some of the investigations, such as those undertaken to ascertain the occurrence of calcification, is not perhaps quite clear at the moment. But such careful records and the account of how they were obtained may be of infinite assistance to some future worker. A study of this small book is essential to all researchers into the pathology and bacteriology of tuberculosis, and profoundly interesting also to the clinician and to those engaged in public health work generally.

Poverty, Nutrition and the Public Health.

IN 1927 an "unhealthy area" in the Borough of Stockton-on-Tees was demolished, and 710 of the inhabitants of this area were re-housed on a self-contained municipal housing estate which had been specially built for the purpose. The death-rate for this group has shown, during the five years succeeding its translation from bad to good housing conditions, some deterioration in the state of health of its constituent individuals. This, and certain other changes in the vital statistics appeared to be of sufficient importance to warrant detailed investigation.

In a report recently issued, Dr. G. C. M. M'Gonigle, the Medical Officer of Health, sets out the results of a carefully planned enquiry in which, for control purposes, he investigated not only the conditions amongst the transferred population but in a comparable set of individuals living under environmental conditions similar to those which existed in the area from which the transferred group had come. Following investigation in every possible direction the conclusion to which Dr.

M'Gonigle is driven appears to be that food is the factor outstandingly prominent so far as responsibility for the deterioration is concerned.

The group of unemployed families on the new (Mount Pleasant) estate who furnished budgets appeared to be a fair sample of the unemployed population on the estate to which transference had taken place. The control sample obtained of the Riverside—slum area—unemployed was, perhaps, not so strictly representative of that population, as the mean rent paid by this group of budget families was in excess of the mean rent of the area, and it might have been that the means of the dietary constituents of the whole unemployed population in this area were better than those of the sample obtained. Nevertheless, comparison of the two areas reveals that the variations in the composition of their diets constituted the only discovered adverse influence operative upon the Mount Pleasant estate. Whether these differences are responsible for the higher death-rate upon the Mount Pleasant estate may be a matter for conjecture, but investigation failed to detect any other probable cause.

Facial Growth in Children.

INCREASINGLY during recent years medical officers of health have interested themselves in questions relating to dental development, largely probably because of a growing concern in matters affecting nutrition. For this reason, though its title "Facial Growth in Children—With Special Reference to Dentition," may not at first appear promising, a report* issued a short time ago by the Medical Research Council will be found most stimulating and useful. In it are given the results of an investigation carried out by Miss K. C. Smyth and Dr. Matthew Young with the object of determining the direction and normal rate of growth of the jaws between the ages of eight and fourteen. By this means it was desired to secure a basis for a study of abnormal formation of the jaws, a condition which, associated with faulty closing of the dental arches and improper placing of the teeth, is very commonly met with in dental practice. The deformities produced are of various kinds, but originate early in life and possibly

*Special Report Series, No. 171. H.M. Stationery Office, 1932. Price 1s. 6d. net.

even before birth. They may respond to curative treatment if this be undertaken early enough, but it is obviously much more desirable to aim at their prevention.

Preventive treatment may be given by muscular exercises rather than by the application of instrumental pressure, but in devising suitable methods, dental practitioners would be greatly assisted if they were able, by means of accurate measurement, to identify the various types of abnormality in their early stages. Recognising this, the Medical Research Council, advised by their dental committee and an anthropometric sub-committee appointed for the purpose, accordingly arranged for the investigations dealt with in the report, which involved the making of a number of facial measurements in no fewer than 1,400 children.

The results obtained have been most carefully analysed by Dr. Young and, in addition, a series of models made under the direction of Miss Smyth during the course of the work are now in the museum of the Royal College of Surgeons of England. At present, it is noted, a study of abnormal conditions is being carried out by the same investigators. The hope is expressed that by the use of similar methods it may be possible to show exactly in what respects and to what extent typical abnormal forms differ from the normal at different stages of growth, and that thus indication may be given as to how preventive treatment may be most successfully applied.

* * * * *

The Late Dr. D. S. Davies.

WITH deep regret is recorded the death, at the age of 79 years, of Dr. David Samuel Davies, formerly Medical Officer of Health for the City and Port of Bristol, and a Past-President of the Society of Medical Officers of Health. To Dr. R. H. Parry (Medical Officer of Health, Bristol, and President of the West of England Branch), with whom Dr. Davies was associated for some years before his retirement, the Society is indebted for the following sympathetic note:—

"Dr. Davies was appointed Medical Officer of Health to the City of Bristol in 1886, at the age of 31 years, and he served the City in that capacity for a period of 42 years. He followed his father, who was the first Medical Officer, and who occupied that post for 20 years. This perhaps creates a record for father and son in public health service.

"During the period from 1886 until the retirement of Dr. Davies, in March, 1928, the City of Bristol had grown nearly 14,000 acres in size and 170,000 in population. It was under the skilful direction of Dr. Davies during that period that the public health department developed into its present state.

"In the public health service, Dr. Davies has rightly held a position of respect and authority. In 1906 he was appointed President of the Society of Medical Officers of Health, having previously been President of the West of England Branch.

"He was an outstanding epidemiologist, and his presidential address to the Society of Medical Officers of Health on "Diphtheria and Smallpox: An Epidemiological Contrast," clearly demonstrates the broad view that he took of public health. In this contribution he writes: 'The public has, indeed, it would seem, wearied of the recurring changes in the attitude of medicine towards disease, mistaking, as it must, for mere failure, pauses in the orderly sequence of instructed strivings towards an understanding of the obscure, and failing to recognise that every check of reconsidered knowledge is but the backwash of an individual wave upon a rising tide.'

"Two of his reports stand out as masterpieces in epidemiology, viz., that upon the epidemic influenza outbreak in Bristol in 1890, and another upon a milk-borne epidemic of enteric fever in Clifton in 1897.

"In his last annual report he reviewed the work of his department during his years of service. He was then in his seventy-third year, and yet he showed clearly his progressive attitude and his enthusiasm for public health. He directs special attention to the science of eugenics, and the great work of Mendel.

"In the social and other activities of the City he always took a prominent part. He was Lecturer in Hygiene in the Medical School, and Examiner in the subject at the University. In 1900 he was made President of the Medico-Chirurgical Society. In 1912, the University of Bristol gave him the degree of LL.D., and he held the volunteer decoration of Lt.-Colonel of the R.A.M.C. (T).

"Dr. D. S. Davies had a charming personality. He was admired and liked by all who came into contact with him. The members of his committees respected him; his staff loved him. Everyone regrets his passing."

Diphtheria Immunisation: Its Possibilities and Difficulties.

By ELWIN H. T. NASH, M.R.C.S., L.R.C.P., D.P.H., Medical Officer of Health, Borough of Heston and Isleworth; and J. GRAHAM FORBES, M.A., M.D., F.R.C.P., D.P.H., Principal Assistant Medical Officer, London County Council.

No ordinary meeting of the Society has attracted so large a gathering as that held in London, on March 24th, 1933, at which the papers on Diphtheria Immunisation, by Dr. Nash and Dr. Forbes, were submitted. Readers are fortunate in having so very full a description as that given by Dr. Nash of the methods that have proved so successful in inducing parents with their children to attend in large numbers at his clinics. The unfortunate part is that the excellent slides and the interesting film he showed in further explanation cannot be reproduced.

DR. E. H. T. NASH.

IN considering the possibilities of diphtheria immunisation, it is well to bear in mind the difficulties that arise with regard to the interpretation of statistical figures and results, which often seem to be somewhat obscure. We must not let enthusiasm for the obvious decrease in the incidence of the disease blind us to these factors, particularly in regard to the periodic rise and fall of the disease, which may in itself be responsible for much that we want to claim in the first outburst of enthusiasm as a result of a decrease which has followed an immunisation campaign.

In order to see what the possibilities are, it is probably better to start with the facts and figures from America, where they have been years ahead of us on this side of the Atlantic in that direction.

In going through the health reports of the various states, one is struck by the different manner in which the Americans approach the problem with regard to publicity, by methods that are altogether more intensive and more spectacular than our sober-minded ideas.

For instance, I have, through the courtesy of the United States Public Health Service, been supplied with some of their broadcasts. Take for instance, one, viz., "The Prevention of Diphtheria." This is a concise but forceful broadcast, urging the claims of immunisation, amongst which is a very striking paragraph urging parents to let the baby's first birthday present be a complete protection against diphtheria. This is headed "The 395th Public Health Broadcast from the United States Public Health Service." In another instance I was supplied with the forty-fourth broadcast on diphtheria alone.

It will, I think, be a long time before this country uses the wireless in the same manner as it is used on the other side of the Atlantic, yet there is surely nothing at the present time which will enable information of the kind we want disseminated, to reach the remotest homes in the same way as the wireless broadcast.

In going through the records of the various states in America, North and South, one is impressed by the zeal with which they have taken up this matter of immunisation.

Their propaganda has been urged, to an extent quite unknown in this country, by slogans, by placards and by broadcasts. In New York State, for instance, an intensive campaign was waged by the broadcasting of a five years' campaign round the slogan "No more diphtheria in 1930."

Lee Frankel, the second Vice-President of the Metropolitan Life Insurance Company (whose activities in the campaign were immense), in a report on "the five year diphtheria campaign," records that in New York State during that period, 749,922 children received three doses of toxin antitoxin, 189,604 of whom were under five years of age, and 376,491 between five and nine years of age.

The death-rate fell from 6.4 to 2.5 per 100,000. The cases fell from 4,370 in 1925, to 1,613 in 1930. He further records that in contrasting the cities where combined active campaigns were conducted with those where "no effort of any sort was being made, where there was no intelligent public opinion, no active work on the part of the health departments," he found that in the 53 cities in the United States where active campaigns were

conducted, there had been a reduction in the diphtheria death-rate of 32.9 per cent., whereas in 31 cities which were quite inactive, instead of a reduction in the death-rate, there had been an actual increase of 9.3 per cent.

Professor C. E. A. Winslow, in a paper read last year before the Royal Sanitary Institute Congress at Brighton, made the following statement with regard to immunisation:—

"The result has been a proportionate decrease in the diphtheria death-rate as striking as that which followed the introduction of antitoxin 40 years ago."

He further recorded that in New Haven, with a population of 160,000 "we had for the years 1920-22 an annual average of 377 cases of diphtheria with 16 deaths. In 1923, immunisation was begun. For the seven year period 1925-31 the average number of cases was 29 per year, and the average number of deaths two. In 1931, there were four cases with one death."

How this was accomplished is set forth in the "Connecticut Health Bulletin," for May, 1931, and will be referred to later when dealing with publicity.

There is a general and marked fall in the incidence of diphtheria in those areas where active campaigns had been conducted.

The actual amount of immunisation necessary to produce these striking results has now been more or less standardised.

Dr. E. J. Godfrey, Director of the New York State Health Service, has pointed out that no immunity scheme could satisfactorily produce any diminution of diphtheria even when the school population was immunised to the extent of 60 to 70 per cent., until, in addition to this, the pre-school population was adequately protected to the extent of 35 per cent.

I should like to refer to a most interesting report entitled: "A National Survey by the Members of the Preventive Medical and Dental Services, presented to President Hoover, at the White House Conference in 1931, on Health Prevention for the Pre-School Child." The thoroughness with which this information was ferreted out from the 156 cities and the rural areas of 42 States is an instance of the efforts of the United States of America in this direction.

They, too, have their difficulties (of population) in the same way that we have, and the difference in the response is very well illus-

trated in chart 33 of that report, which shows the range of numbers of pre-school children immunised in the 156 cities; the numbers falling from 50 per cent. in Niagara Falls, to 1 per cent. in Columbus, Ohio, and Butte (Montana). Their figures show a general response such as we cannot produce in this country.

A further record showed that the ten cities in the country with the highest percentage of children immunised were: Niagara Falls, 50; Syracuse, 48; New Haven, 48; Yonkers, 45; Rochester, 44; Elmira, 43; Schenectady, 41; Utica, 41; Detroit, 40; Highland Park, 39.

Again, if we take the ten largest cities in the States, the difference in the response is shown by the percentage of pre-school children immunised, viz., in Detroit, 40; New York, 35; Philadelphia, 27; Chicago, 23; Baltimore, 19; Los Angeles, 15; Boston, 15; Pittsburgh, 15; Cleveland, 10, and St. Louis, 10.

In addition, this survey shows a wide range of authorities with the different average percentages of pre-school children immunised, indicated in five groups according to their economic status, demonstrating that in the highest economic group, 21 per cent. of the pre-school children were immunised; in the second, 16 per cent.; in the third, 11 per cent.; and in the fourth and fifth, 10 per cent. each. A further contrast is made between the different public health services as compared with immunisation.

It is interesting to note how the percentage immunised in the five social grades varies in the different districts. For instance, in Des Moines, the highest percentage immunised amongst the pre-school children is 31 per cent. in the highest social grade; 1 per cent. in the fourth grade; and 3 per cent. in the lowest; whereas Boston's figures in the highest social grade are 14 per cent.; the lowest percentage being 8 per cent. in the third social grade, and the highest percentage, namely, 29 per cent., in the lowest social grade. Detroit, in the highest social grade, has 43 per cent. immunised; 35 per cent. in the second grade; 42 per cent. in the third grade; 37 per cent. in the fourth grade, and 42 per cent. in the lowest grade, and despite these high percentages of immunisation more or less evenly distributed through the five social groups, Detroit has one of the highest incidences of diphtheria, and one still rising.

How far such figures are due to mixed nationalities, how far to coloured populations, and how far to religious differences, there does not appear to be anything to indicate, except in the case of Honolulu, which will be referred to later.

It is interesting to note that there is only a very slight difference between the percentage of children immunised in the urban districts as compared with rural, which is very different from the results obtained so far in this country. Table I shows the percentage and the different ages.

TABLE I.

				Urban	Rural
Under 1	...	...	...	3%	3%
Under 2	...	...	...	22%	18%
Under 3	...	...	...	24%	22%
Under 4	...	...	...	27%	26%
Under 5	...	...	...	32%	29%

In contrast, Table II gives the figures for vaccination against smallpox.

TABLE II.

				Urban	Rural
Under 1	...	...	...	3%	1%
Under 2	...	...	...	17%	5%
Under 3	...	...	...	21%	8%
Under 4	...	...	...	28%	11%
Under 5	...	...	...	44%	18%

In the same volume is given a complete list of the 156 cities showing the percentage of pre-school children immunised according to their order of ranking. It would appear that among

the American people in the matter of safeguarding their children against diphtheria, the rural population is far ahead of the rural population of this country.

The report of the City of Newark, New Jersey, emphasises the fact that with only 15 per cent. of the pre-school children immunised, diphtheria increased 50 per cent., and deaths 200 per cent. They also emphasise the fact of "cases of diphtheria occurring in partly immunised children, and in those where a terminal Schick test has not been carried out to determine susceptibility or immunisation."

Dr. D. Griswold, the Health Commissioner for Ohio, in the *Illinois Health Quarterly* (Vol. III, 1, 1931) tried out two counties.

"In one, the parents were by various methods of publicity, told to take their children to their family physicians and have them immunised. That is, it was a single and individual service of the doctor to the patient, and the only result was rather less than 2 per cent. immunised.

"In the adjacent county, where, in addition to the above methods, mass movements were put into operation, from 95 to 98 per cent. of the average attendance at the schools were found to have been immunised."

Of the many reports on diphtheria campaigns, one of the most interesting is that recorded by Drs. William Wild, and Kathryn Tirrell, on diphtheria control in Bridgeport, Connecticut. In this, they point out how Bridgeport has been afflicted with diphtheria since 1880. No real diminution in the disease had taken place until 1929-1930.

TABLE III.
DIPHTHERIA CONTROL IN BRIDGEPORT.
By WILLIAM F. WILD AND KATHRYN R. TIRRELL.

	Cases.					Deaths.				
	1926	1927	1928	1929	1930	1926	1927	1928	1929	1930
January	21	28	35	20	8	3	1	4	0	1
February	21	28	35	6	5	3	4	4	2	0
March	16	27	34	14	5	3	3	1	0	0
April	7	27	19	11	3	1	1	0	0	0
May	15	20	20	11	6	0	1	0	0	0
June	10	26	16	10	0	0	1	2	1	1
July	9	17	8	6	0	0	3	1	0	0
August	7	20	5	1	1	0	1	0	0	0
September	9	16	13	5	0	0	1	2	1	0
October	15	25	18	4	1	0	1	1	0	0
November	15	27	21	5	1	1	3	5	1	0
December	23	34	25	6	3	1	6	1	0	0
Total	168	295	249	99	33	12	26	21	5	2

In 1926, they commenced an immunisation campaign, Schick testing and immunising with three doses of toxin antitoxin, both school children and pre-school children, without any very satisfactory result until they put into operation the administrative methods which they claim were the deciding factors in the eradication of diphtheria. Their additional efforts were a second swab from nose and throat before liberation of a patient or carrier, compared to one previously, on successive days. The swabbing of contacts was extended to all women and children under the same roof, and the father of the patient or carrier; the father was only examined if a food handler. If the patient was a school child all the members of his class at school, and often all the other children, teachers and persons connected with the school, such as janitors, were also examined. Table III shows the decrease in the cases and deaths since the administrative machinery was employed, in addition to the immunisation campaign, while Table IV shows secondary cases of diphtheria in the same family.

TABLE IV.
DIPHTHERIA CONTROL IN BRIDGEPORT.
By WILLIAM F. WILD AND KATHRYN R. TIRRELL.
Secondary cases of diphtheria in same family.

	1926	1927	1928	1929	1930
January ..	1	2	0	3	0
February ..	1	4	6	0	0
March ..	2	1	5	2	0
April ..	0	4	3	0	0
May ..	1	3	2	0	0
June ..	2	5	2	0	0
July ..	2	2	1	0	0
August ..	2	4	0	0	0
September ..	0	0	1	1	0
October ..	0	2	2	0	0
November ..	1	1	3	0	0
December ..	3	4	3	1	0
Total ..	15	32	28	7	0

The writers emphasise the cyclic variations in the character of diphtheria, and urge, as I have done at the commencement of this paper, that we must not be led away by this fact to claim for immunisation or administrative methods, results which may have been in large measure due to the character and habits of the disease.

Notwithstanding the possibilities that the type of the disease may be urged against the claim that immunisation has brought about the diminution in the incidence of diphtheria, we

must admit the cogent claim that immunisation is in the main responsible.

A very important paper was published in America in 1931, by Walter W. Lee. He emphasised the fact that unless all the factors bearing on the figures are taken into account, and the natural trends, as I emphasised at the commencement, are allowed for, the true relationship of the immunisation to the decline in diphtheria incidence may be masked either for good or bad.

He shows how the mortality in New York from 1870-1930 has diminished with comparatively small oscillations along the line of "fitted trend," for the last three years remaining within twice the standard deviation. The final drop, however, was equal to seven times the standard deviation, or equal to the expected rate in 1945. (See Chart A). This he emphasised, can only be due to immunisation.

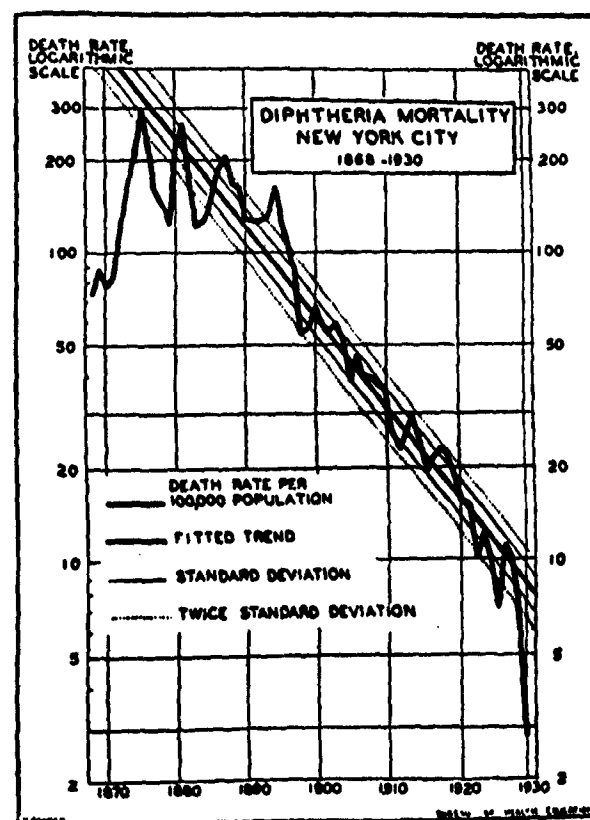


CHART A.
DIPHTHERIA MORTALITY—NEW YORK CITY, 1868-1930.
Chart reproduced from Graham Forbes' "Prevention of Diphtheria." Taken from a paper by W. W. Lee (*Journal of Preventive Medicine*, May, 1931).

In discussing the deaths in age-groups he gives the following figures:—

	0-4	5-9	10-14	15 and over
Percentage of total	70	23	4	3
A ratio of total	17.5	5.75	1	0.75

"What," he asks, "is the relative value in the prevention of diphtheria in New York City of the immunisation of a child six months of age and a child 14 years of age? After 15 years of age the individual is quite unlikely to die of diphtheria. The 14-year-old child after immunisation has a relative value of one for one year when he passes into the 15 and over group, where he is unlikely to die of diphtheria. The six-months-old infant is, however, for five years in a group in which he is 17.5 times as likely to die of diphtheria as the 14-year-old child, and his protection has, therefore, the relative value of the immunisation of 87.5 children 14 years of age. This child graduates to the five to nine group, where he is the equivalent of 28.7 children 14 years of age, and then into the 10 to 14 group, where he is the equivalent of five children 14 years of age."

He also makes similar analyses for other towns, but repeatedly points out how much of the decrease may have nothing to do with immunisation.

Shirley Wynne in "Guarding the Health of Seven Million People" (i.e., New York City) indicates the difference of the actual cases of diphtheria compared with the expected number during the period of diphtheria immunisation. (See Chart B.)

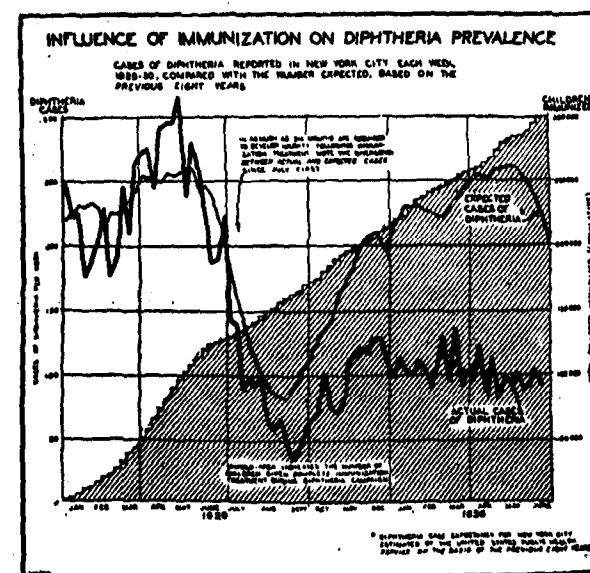


CHART B.
INFLUENCE OF IMMUNISATION ON DIPHTHERIA PREVALENCE.
From "Safeguarding Seven Million Lives." (New York City Health Report by Dr. Shirley Wynne).

There is at the present time an undoubted trend towards the use of toxoid antitoxin and Ramon's anatoxin instead of toxin antitoxin,

and the advantages claimed of earlier and more certain immunisation appear to outweigh the definite tendency to reactions in older children. Toxoid alone is now being strongly urged, the advantages being set forth below by Dr. C. H. Kinnaman in the sixteenth biennial report of the Kansas State Board of Health, 1930-1932.

1. Toxoid does not contain animal serum, and for that reason does not sensitise to animal protein.

2. Immunity develops more rapidly after toxoid than after toxin antitoxin.

3. A higher percentage of children become Schick negative after two doses of toxoid a month apart, than after three doses of toxin antitoxin a week apart.

4. The use of two doses instead of three simplifies the procedure.

5. The simplified procedure will make it easier for the family physician to immunise young children.

6. Toxoid is a more stable product than toxin antitoxin, and is much less likely to deteriorate on standing.

Toxoid is now being extensively used in America and Canada, and the excellent results obtained have been recorded in a paper by Drs. Mary Ross and Neil McKinnon, in the *Canadian Public Health Journal*. They summarise their results in the following manner:—

"The reported cases of diphtheria that occurred subsequent to toxoid immunisation of school children in Toronto are compared with the cases which it is estimated would have occurred in the absence of immunisation. In 16,829 children given three doses of toxoid and observed from one to three years, the number of cases estimated to occur is 222. The actual cases were 23. This is a reduction of approximately 90 per cent. No deaths occurred in these 23 cases. This 90 per cent. reduction in cases, with elimination of deaths in this group of children, was accomplished without producing one reaction of any significant degree, possible reactions, forming 10 per cent. of the school children, being excluded by the judicious use of the reaction test."

O'Brien and Parrish in the *Lancet*, of July 23rd, 1932, published a very valuable account of immunisation by potent unconcentrated toxoid, utilising the Moloney test as the guide to the elimination of cases that would react badly. They found (Table V) that out of 906 subjects aged one to 28, 5 per cent. showed definite reaction, and 12.7 mild reactions.

TABLE V.

Group.	Num- bers.	Ages	Reaction.		
			Nil or faint.	Mild.	Defi- nite.
A.	18	under 3	18	0	0
B.	244	3-15	211	23	10
C.	204	6-15	170	27	7
D.	141	1-18	127	12	2
E.	197	11-18	148	37	12
F.	102	19-28	72	16	14
Total	906		746 (82.3%)	115 (12.7%)	45 (5%)

These M positive cases were immunised with three doses of 1.0 c.c. of T.A.F. at fortnightly intervals; a few received toxoid, all of whom suffered with local or general reactions. None of the cases with nil or faint reactions was affected locally or generally by the toxoid injections subsequently.

The results of this potent toxoid inoculation gave an immunity of 95 per cent. within five weeks of the final inoculation.

The toxoid used by Ramon has an L.F. up to 15, whereas O'Brien and Parrish have been using some with an L.F. of 36, and have recently produced in their laboratory, toxoid with an L.F. of 150 per c.c. The outstanding merit appears to be the certainty with which sensitives are weeded out by the Moloney test, and the rapidity and high percentage of immunity produced.

In my opinion, it is absolutely imperative to ensure that there shall be no uncomfortable reactions following immunising injections, if we are to succeed in a widespread immunisation of young children.

In this country the amount of immunisation is insignificant. Thanks to the pioneering efforts of Parlane Kinloch in Aberdeen, and Harries in Birmingham, the leaven has begun to work, but only slowly, despite the very valuable contributions to the scientific side by O'Brien, Parrish, and Okell.

Hutt tried hard to get Holborn to safeguard itself, but despite the support of his council to the extent of producing a film for propaganda purposes, and well advertised health weeks, his results are but meagre.

More recently the work has spread, and more particularly Edinburgh, Birmingham and Cardiff have managed to get considerable numbers immunised. Cork also achieved success on a wide scale, following a severe epidemic of diphtheria.

Up to the end of 1930, the number of children immunised in London was, according to Graham Forbes, merely 1 per cent. of the school population.

The latest figures to hand—March, 1933—are those published by Professor Johnstone Jervis, Medical Officer of Health of Leeds, where he records the comparative failure of the immunising efforts in Leeds. He states that from May, 1928, to July, 1932 their total immunisation out of a school population of 69,053, of which 23,325 are under seven years of age, was 2,336. He also records that 30 per cent. withdrew their consent or defaulted after having given it. Letters were addressed to the general practitioners in 1928, and again in 1931. The total result of this appeal, together with the free supply of immunising materials, was that 595 children in all were immunised by the general practitioners.

Publicity in any sense, let alone the American sense, or an organised campaign, does not appear to have been used. What a contrast to Honolulu!

To come now to our own work. I have kept strictly to toxoid antitoxin from the beginning, partly, I suppose, because I felt that I was dealing with a preparation which, whilst effective, was certain not to produce the untoward results that I experienced with toxoid in 1924-5. It is useful to look back and see what was accomplished at that time amongst the children, and the results that accrued.

The institution in which the toxoid was used was a poor law school of about 500 boys which were drawn from all parts of the country, and mostly of a debilitated type on entry.

Diphtheria had been occurring in single cases for the last few years, until in 1923 there were 13 cases, and in 1924, 23 cases. Despite vigorous dealing with contacts there was no improvement. I then informed the authorities that in my opinion it was imperative to test and immunise the whole institution. To this they demurred. My reply was that I must inform the Ministry of Health of their refusal as I considered it the only solution of the difficulty. Eventually a conference with them was arranged by the Ministry of Health at Whitehall. The Ministry supported my action, and it was eventually arranged that my suggestions should be carried out.

We swabbed the nose and throat of every

inmate; I and my chief assistant examined the 1,200 swabs. The time taken over this was more than we scheduled for, as after the end of two days our eyes gave out and we had to slow down. Putting it shortly, we isolated nine virulent carriers, one of whom was the nurse in charge of the school infirmary. It was found that there were 63 Schick positives among the boys, who were immunised with toxoid provided by O'Brien. The result, apart from the troublesome reaction in adults, which need not have occurred if the directions laid down by O'Brien had not miscarried, were triumphant.

Beyond a doubtful laryngeal case admitted three weeks previously, notified in July, 1925, of which there was no bacterial confirmation, there has not been a case of diphtheria notified from that school since 1925, a period of eight years.

Had the Moloney test been in existence there would have been no unpleasant happenings to mar the splendour of the toxoid triumph.

We commenced our recent campaign in 1929. Up to the end of 1932 we have tested 3,824 children, the results of which are shown in Table VI.

TABLE VI.
PRIMARY SCHICK TEST RESULTS.

Age.	Neg.	Positive.	Neg.	Total.
			%	
1	2	190	1.04	192
2	6	169	3.42	175
3	9	178	4.81	187
4	20	207	8.81	227
5	46	436	9.54	482
6	47	392	10.7	439
7	64	347	15.5	411
8	83	328	20.1	411
9	113	311	26.6	424
10	101	268	27.3	369
11	61	140	30.3	201
12	49	92	34.7	141
13 & over	58	107	35.1	167
Total	659	3,165	Av. % Neg. 17.2	3,824

Summarised the results are as follows:—

Pre-school children, i.e., under Five.

Total cases, 781; positive, 744; negative, 37; percentage immune, 5.

Up to and including six years of age.

Total cases, 1,263; positive, 1,180; negative 83; percentage immune, 7.

From six years to ten inclusive.

Total cases, 2,054; positive, 1,646; negative, 408; percentage immune, 19.8.

From eleven years to adult life.

Total cases, 507; positive, 339; negative 168; percentage immune, 33.1.

It is, of course, realised that some cases are still in progress at the end of the year. The number of certificates of immunity, therefore, does not correspond with the total Schick tested. The results to the end of 1932 are:—

Total cases actively immunised 2,598
Total cases naturally immune ... 659

Total certificates issued ... 3,257

Our only variant in procedure has been that the final dose was recently increased from 1 c.c. to 1.5 c.c. of T.A.M. The first two injections have been given at weekly intervals, and the final one two weeks later. The re-Schick-ing of the cases at a later date revealed the weakness of the position, which hitherto has been one great stumbling block in the progress of immunisation, *vis.*, the comparatively high percentage of cases that are not completely immunised by three doses of T.A.M.

This is even more apparent with T.A.T. as revealed in the American figures of cases of diphtheria following what has been supposed to be immunisation. The re-Schick-ing or, as the Americans call it, the posterior Schick, is to my mind vital if we are to keep faith with the parents, despite the pronouncement of the League of Nations Committee that it is unnecessary.

In circular 170 of the Ministry of Health (November, 1932), one is glad to see that the Ministry has come down definitely on the side of ascertainment of susceptibility of the case by the preliminary Schick and by subsequent re-Schick-ing, in order definitely to establish that the patient is completely immunised.

As set out in the circular, they are standardising the use of '2 c.c. diluted diphtheria toxin controlled by the inactivated toxin injection in the other arm. Their recommendation that a third injection of 0.2 c.c. of 1 in 100 to a 1 in 200 dilution of formol toxoid (Moloney test) shall be given in addition to the other two, is rendered necessary by the recommendation that the immunisation shall be carried out by formol toxoid which produces reactions of considerable severity in

about 5 per cent. of the children, and still more so in adults.

Their recommendation that the L.F. shall be from 25 to 35 necessitates this test, as this L.F. is approximately double what is being used in America, and on the Continent at the present time.

There is one advantage in the use of toxoid over the other preparations, in that, as is pointed out in the circular, immunity can be produced in two months, whereas in the earlier preparations the time taken to produce a satisfactory immunity is considerably longer.

It should be noted also that the age at which toxoid should be used in infancy is raised to a year, as compared with nine months which is recommended by the American authorities for T.A.T.

I am not sure whether, at the present time, this country is ready for a Moloney test in every case, in addition to the two others. If the use of formol toxoid is standardised there is no doubt it must be carried out, as the occurrences of reactions of any magnitude will tend not only to hinder the progress, but definitely put back the clock.

It is glad news to see that the Ministry have also come down definitely on the side of the posterior Schick in order to ensure that the individual is immunised.

At the same time, so long as I am getting such satisfactory results in one clinic with T.A.M., which, having been used to the extent of 4,000 cases, has established a confidence in the public mind, I am loath indeed to venture out into new fields, although I have been pressed to use both floccules and alum toxoid, but I feel much in the same position as a surgeon who, in asking a practitioner to give an anæsthetic—finds that the man is only used to giving chloroform, and has got to face the fact that it is wiser in the patient's interests for the anæsthetist to use a method to which he is accustomed than to insist on his using what is recommended as a safer form of anæsthetic to which he is a stranger.

Table VII gives the analysis of 2,292 Schick positive cases that were given three doses of 1 c.c. of T.A.M. as the original immunising course, and re-tested from four to seven months later.

This shows that 11.9 per cent. of our cases are not immunised with the usual three doses. It is this non-immunised group, if left unimmunised, amongst which cases of diphtheria arise that bring the work into discredit. This

TABLE VII.

Age.	Neg. after 3 T.A.M.	Neg. only after additional injections.	Positive after 3 T.A.M. and not yet completed.	Percentage not immunised by 3 injections.
1	108	3	2	4.4
2	107	4	1	4.4
3	115	6	1	5.7
4	131	10	3	9.0
5	232	40	2	15.3
6	241	38	4	14.8
7	223	31	2	12.9
8	234	36	4	14.6
9	222	27	4	12.2
10	188	20	2	10.4
11	91	9	2	10.7
12	62	12	2	18.4
13 & over	65	5	3	10.9
Total	2,019	241	32	11.9

N.B.—Injections 1 and 2 of 1 c.c. of T.A.M. were given at weekly intervals. The third injection of 1 c.c. was given 14 days after the second.

failure to immunise, and so also the final full immunisation, can only be ascertained by the use of the posterior Schick and Re-Schickling.

The further analysis of 355 cases (Table VIII) refers to those who were originally Schick positive and received an immunising course of two 1 c.c. injections of T.A.M. at weekly intervals and a third injection of 1.5 c.c. of T.A.M. 14 days after the second injection. They were re-tested at various times

TABLE VIII.

Age.	Neg. after 3 injections.	Neg. only after additional injections.	Positive after 3 T.A.M. and not yet completed.	Percentage not immunised by 3 injections.
1	23	0	1	4.1
2	24	5	1	20.0
3	20	4	3	25.8
4	27	1	1	6.9
5	56	7	4	16.4
6	46	7	2	16.3
7	33	5	1	15.3
8	14	2	0	12.5
9	23	0	0	0.0
10	20	3	1	16.6
11	15	1	2	16.6
12	2	0	1	33.3
13 & over	0	0	0	
Total	303	35	17	14.6

over four months from the last immunising injection.

The present short series of 355 cases does not appear to show any advantage at all in using a third injection of 1.5 c.c. instead of 1 c.c., but this can probably only be determined after a much longer experience.

The more recent figures, however, in the first two months of this year, are giving rather more satisfactory results. It must be borne in mind that the total 355 in 13 sub-divisions is of little use from a sound statistical point of view.

The important point emerging from this re-testing is that we have had to give many further injections of T.A.M., and then re-test so as to ensure that we are, as far as is humanly possible, carrying out the undertaking to protect the child.

We are now re-Schickling all our original cases after two years. The parental response is splendid, and so are the children. Later I shall be able to give the results and the percentages of reversions to Schick positive. These, as has been pointed out by Parrish and Okell, are certain to occur in certain cases that hover round the line of complete immunisation, not entirely safe but taking but little to stimulate them to safety again.

And what of the safeguarding? We have not so far had a single case of diphtheria in a period of three years amongst those children we have certified as immune, either naturally or as a result of our efforts. Four cases were notified as diphtheria, but two were Vincent's angina, and the third a tonsillitis. The fourth, which occurred recently, had a sore throat without exudation, and two successive cultures from nose and throat failed to reveal K.L.B. The patient was Schick negative.

We have, as everyone else has had, cases of diphtheria occurring during the actual course of immunisation and directly after the inoculations, but before immunity is established. For example, in the first year, seven children who were found to be Schick positive contracted diphtheria prior to the completion of the immunising course. One child of five had one injection of T.A.M. when it contracted a fatal infection. None of the other children who contracted the disease had had more than two doses of T.A.M.

I try and impress the facts on the parents by the following notice:—

Please Read Carefully.
HESTON AND ISLEWORTH URBAN DISTRICT COUNCIL.

Public Health Department,
92, Bath Road, Hounslow.

What the Certificate Means.

Most children who have had this treatment are protected for a number of years.

An occasional child, however, loses the protection quickly, due to a peculiarity of the child's blood or body.

If you wish to get the best out of the treatment, have your child tested again in a year or two. If he or she is still safe, no further injections are necessary. If the protection has been lost, it can be restored.

Although your child, if protected, is extremely unlikely to contract diphtheria, do not assume that it is quite impossible.

A very few cases of diphtheria have occurred among immunised children. Such attacks are rarely serious but you should always get your doctor to see a sore throat.

ELWIN H. T. NASH,
Medical Officer of Health.

We have only had three cases that had to be left unfinished; one, an adult owing to reactions, and the other two, a brother and sister whose reactions were so enormous that after consultation it was considered advisable to make no further attempt at immunisation. Apart from these, reactions even of the slightest character, are practically non-existent.

I want to emphasise the figure of 659 naturally immunes, i.e., 20 per cent. of the total cases tested. According to the practice advocated by the League of Nations Committee, and also in recent Army orders, these should have had their three inoculations.

I cannot subscribe to the abandonment of the primary Schick testing on the grounds of time, trouble or expense, quite apart from anything else. It is unsound, unscientific, and surely an empiricism little removed from the methods of the patent medicine vendor. What right have we to inject a patient who does not need it with any drug or bacterial product? Our experience is that the large majority of the parents appreciate very highly indeed the scientific sorting of the children, and if their child is naturally immune they are delighted to be assured that no inoculations are necessary.

I am convinced that, so far as my area is concerned, this thoroughness is one of the principal contributory causes to such success as has been attained. We have had the usual experience, an early rush of the more intelligent and enlightened parents, the falling off

as they are dealt with, and then the waverers coming in after a period of hesitation and doubt; later comes the period when it is hard to convince those that remain. Then it is that a new push is required, a new offensive, simply in order to bring the facts before the public, to make them talk and think.

One is apt to be despondent at the inevitable falling off, and to despair at the lessened effect of one's advice and efforts to propagate the gospel of safety from diphtheria. It is well on these occasions to bear in mind the words of Dr. D. M. Griswold, of the State Department of Health, Michigan, when one of the doctors at a meeting asked advice with regard to the opposition to and want of progress in his campaign. He said to his enquirer, "You feel quite agitated about this?" The reply was, "I am, because I feel that people's lives are at stake." Dr. Griswold retorted: "Don't you know most any of us could do these things in a vacuum."

It is when opposition and apathy are becoming evident and the intelligent people are finished with, that it behoves us to put on our thinking caps and evolve some fighting scheme.

To those who want to start out on a campaign, I would commend the Massachusetts Department of Health's pamphlet on diphtheria, published in Vol. 17, No. 3, of the "Common Health," and "Pau Diphtheria," published by the Hawaii Board of Health.

One great difficulty in this country is to find the funds for extensive publicity. We do not appear to get the very substantial sympathetic financial support of lay bodies such as the Metropolitan Life Insurance Co., and the Milbank Memorial Fund of New York.

The only efforts I know of in this direction are the films by the Mutual Property Insurance Co., and the leaflets issued by them and the Wesleyan and General Insurance Co., and the leaflets issued by the National Baby Week Council, paid for by Messrs. John Knight, Ltd., the soap makers.

Our attempts in this country are, compared with those even in Honolulu, like playing doll's house. Publicity adapted to the psychology of the people of this country, I am sure, has got to be undertaken in a much more intensive manner than heretofore. I have just been inspecting the latest American film on diphtheria and its prevention. So far as propaganda for immunisation is concerned, it is like the others I know—mixed in its effect.

I have not seen one that shows the actual testing or inoculation being done. There is no evidence of the actual insertion of the needle, and in this last one referred to, directly anything of that kind is due the film switches to a caption and takes you no further than the cleaning of the arm. To an anxious parent it is worse than useless, because the immediate thought is: "They dare not show that because it hurts."

For this reason I have had a film taken in my own centre during the progress of an ordinary Monday afternoon immunisation clinic, and when the film, as I have written it, is complete, it will contain a certificate that the children were actually inoculated.

One of my chief difficulties has been with the Roman Catholic portion of my population who, unlike the Bishops of that Church in New York, seem to be apathetic, and the clergy unhelpful even when appealed to. I have been into the boys' school and talked to the elder boys. On the last occasion I went in just before closing time. The boys were interested, so I let the head master go, and talked to the boys and answered questions for an hour. The only result was a letter from a parent saying that they preferred God's method of protecting their children to mine, and straining me soundly for keeping the boy late!

To repeat my warning at the beginning of my paper, I must illustrate this well by the figures of diphtheria in my district, which are given in Table IX.

TABLE IX.

Year.	No. of Cases.	Rate per 1,000 of Population.	Population.
1924	105	2.23	47,700
1925	86	1.77	48,620
1926	68	1.30	52,110
1927	56	1.03	55,870
1928	99	1.67	59,730
1929	370	5.94	63,070
1930	165	2.2	75,000
1931	62	.8	76,230
1932	57	.71	80,618

If this warning were not borne in mind, and the record of the number of cases occurring in the district presented, it might be made to appear that the diminution in the incidence of diphtheria was due to the efforts in the direction of immunisation, but when the number of cases in the outbreak of 1929 and 1930 are shown, one realises what a very large amount of additional immunisation must have resulted

from the presence of that large increase of cases in the area. Much as I would like to claim this diminution for one's efforts, veracity forbids.

When we see the extent of the system of propaganda used by our American confrères, we stand amazed, but are bound to admit that the results of the advertising campaigns are such that we can only regard with awe.

New York City, for instance, covers its hoardings with posters 23-ft. by 9-ft. with the appeal for the children to be safeguarded. The largest moving sign in the world, over the buildings in New York, proclaims the need to "protect your children from diphtheria," that "diphtheria is preventable," and that it is imperative to "see your doctor."

Healthmobiles, i.e., clinics on wheels, "tour the congested sections of the city, the parks and the beaches where children gather in large numbers."

Further, 120,000 letters were sent to mothers on the birth of their children, urging immunisation when the child is nine months old. 120,000 letters were sent to mothers when the child reached nine months, advising that it is time to be seeing about immunisation. Two hundred 24-sheet posters displayed for two months through the courtesy of the General Outdoor Advertising Co. Three hundred three-sheet posters displayed for two months through the courtesy of the Criterion Advertising Co. 400,000 homes received the pastoral letter by Cardinal Hayes. This letter was read at the masses in 211 Catholic churches on a certain Sunday, and 400,000 copies of the Cardinal's letter distributed among the parishioners. Two weeks later, Bishop Molloy requested the pastors of 193 Catholic churches in another part of the diocese to announce the diphtheria campaign at the masses on Sunday, urging parents to get their children immunised. Bishop Molloy also sent a personal letter to each of the 140 parochial schools in the same area asking the authorities to lend their assistance. Three thousand specially prepared posters were displayed for a month in seven of the great chain stores. Eleven of New York's largest departmental stores gave generously of their advertising spaces. 25,000 handbooks of information specially prepared by the diphtheria prevention committee were distributed to doctors, principals, school teachers, social workers, nurses, and other community health workers. 11,846 letters were sent to practising

physicians from the health commissioner and the county medical societies. 300,000 families were canvassed by the practising physicians. Two million leaflets were distributed with the bills of the five electricity companies. 7,225 physicians, of whom 41 per cent. agreed, were asked to set aside a special day for immunisation at a fee of \$6.00 for the three toxin anti-toxin treatments. 161 newspapers, including the huge metropolitan dailies, local borough papers, foreign language press, newspapers for the coloured community, weekly papers, trade papers, press associations, and medical journals, published regular releases on the progress of the campaign, as well as stories on the danger and prevention of the disease. A huge painted sign, 200-ft. by 20-ft., carried the diphtheria message on the roof of a Broadway and 23rd Street building. It was illuminated at night. The sign was painted and displayed by the General Advertising Company as one of its contributions to the diphtheria campaign. One million leaflets were distributed to New York's children on Child Health Day. Three hundred lectures and radio talks were given on the dangers and prevention of diphtheria. 300,000 copies of five "Health Tabloids" were issued in co-operation with the boy scouts and other agencies, including tuberculosis, health and medical societies, and a special 4-page feature was put in the Italian paper *Corriere d'America* for four consecutive Sundays. 120,000 placards were displayed for seven weeks in subways, elevated trains, street cars, omnibuses, ferries, etc., and it was estimated that 8,495,205 persons at some time or other saw these diphtheria notices. In co-operation with the county medical societies, 11,345 waiting-room cards were distributed to physicians for posting in their waiting-rooms.

The diphtheria campaign was conducted by funds donated by the Milbank Memorial Fund, and the Metropolitan Life Insurance Company.

Such is the publicity New York used. For this information I am indebted to Dr. Shirley Wynne, the Health Commissioner for the City of New York.

To give another instance of intensive publicity, I am going to quote the record of Honolulu, the particulars of which I have obtained from the Board of Health of Hawaii.

One campaign started in 1929, and at the end of 1930, the death-rate had dropped 52 per cent. In September, 1930, the cam-

paign was intensified and commenced on November 3rd. "The wheels of the campaign" were set in motion by letters to the Consuls of China, Japan, Portugal, and Great Britain; to the Presidents of the Chinese and Japanese Chambers of Commerce, and of the Korean National Association and the Filipino Labour Commission; to the principals of private and parochial schools; and to all the clergymen asking them to make pulpit appeals. Bishop Imamura, of the Hongwani Mission, volunteered to distribute several thousand circulars printed in Japanese through the Buddhist churches, and the Fathers of the Catholic Mission offered to circulate 5,000 leaflets printed in English, through the Catholic churches of the city. For this purpose, the committee printed and distributed 36,000 English leaflets, 6,000 Japanese leaflets, and 1,000 Chinese leaflets; 2,000 leaflets with additional information were distributed among the teachers.

Twenty-five thousand posters were purchased from the Metropolitan Life Insurance Company, and 500 posters in Japanese were printed and distributed in the Japanese stores and neighbourhood. Slides were shown in twelve of the cinemas the week before the immunisation began, and on the morning of November 3rd, three of the larger dairies in the city used milk bottle tags, furnished by the committee, urging their customers to protect their children against diphtheria. The local broadcasting station gave from four to ten minutes each evening of the week before the commencement of the work.

Small signs were distributed to the physicians to place in their waiting-rooms, and 11,000 notices were printed to be enclosed in the physician's monthly "statement" to his private patients. All publicity material was distributed by the boy scouts on October 24th, ten days before the actual commencement, on which date the first release was freed for newspaper publicity. Campaign stories were published by five language papers, two Japanese, two Chinese, two Filipino, one Korean, and one Hawaiian, and the two dailies and one weekly published in English, from October 24th, through November and into the early part of December, almost daily. The editors were also generous with convincing editorials.

"Approximately 2,600 square inches of space was given by the Press to publicity for the campaign."

"In all, 23,444 children were inoculated with toxin antitoxin at the public clinics at the 18 centres established over the two years, without accident or reaction."

"One hundred and fifty interpreters, recorders and helpers, most of whom were women volunteers, were necessary to keep the individual records; girl scouts and junior high school girls, assisted in wiping arms, running errands and piloting bewildered mothers."

The accompanying Table (X) illustrates difficulties of nationalities such as we have not to face, and show the number that failed to complete their course.

TABLE X.

Race.	No. Incom- pleted.	Percentage Incom- pleted.
1. Spanish	0	0.0
2. Negro	0	0.0
3. Others	5	2.2
4. Caucasian Hawaiian	34	5.2
5. Japanese	275	6.0
6. Chinese	81	7.0
7. Asiatic Hawaiian ..	29	7.1
8. Hawaiian	24	7.5
9. Korean	17	8.2
10. Other Caucasian ..	15	9.2
11. Portuguese	49	9.4
12. Filipino	35	14.9
13. Porto Rican	29	19.0

In all, 23,444 have been immunised, of whom 51 per cent. were under six years of age.

We can show nothing like this so far as I am aware.

Apparently medical men in Honolulu differ little from our own brethren in their antipathy to keeping records, as illustrated by the following statement: "A record of inoculations administered privately during the 1930 campaign is unavailable for the reason that the majority of doctors failed to make a record on the immunisation cards provided by the Board of Health, which is to be regretted."

Possibly one of the best accounts of the campaign necessary to produce the results which have made New Haven so conspicuous a success, in that it was at the top of the list of the towns within the range of 100,000 population, from a point of view of the efficiency of its campaign and results, is that set forth in a paper by Dr. John L. Rice, the Health Officer at New Haven. He states: "In looking back over eight years' personal experience with diphtheria prevention, it is impossible to pick out any one particular thing that

has been the most important in interesting the public, nor is there any way of really evaluating the effectiveness of any one particular procedure. Apparently a large number of approaches are needed to bring success, some more important in one community than in another."

He records that 25 of the doctors in the town, immunised in the neighbourhood of 1,000 children, apart from the public health department.

Everything apparently is pressed into the campaign. The daily newspapers gave one or more news items every week containing, amongst other things, the four words—"child," "diphtheria," "prevention," "toxin antitoxin," which sooner or later left an impression of value. School teachers and church officials are pressed to play their part. Theatres carry lantern slide notices of the dates of the school clinics.

Throughout the eight years, anti-diphtheria films have been shown over and over again in the local theatres, as well as at the schools. For a considerable time Saturday morning shows were put on at a central theatre for groups of about 1,000 school children each; the children paid a cent or two each to see the show, which consisted of movies and talks on diphtheria, and other pictures.

Posters were broadcast through the city, and put in all the doctors' waiting-rooms. The birthday card reached every child in New Haven on its first birthday, with a message on diphtheria prevention. Two large exhibitions were promulgated, seen by hundreds of thousands of people.

Local pamphlets, state health department pamphlets, insurance company booklets, and many others were used as literature. Articles are published over and over again in local bulletins, trade organs and school papers.

In conclusion, Dr. Rice states: "Probably diphtheria has been the main theme in more talks and addresses in New Haven in the past eight years than all other medical topics put together. The speakers have included many different people, from the nurses to the mayor. There have been talks to school children, to teachers, to parent-teachers' associations, to nurses' groups, physicians, service clubs, to the general public, and to the special groups, in addition to broadcasting."

With regard to difficulties, they may be classified under the heads of:—

1. Lack of propaganda and educational push by public health authorities.
2. Ignorance of the public with regard to the advantages of immunisation.
3. Opposition by particular organisations.
4. In some cases religious opposition.
5. Lack of an epidemic or some outbreak to stimulate the demand for safeguarding.
6. A low mortality in any outbreak.

Conditions 1 and 2 must be taken together, as the ignorance of the public must be largely, if not entirely, put down to the lack of education by public health authorities.

We in this country are apt to look askance at the flamboyant methods of propaganda used by our brethren on the American continent, especially the United States. Our respectability rebels and our insular pride stands aloof from importing into our professional problems the methods of the marketplace and the habit of mind of the huckster.

The time has come, however, when in the light of results achieved we *must* doff the cloak of ultra respectability and tackle the job on the lines of the American merchant who, having goods to sell, finds that publicity pays. We also have to educate our public to buy health or safety from a particular disease at the trifling cost to themselves of a little trouble and possibly a tram fare or two.

A statistical survey in our annual report reaches a favoured few. True, we have in this country a certain number of districts circulating *Better Health* as a medium for sober-minded statistically-worded articles.

Speaking generally, we put no punch into our propaganda.

I have attained some slight success which has been due to propaganda, coupled with the entire freedom from uncomfortable reactions resulting from the immunisation.

My most helpful item of propaganda was a severe outbreak of diphtheria, coupled with a high mortality.

Year	No. of Deaths.
1928	7
1929	23
1930	19

In January, 1930, when the work was commenced, a public meeting was held at the largest school, which was addressed by Dr. Lethem, of the Ministry of Health, and the film "Risk of Diphtheria Banished," lent by the Mutual Property Insurance Co., was shown. This film was subsequently dis-

played in three local cinemas for a week. The company also offered to supply leaflets.

Letters of invitation were issued to the parents through the schools, enclosing an explanatory leaflet and a consent form.

Members of the council were also invited to attend. The school hall was packed. My nursing staff acted as stewards, and distributed appropriate literature. This first meeting was excellent.

Preparations had been made for commencing the actual Schick testing and immunisation work the following week.

Subsequently a meeting was held at Isleworth, which was addressed by Dr. Bousfield, but the response was poor compared with Hounslow. A later and more successful meeting was held in the third section of the district in the Heston parish hall.

The head teachers of all the schools were written to and furnished with leaflets and consent cards.

In July, 1930, the following advertisement was inserted in the local press, and small posters were displayed on the corporation's vehicles and notice boards:—

HESTON AND ISLEWORTH URBAN DISTRICT COUNCIL.

Diphtheria Prevention.

The Council has arranged that any ratepayer's children can be protected against diphtheria free of charge.

Two thousand children have already been protected since January, 1930. The protection is not complete until three months after the course of inoculations, but the protection lasts for many years, if not for life.

If, after this offer, your child develops diphtheria, a very grave responsibility rests on you.

All enquiries can be made of the head teachers of any of the Heston and Isleworth Schools, or at the Public Health Office, 92, Bath Road, Hounslow.

ELWIN H. T. NASH,

Medical Officer of Health.

Amongst the school children much of the success depends on the head teachers. True, the class of population and the religious denominations are important factors, but the principal factor is the head teacher.

Table XI shows the consent forms coming in from our various schools.

In the case of the second on the list the head teacher interviewed every parent coming with a new child, and asked why they had not been immunised, and gave them the leaflet and consent form. The first school achieved its result largely through similar methods, but prompted more by nervousness of diphtheria, on the part of the head teacher.

TABLE XI.

School.	Number on Registers of Schools.	Percentage Consenting to Immunisation.
A. Junior, mixed ..	331	85
B. Boys	448	70
C. Girls	409	63
D. Infants	297	51
E. Infants	64	46
F. Girls	297	43
G. Infants	280	42
H. Girls	331	41
I. Mixed	681	36
J. Boys	311	29
K. Junior, mixed ..	565	28
L. Boys	325	24
M. Girls and Infants	199	23
N. Mixed	248	22
O. Junior, mixed ..	279	22
P. Infants	255	22
Q. Senior, mixed ..	544	20
R. Junior, mixed ..	452	*19
S. Central, mixed ..	335	19
T. Girls and Infants	619	17
U. Girls and Infants	204	17
V. Boys	137	14
W. Boys	414	14
X. Boys	153	10
Y. Infants	84	2

*Newly opened school.

My health visitors, when visiting new births, distribute the literature. The sanitary inspectors leave it in every house where infectious disease is being investigated. Every dental notice contains a leaflet, and so on; but there is no epidemic, and a new push on different lines must be undertaken.

When arranging the work in the immunisation clinic I allowed no white coats for the medical officers, nor the usual uniforms and caps for the nurses in attendance. Everything was done to dissociate the personnel from memories of painful procedures associated with the usual white-coated doctor, and uniformed nurse. The nurses I put into a pale blue overall with a white collar.

I am certain that at the commencement these satorial restrictions were wise, but now I do not think it would make much, if any, difference; but I feel it wiser to carry on as I have begun.

The additional bait provided was a large tray of boiled sweets, from which the child chose one, generally the gaudiest coloured, after the inoculation was completed.

Another important point is not to attempt to take the children singly. Half-a-dozen at

a time in the room, so that they can see what is going on, makes all the difference in the world. The mass psychology is such that in the vast majority of cases it is impossible to see an eyelid quiver during the inoculation or Schick test. Of course, with the infants, an occasional howler occurs, which will upset a few more, but for the most part, tears are rare.

When after four to six months the child is re-Schicked and found immune, a formal certificate is given to that effect, together with a card worded as follows:—

HESTON AND ISLEWORTH URBAN DISTRICT COUNCIL.

Public Health Office, 92, Bath Road, Hounslow.

Diphtheria Immunisation Clinic.

This is to certify that

(Name)

(Address)

was immunised and tested, and is believed to be immune to diphtheria.

To the Parent or Guardian.

In the event of this child being ill in the future and the doctor suspects diphtheria, please show him this certificate, when he will tear off and use the card printed below.

ELWIN H. T. NASH,

Medical Officer of Health.

This card should be retained by the parent or guardian.

HESTON AND ISLEWORTH URBAN DISTRICT COUNCIL.

Public Health Office, 92, Bath Road, Hounslow.

Diphtheria Immunisation Clinic.

This is to certify that

(Name)

(Address)

was immunised and tested, and is believed to be immune to diphtheria.

Date.....

Signed.....

Medical Officer of Immunisation Clinic.

To the Doctor in attendance.—If you consider this a case of definite diphtheria, I shall be glad if you will post this card with your notification to the medical officer of health of the district where the case is notified.

To the Medical Officer of Health concerned.—If this child is definitely suffering from diphtheria, I should be glad if you would inform me, particularly indicating the character of the attack, "Mild/severe," and enclose this certificate with your letter.

ELWIN H. T. NASH,

Medical Officer of Health.

This is to ensure as far as possible (a) that the doctor called to a sore throat knows exactly what the position is, and (b) that if there is any doubt about a case, we can get into touch with the doctor so as to make a full investigation.

After 20 months I obtained a grant of £20 from my council for propaganda purposes,

and I learnt more about the cost and efficiency of advertising in the spending of that £20 than I had ever known before. I learnt how to get large posters printed at special rates by special firms catering for that class of work. I learnt also the cost of space on hoardings in various grades of prominence and strategic importance. I learnt also to a certain extent how much pull my effort produced, some of it quite unexpected. The accompanying Chart C shows the number of consent forms received week by week just before and after the advertising campaign.

DIPHTHERIA IMMUNISATION.
Number of Consent Forms Received

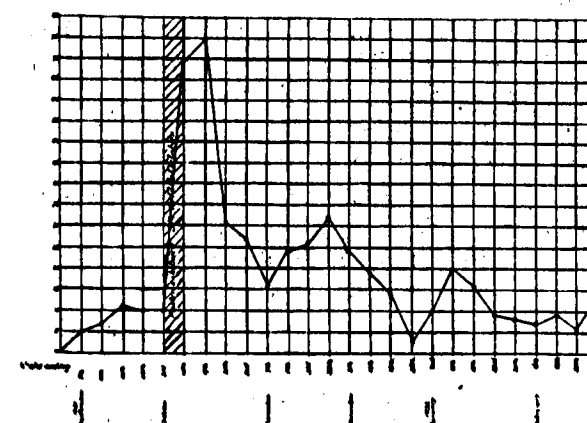


CHART C.

DIPHTHERIA IMMUNISATION. Number of Consent Forms Received.

Borough of Heston and Isleworth. Showing the number of consent forms received as the result of a week's advertising campaign at a cost of £17 10s.

Roughly speaking, it cost one shilling each to get the children to the clinic. There is no doubt that with a more intensive and prolonged campaign the cost per head would have been less, as the advertising effect is undoubtedly cumulative.

Only as recently as the first week in February of this year, I was rung up by a councillor of one of the London boroughs, who, apparently, are rehousing over 300 families in blocks of flats. He happens to own property in my administrative area. He had been struck by one of my posters previously, and had conceived the idea of making it a condition of tenancy of the corporation property that all the children should be immunised beforehand. In view of the aggregation of children, this is an excellent suggestion. I am anxiously awaiting the results of his efforts. This, 16 months after the week during which the posters appeared! Verily an instance of bread cast upon the waters.

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DR. GRAHAM FORBES.

In the desire to confine attention as much as possible to the points chosen for discussion, and in order to avoid repetition of the large amount already published on the main topic, I propose to devote my contribution in part to an attempted outline of the progress which has been made in Great Britain and Ireland in this important branch of preventive work during the past two years up to the end of 1932, together with certain features bearing upon its possibilities and difficulties.

Commencing with London, as regards the immunisation work in the twelve metropolitan boroughs where special clinics have been provided at the child welfare centres, the records continue to show steady, if slow, progress; more marked in some than others, and now reaching an aggregate of nearly 18,000 known or presumed immune since the work first started (including over 3,500 dealt with in 1932) as compared with the total of 12,000 up to two years ago.

The following are the inclusive totals dealt with in each borough since the clinics opened up to the end of 1932, of primary Schick negatives or naturally immune, and those immunised with three doses, the figures for the latter being also shown separately in brackets.

Wandsworth heads the list with close on 4,250 (3,266 immunised); Lambeth coming next with 2,664 (1,788); Hackney, 2,082 (1,538); Holborn, 1,723 (1,271); St. Marylebone, 1,400 (1,202); Camberwell, 1,233 (922); Westminster, 1,229 (1,026); Deptford, 1,031 (743); then Battersea, 843 (707); Southwark, 734 (559); Stoke Newington, 386 (342); and Bermondsey, unfortunately, far behind with 130 (50 immunised). In Poplar with 170 (128) and Finsbury 30 (18), the clinics have been closed for want of support since 1930.

In the 14 boroughs, with twelve at present carrying on immunisation work, the combined figures amounted to nearly 17,900, including 13,555 immunised, at the end of 1932.

There has been recent evidence of a welcome increase of interest on the part of the general practitioner to make use of immunisation among his private patients, as shown by the scheme which has been put forward by the Kensington, Hammersmith and Paddington Branch of the British Medical Association, and by the adoption in Lambeth of facilities by which it has been arranged that both primary and secondary Schick tests are performed by those in charge of the immunisation clinics, whilst the immunising injections are to be given by the practitioner.

Furthermore, although the problem—of no small magnitude—of the introduction of immunisation into the London elementary schools has yet to be solved, a very marked advance may be claimed in the work on a smaller scale, which has been conducted during the past year in the residential schools, the majority outside the metropolitan area, whose control has been taken over by the London County Council from the poor law authorities.

By the end of 1932, among a total of over 6,100 children in 21 schools, with parental consent, 2,750, or nearly 45 per cent. had been Schick tested, yielding close on 1,000 Schick positive, or 32 per cent. of those tested, and about 900 had received the full immunising course. Later Schick testing of 300 inoculated children showed that 95 per cent. had become immune.

This work is proceeding steadily as well as that in many other residential institutions, such as the Royal Hospital School, Greenwich, Dr. Barnardo's Homes, and Spurgeon's Orphanage, where, for a number of years now, immunisation of susceptible newcomers has been the routine procedure, and diphtheria

outbreaks, formerly of common occurrence, have become a thing of the past.

In Greater London, among the many districts and boroughs encircling the metropolis, there has been established in the past three years almost a ring of immunisation clinics, including those at East and West Ham, Dagenham, Ilford, Walthamstow, Tottenham, Wood Green, Willesden, Acton, Heston and Isleworth, Croydon (in institutions), Godstone, Beckenham, and Bromley, borough and rural—comprising a population of 1,485,000, where the numbers immunised, or known Schick negative, now reach over 23,000, or more than double those of two years ago. To that total the chief contributing centres have been Heston and Isleworth, 3,250; Acton (in the short space of four months) over 2,700; Beckenham, Dagenham and West Ham (Plaistow Hospital), each over 2,300, Ilford nearly 2,200. In addition, Croydon over 1,500; Wood Green, over 1,400; Bromley (Kent), and Godstone, nearly 1,200 each; East Ham, over 1,000; and Willesden, only 200; also Walthamstow, opening in 1932, about 200. So that, irrespective of hospitals and residential institutions, in the whole of Greater London (metropolitan and outer ring), there is an aggregate of over 40,000 presumed immune, as compared with under 20,000 at the end of 1930.

In the provinces there is now a long list of towns and districts, where immunisation has been adopted or maintained before or since 1930, numbering 120 in 35 different counties, in addition to the 25 boroughs and districts of Greater London, and not inclusive of the many places where the preventive work is confined to individual hospitals and residential institutions. To attempt the enumeration of those tested and immunised in the many centres of diphtheria preventive work has at this stage become impossible with any hope of even approximate accuracy. But, from the progress shown in the more active centres it may be concluded with some certainty that the number ascertained, so far as was possible at the end of 1930—under 125,000 in England—has in two years been more than doubled. In Wales, the only two known centres of this work, Cardiff, and the urban district of Ogmore and Garw, have now respective totals of 12,400 and 2,800 as compared with just over 12,000 and 1,800 two years ago.

In Scotland, I have been unable to collect full records from all places, but Edinburgh's

total at the end of 1932 had reached nearly 17,200, as against 15,800 at the end of 1930. In Aberdeen city over 16,000, and Aberdeen county 12,400, and in Dundee about 4,000, had been dealt with at the end of 1932.

In Ireland, the most important contributions to the growth of a protected population have been made in the city and county of Cork, where Dr. Saunders and Dr. Condy, respectively, have continued their active campaigns with considerable success, without any slackening in the response, and apparently unchecked by the opposition of the anti-vaccinist. In Cork—with a population of 78,500, at the end of 1932, since June, 1929, the total of known or presumed immunes had reached nearly 7,500, or 30 per cent. of the child population under 15, as against 4,800, two years ago; and, *post hoc* or *propter hoc*, Cork's long record of high diphtheria incidence and mortality extending back to 1919 (with an annual average of nearly 400 cases and over 30 deaths, and with over 600 cases and 74 deaths in 1930) had fallen to 85 cases and 16 deaths in 1932.

CORK CITY.

	Cases	Deaths
1930	624	74
1931	288	24
1932	85	16

In Cork county (population 287,260), Dr. Condy reports that a total of over 8,500 have been immunised or known to be immune since July, 1929, to the end of 1932, and that in that part of the county where the campaign has been actively carried on, there has been a very material fall in incidence and mortality during the past twelve months, whereas in the rest of the county where immunisation work is to be extended at the first opportunity, the previous heavy toll still continued without any decline.

CORK COUNTY.

Year	Cases	Deaths
1930	337	50
1931	241	31
1932	210	31

IMMUNISED AREAS.

Year	Cases in	
	Cork R.D.	Passage West
1930	172	22
1931	95	2
1932	44	1

Elsewhere in the Irish Free State, in county

Louth, Dr. Musgrave reports the start of a further campaign, undertaken in 1932, in parts previously unprotected in the Dundalk area, where over 500 further children have recently been immunised, in addition to the total of 1,500 immunised in successive campaigns during 1928 and 1929 in Dundalk town. Up to the end of 1932, in Dublin city about 3,800 children had been immunised, and in Wexford and Galway counties a total of about 2,000. In 1932, Dr. J. A. Harbison reports that in a Dublin county rural district over 100 children were immunised, and the work is still proceeding.

Thus in the Irish Free State an aggregate of over 23,000 have been immunised or known to be immune, as compared with 13,000, two years ago.

Returning to England, time allows of only brief reference to the more important individual centres, where preventive inoculation has been conducted continuously for two, three or more years as part of a now established public health measure in dealing with endemic diphtheria, irrespective of the activities prompted by the urgency of epidemic prevalence. In the order of the numbers dealt with in each place (in the majority, up to the end of 1932) mention may be made of the following:—

Birmingham.—50,000 since 1925, approximately 20 per cent. of the child population under 15, including 11,800 dealt with in 1932, and more than double the 23,000 at the end of 1930.

1930.—2,363 cases, 87 deaths. 1931.—1,802 cases, 63 deaths. 1932*—1,184 cases, 36 deaths.

Manchester.—Over 21,000 since 1927, including about 12 per cent. of those under 15, and 6,800 during 1932, as against the total of 9,500 up to the end of 1930.

1930.—1,059 cases, 57 deaths. 1931.—735 cases, 60 deaths. 1932.—1,086 cases, 86 deaths.

Bristol.—Since October, 1929, to end of 1932, 12,500 dealt with, including about 13.5 per cent. of the population under 15, and 5,800 immunised and subsequently Schick negative, as compared with the total of 7,400 dealt with at the end of 1930.

1930.—1,484 cases, 39 deaths. 1931.—828 cases and 31 deaths. 1932.—576 cases, 22 deaths.

* 1932 figures of notified cases and deaths, throughout must be read as provisional.

Liverpool.—9,400 since 1926 (including nearly 4 per cent. of the child population under ten, and over 6,600 in 1932) as compared with a total of under 500 only, up to two years ago.

1930.—4,063 cases, 234 deaths. 1931.—3,240 cases, 190 deaths. 1932.—3,317 cases, 184 deaths.

Walsall.—8,300 since 1927 (including about 29 per cent. of the population under 15), as compared with 5,600 in 1930.

1924-28 (average) 320 cases and 32 deaths. 1929.—67 cases, 15 deaths. 1930.—151 cases, 12 deaths. 1931.—122 cases, 11 deaths. 1932.—60 cases, 3 deaths.

Plymouth.—4,500 since 1927, including 9 per cent. of the population under 15, an increase of 3,000 since the end of 1930.

1930.—629 cases, 23 deaths. 1931.—367 cases, 17 deaths. 1932.—450 cases, 17 deaths.

Salford.—Over 4,000 since September, 1929, about 7 per cent. of the population under 15, including 2,300 in 1932.

1930.—741 cases, 30 deaths. 1931.—580 cases, 31 deaths. 1932.—727 cases, 22 deaths.

Leeds.—2,600 since 1928 (2 per cent. of those under 15) as compared with about 500 at the end of 1931.

1930.—1,014 cases, 54 deaths. 1931.—989 cases, 87 deaths. 1932.—895 cases, 48 deaths.

Coventry.—2,500 since April, 1929, or over 6 per cent. of the children under 15.

1930.—493 cases, 41 deaths. 1931.—192 cases, 11 deaths. 1932.—114 cases, 4 deaths.

Smethwick.—Nearly 2,200, November, 1930 up to the end of 1932, (representing 10 per cent. of the total population under 15, and over 15 per cent. of the children in the most affected area); but only 23 attended in the last 15 months up to March, 1933.

1930.—281 cases, 21 deaths. 1931.—211 cases, 16 deaths. 1932.—76 cases, 5 deaths.

In these ten county boroughs (with a total population of 4,340,000), at the end of 1932, an aggregate of 117,000 had been fully inoculated or were known to be immune, representing 2.7 per cent. of the total population, as compared with 51,300 at the end of 1930, while in London (metropolitan) with about the same population, the number was under 18,000 only.

Records from other immunisation centres have been obtained, including Dewsbury, 2,000 (all in 1932); Chatham, over 1,700; Birkenhead, 1,550; Dover, 1,400 (in 1932); Poole, 1,360 (in 1931); Lowestoft, 1,300; Blackburn,

Chester and Oxford, about 1,000; Wakefield, since February, 1932, about 850. In Halifax and Hastings, clinics were opened in 1932.

In Hull, with a population of 315,200, in spite of a diphtheria incidence and mortality steadily increasing year by year to reach the record total of nearly 1,700 cases and 126 deaths, more than double that of 1930, the response to the facilities afforded had yielded a total of under 600 children only, over a period of four years up to the end of 1931. But, happily, better attendances at the four clinics were recorded in 1932, with a total of 437 children immunised, and 108 known immune, as primary Schick negatives—or only 29.3 per cent. out of 368 tested—showing also, the low degree of immunity still existing among Hull children, in spite of the increased diphtheria prevalence ever since 1929.

HULL DIPHTHERIA RECORDS.

		Case mortality per cent.
1930	881 cases (2.8 per 1,000), 47 deaths	5.3
1931	1,138 cases (3.6 per 1,000), 93 deaths	8.2
1932	1,692 cases (5.3 per 1,000), 126 deaths	7.4

It should be stated, however, that with the possible exception of Birmingham and Walsall, the numbers immunised represent a proportion of the child populations in the various towns quite insufficient yet to affect the diphtheria incidence and mortality rates during the past three years. Such decline as has occurred is (as in a number of other places, e.g., Sheffield, Bradford, Nottingham, Portsmouth, Derby and Northampton, where no preventive inoculation measures have been applied), in all probability due to the natural course of diphtheria prevalence on the downward grade, following the high incidence of the peak year experienced in many places in 1930.

In this connection, I venture to refer again to the work of E. S. Godfrey, of New York State,* quoted on a previous occasion six months ago, showing that reduction in the attack and death-rate of any district could not be expected until at least a third of the 0-5 population had been protected, even if as high a proportion as 50 per cent. of the school population had already been immunised.

Conditions of sudden epidemic prevalence are more likely to attract attention and prompt

* "American Journal of Public Health," March, 1932, xxii, 3, 237-57.

urgent preventive measures in small urban districts and scattered rural areas, than in populous centres where the disease is normally endemic. In the former, as a rule, there occur long periods of quiescence, producing a sense of false security but also a low degree of immunity among the entire child population. Under such circumstances of unpreparedness, an epidemic outbreak cannot fail to exact a heavy toll and assume alarming proportions, capable perhaps of maintaining a hold over several years, as has, indeed, been the case quite recently in the last seven years in a number of widely scattered districts of which I have records; thus in the remote hill districts of Cumberland about Brampton, and at Padiham in Lancashire, at King's Lynn in Norfolk, Whittlesey in the Isle of Ely, and now this year at March; also at Leominster in Herefordshire, Lye and Wollescote in Worcestershire, and Trowbridge in Wiltshire.

Here, in London, one has little conception of the state of actual panic resulting from the rapid spread of these sudden waves of epidemic among a hitherto unexposed population—so graphically described in the medical officers' reports; one relating to the migration of whole families, fleeing panic-stricken from the danger zone, as if to escape the plague; another stating that so certain was the risk of attack in the face of the existing "scourge of diphtheria" that people had come to dread having any children, and how intense was the relief to be able to record in 1931, that not a single case had been reported, after the previous five or six years of alarm! A third reports that in 35 years' experience, the sudden increase in prevalence in 1929 and 1930 had surpassed all previous records. In two of the districts, immunisation was resorted to in response to the urgent call for action, and quite a considerable proportion of the child population were inoculated—*post hoc* or *propter hoc* the epidemics subsided. In two other districts no active measures were taken until a second or third year's high prevalence stirred local apathy to respond to the means of protection offered, but it was then too late to avert the course of the outbreak, which in four years had taken a toll of 470 stricken and 40 dead in a population of 4,500 under 14. In yet other instances of sudden epidemic, the local opposition to the idea of inoculation, the "not holding" with such measures, and the activities of the anti-vaccinist, effectively checked the needful response; the disease was thus

allowed free play, in one place of 12,500 levying 180 cases and 15 deaths in the course of 15 months, and in another, a town of 90,000, 350 cases and 24 deaths in the year.

As to the possibilities and difficulties attending the adoption of preventive inoculation; search through the recent annual reports of medical officers of health of England and Wales affords opportunity for observation and reflection on the variety of factors concerned which may make or mar the success of the attempt to bring about the control of diphtheria by immunisation, and I would put before you what appear to me to be of importance.

It is obvious in the first place, that as the medical officer himself is of necessity the prime mover in introducing the scheme and gaining the sanction of his local authority, his own personal conviction as to the value and safety of the measures he considers necessary must admit of no doubt, cavil or half-heartedness. He must, in fact, carry conviction and be a really determining influence sufficient to convince the lay committee of the soundness of his proposals, and of the indispensable extra assistance required, and thus to gain their wholehearted consent, with evidence both as to the prospect of safeguarding life and health, and as to the economic saving to be expected—for example, that for the cost to the ratepayers of one case of diphtheria some 200 children can be protected with comparative certainty from attack.

Secondly, of almost equal importance, is the unqualified support and co-operation of practising colleagues, even if it may suggest to some of them trespass on their rights and means of livelihood, however narrow-minded such a view would appear when viewed in the interests of the better health of the community. But it is surely clear that by the removal of any professional antagonism or disapproval of preventive measures, and the gaining of full co-operation of the medical practitioners through the opportunity of obtaining the consent of private patients, the greater is the likelihood of a successful anti-diphtheria campaign.

The gaining of professional confidence, at the present stage now reached of general acceptance as to the value of immunisation, would seem to be assured by the development already referred to of the tendency towards preventive inoculation as a part of private practice. I submit this point for discussion as to one of the possibilities to be considered—

whether or not immunisation at this time may be regarded as a justifiable and safe procedure to be made use of in private practice. I have noted a number of places in which the general practitioner is already taking an active part in conjunction with the medical officer of health, as, for instance, in Manchester, Liverpool, Leeds and elsewhere, and, as previously mentioned, in Lambeth the necessary Schick testing is to be undertaken by the medical officer in charge of the borough clinic before and after immunisation by the practitioner.

In regard to the necessary response of the general public and the securing of parental consent to immunisation, there can be little doubt that the personality and determination of the medical officer concerned is bound to play a large part, dependent on his influence, powers of persuasion, and handling of parents, and appreciation of their doubts, so that, their confidence once gained, a hold is maintained to ensure the full course of attendance and subsequent following-up of each child, until the desired protection is made certain.

At the risk of repetition, I cannot refrain from mentioning a striking instance of the value of personal influence, which I have quoted elsewhere, in connection with the commencement of immunisation work under conditions which could scarcely have been more discouraging to medical officer and parents alike. In a certain district in Wales, it so happened that on the very day that the clinic was due to open for the first time, in January, 1928, there appeared in all the daily papers the alarming account of the disaster attending the inoculation of children at Bundaberg, in Queensland, yet despite the gravity of the news, and the inevitable check to public confidence in similar preventive measures, so sure a hold had been established among the parents, who had previously given consent, that only a dozen that day withdrew their permission. The clinic—thus opened under so threatening a cloud—has continued at work ever since, with a total approaching 3,000 immunised, equivalent to one-tenth of the total population, and about a half of all the children under 15.

There is, however, no getting away from the fact that even the best fitted in the public health service is too often faced with what may prove an almost insuperable obstacle to the conducting of an immunisation campaign, in the attitude and mentality of the local community towards acceptance of the means of protection. The difficulties presented, indeed,

call to mind only too plainly the parable of the sower, the obvious application of which I need not further dilate on. They would seem to be much more apparent in some parts of the country than others—displaying a local intolerance due perhaps, in part, to racial make-up and heredity, responsible for an apathy incredible, and ignorance defying education, a type of opposition in the past which Jenner and others have had to contend with. Why, for instance, should the people of a midland county district yield so poor a response in the face of an outbreak unequalled in 40 years, so that, when appeal by active propaganda was made to 2,500 parents, only four attended at a special meeting called by the medical officer—and the combined efforts of the county authorities eventually resulted in securing the immunisation of less than 80 children only, in a population of 12,400—a very disheartening result? Much the same indifference has been evident in eastern counties among people of the Fen country, and in Norfolk and Suffolk. Yet, on the other hand, elsewhere a very different type of response has been forthcoming; in Oxford, for example, an attendance of 75 and 85 per cent. of the school population was secured; while in many other centres, consents have been given for 30-50 per cent. or more of the children to be immunised.

In Heston, as we have heard from Dr. Nash, the demand for protection surpassed all expectation, and was more than could be dealt with until extra staff and sessions were arranged.

From the quoted examples of the progress made in various places, there are sufficient contrasts presented from which various conclusions might be drawn.

Birmingham's response, for instance, as compared with that in Hull. Is the explanation the type of inhabitant to be persuaded, or rather the long-standing preparation among parents of children of school and pre-school age, and the now thorough working organisation—despite separate control—between school and health services in Birmingham, whereby it has been possible to secure the appointment of the necessary special staff, both for carrying out the testing and immunisation, and the equally important following-up and home visiting? Applying again the parable—as in husbandry, so in preventive medicine, preparation of the soil calls for special personal attention and choice of suitable fertilising

measures or educational propaganda of almost unlimited scope, to awaken interest and bring warning to parents of the danger of indifference to the risk of diphtheria. Added to which, there is the necessity of counteracting the very harmful effect of the activities of the anti-vaccinist—more on the alert than ever to create opposition against this as against every other form of preventive inoculation, whatever the disease concerned—presenting moreover one of the difficulties which every medical officer of health has to confront in starting an immunisation campaign; and therefore, a matter well suited for present discussion. The peculiar and almost fanatical creed adhered to is only too well known as an absolute negation of the value of any form of therapeutic or prophylactic vaccine or serum, despite the overwhelming mass of evidence in their favour; whilst in place of the control of diphtheria by immunisation, there is advocated as infallible, the vague influence of improved sanitation and better housing.

After having heard Dr. Nash's opening paper, one must congratulate him heartily, as well as his colleagues, on the thoroughness of the preventive measures carried out in Heston and Isleworth under conditions little short of ideal in every respect.

There is, I think, no question that the work of immunisation cannot be regarded as complete without the performance of the Schick test after an interval of three or more months following the inoculation course, in all, if possible, or as many as can be made to attend. Herein lies the importance of a system of following-up by advisory card to each parent concerned, the success of which will again depend on the hold maintained and the confidence inspired by those responsible for the work.

It is possible, however, that administrative difficulties and lack of the required help may prevent so desirable a check on the results of immunisation, and that preventive efforts have to be confined to the recognised course of inoculation, and to be concentrated on securing the inoculation of as many children as possible, without certainty as to the proportions still requiring further treatment.

It is encouraging to find that at most of the centres referred to, a good proportion of those receiving the full immunising course, subsequently attended for Schick testing; for the precaution cannot be too closely observed of advising a parent that without the later test

the desired protection cannot be regarded as certain in every inoculated child.

There is, however, a very considerable amount of disparity to be found in the results of the later Schick testing which appears difficult to account for, and therefore calls for discussion in the attempt to arrive at an explanation, and to obtain a reliable standard as to the effect of the particular prophylactic employed, the size and spacing of doses and the interval of time allowed to elapse before the final Schick test. The discrepancies mentioned vary as much as from 39.5 per cent. to over 95 per cent. Schick negative after inoculation.

But the unusually high proportion of post-immunisation Schick positives obtained in Bristol, of 42 per cent. in 1931, and 60 per cent. in 1932, among a total of over 4,000 tested, and in Leeds in two much smaller totals, of 29 per cent. among 76, and 46 per cent. among 105 tested, are certainly quite exceptional. In attempting explanation, it has been suggested, on the one hand, that the Schick test toxin was employed in too great strength (this, however, has not been verified): on the other hand, that reactions which had been read as Schick positive were, in reality, pseudo-reactions causing abnormal staining of too slight a character to be regarded as positive reactions. There is some support of such an explanation in the fact that investigation of certain unexpected results showed that the blood of the supposed positive reactors contained from half to five units of antitoxin per c.c.—much in excess of the small amount needed to prevent a positive reaction.

In the records collected from over 30 sources of Schick retesting, the Schick positives were below 10 per cent. in 13 (five groups being under 5 per cent.), between 10 and 20 per cent. in twelve, between 20 and 30 per cent. in six, between 30 and 40 per cent. in three, between 40 and 50 per cent. in three, and in one, 60 per cent. were still Schick positive.

In those places where immunisation only has been found practicable, as in Manchester, Liverpool, Cardiff, and elsewhere, it is claimed to be more advantageous to devote the time to inoculating as many children as possible, rather than to undertake a smaller number and to retest those whose further attendance can be relied on. The difficulties and possibilities attaching to the question of the respective advantages—of whether to Schick test or not after immunisation, and the arguments for and

SOME RECORDS OF SCHICK TESTING AFTER IMMUNISATION.

Showing the proportions per cent of (1) Schick tested among the corresponding group of numbers immunised; (2) Schick negative among those tested; (3) Non-immune Schick positives who received further immunising doses.

Centre.	Number of Immunised.	Percentage Schick Tested.	Percentage of tested found Schick Negative.	Percentage of Schick positives receiving further Inoculation.
West Ham (Plaistow Hospital)	733	58	98.8	Not undertaken.
Southwark	363	90	97	Not stated.
L.C.C. Residential Schools ..	900	33	95	Not completed.
Holborn	1,117	76	95	85.
Cork City	2,219	93	94	Majority.
			(1) { (Of 913 tested)	
			(2) { (Of 1,166 tested)	Majority.
Edinburgh	637	24	92	
Westminster	875	49	91	Not stated.
Bromley	251	96	90.5	Majority.
Poole	1,239	63	90.4	Not stated.
			(1) { (Of 208 over 10 years)	Majority.
			(2) { (Of 502 under 10 years)	
Wandsworth	2,613	72	90	Majority.
Heston and Isleworth ..	2,385	96	88	90.
Wood Green	1,427	85.7	86.7	57.5
Ilford	1,502	78	86	Majority.
St. Marylebone	720	85	85.5	Majority.
Plymouth	3,850	63	85	Majority.
Oxford	162	73	83.5	Not completed.
Lambeth	1,254	67	83	Majority.
Deptford	732	43	81.2	Majority.
Beckenham	1,954	83.5	77	82.
Walsall	4,900	40	(1) 79% (Of 292)	All.
			(2) 85% (Of 374)	96.
			(3) 87% (Of 573)	Majority.
			(4) 75% (Of 757)	94.
Dagenham	1,760	48	75	85.
Wakefield	632	18.6	73	All.
Ogmore and Garw	782	73	67.8	98.
Cannock, R.D.	440	83	63	Not stated.
Stoke Newington	318	68	62	The majority.
Leeds	202	(1) 38	71	Not stated.
			(2) 17.5	
Bristol, 1930	5,485 (school)	(1) 80	54	Not stated.
			(2) 68	
Bristol, 1931	1,892 (pre-school)	(1) 83	50	" "
			(2) 70	
Bristol, 1932	388 (pre-school)	(2) 70	69	" "
			39.4	
			1,617	

against, will no doubt prompt lively discussion.

In this connection, it has been put forward that inoculation with toxoid antitoxin floccules, with the better prospect of immunising 95 per cent. of those inoculated, should be used in preference to toxoid, whose power was more limited, producing, it has been stated, not above 80 or 85 per cent. Schick negative.

Even better results than 95 per cent. immune

have been reported in the use of T.A. floccules, by Harries and Dudley, who have, I believe, obtained 100 per cent. Schick negative by means of only two inoculations and within the space of one month. It would, on the whole, appear that the evidence in favour of this prophylactic affords ground for hope that from the point of view of immunising power, and absence of reaction, T.A.F. approaches the much-desired ideal immunising agent, if its

production may become possible at a lower cost than at present.

Among the possibilities of achievement, and as an object of emulation in immunisation work, there should not be omitted reference to what has been accomplished in New York City during the past four years, with a total of over 680,000 immunised—roughly 45 per cent. of the children under 15 years—in a total population of over seven millions, since the commencement of 1929, associated with, and perhaps in part responsible for a reduction in diphtheria incidence and mortality from 10,776 cases and 642 deaths in 1928, to 3,585 cases and 212 deaths in 1932.

It has been pointed out that the difficulty confronting the attempt at such achievement in London is the lack of a centrally organised campaign on a large enough scale.

Does the future hold the possibility of the removal of that difficulty?

DISCUSSION.

Dr. Guy Bousfield (Medical Officer, Diphtheria Immunisation Clinics, Camberwell, Lambeth, Heston and Isleworth) referred to the lack of support received from the London County Council in the diphtheria immunisation campaign. This was due either to extreme apathy or complete cowardice. If a manifesto could be presented to the health authorities of the county by some responsible body, some good might be done.

Dr. J. Greenwood Wilson (Medical Officer of Health, Dewsbury), gave details of the work carried out in his district since March, 1932. Of 1,900 immunisations, 199 had been done by private practitioners with material supplied by the health department. Most of the 55 adults were teachers who had expressed a desire to be immunised in order to protect themselves, and give a moral lead to the children. It had been decided to abandon the preliminary Schick test and to concentrate rather on Schick testing afterwards. Post-immunisation and Schick testing had, however, been most disappointing, only 18 cases reporting. The total cost of the immunisations was £315, which worked out at 3s. 7d. per head for three injections, as against £7 for the treatment of one case of diphtheria for six weeks in the local fever hospital.

Dr. R. A. O'Brien, C.B.E. (Director, Wellcome Physiological Research Laboratories) said their hopes were based largely on the use of potent toxoid. The aim, of course, was to get rapid immunisation, but that could not be obtained without the risk of occasional reaction. If the public asked for immunisation without any reaction, then progress must be very slow. The use of the Moloney test had been the key to the campaign in Canada, and experience here, as far as they had gone, was favourable. In a paper to be published, Dr. Parrish reported the immunisation of two groups of tuberculous children, suffering with bone disease in sanatoria, in a very short

time without a single troublesome febrile reaction, but using the intradermal toxoid test. With regard to the number of injections, with mass campaigns it might be found expedient to dispense with the initial and final Schick tests.

Dr. H. A. Bulman (Assistant Medical Officer of Health, St. Marylebone) disagreed with Dr. Nash on the question of the anterior Schick test. In his view, the test could be abandoned safely and with advantage in children under 14 years of age. T.A.F. (toxoid-antitoxin floccules) he held to be a safer immunising agent than T.A.M. (toxoid-antitoxin mixture), and if purchased in fairly large quantities would be found to cost little more than T.A.M. No reaction had been encountered with the use of T.A.F.—even with adults. With T.A.M. a number of rather bad reactions had resulted in nurses who had received the injections. Dr. Bulman urged the performance of the posterior Schick test in all cases. With regard to propaganda, in St. Marylebone special invitations were sent out to the parents, but a follow-up visit by the health visitors and the medical officer was essential in most cases to secure the attendance of the children; indeed the success of the campaign depended largely upon the amount of personal work put into it.

Dr. A. B. McMaster (Medical Officer of Health, Dover), in describing the work carried out in his area, said that unfortunately many of the parents did not return with their children for re-Schicking, but it was hoped to have a public presentation of certificates to those completely immunised, and to use this as a means of propaganda to secure a greater percentage of children coming up for the final test. Over a thousand children had been completely immunised at a cost of 2s. 3d. per child. The total cost to the town was £171, representing the expenditure incurred in treating seven children in the isolation hospital.

Dr. J. S. Logan (Deputy Medical Officer of Health, Swindon) referring to the question of reactions, asked: (1) whether there was any advantage in waiting until the Schick positive reaction had subsided before the injections were begun; (2) if anything was to be gained by spacing the injections at fortnightly instead of weekly intervals; (3) if there had been any complaints of sore throat after the injections.

Dr. Bousfield, replying, said with regard to (1) that it made no difference, and (2) that good spacing of doses was desirable, but in clinic work it was found necessary to make the intervals as short as possible, otherwise there was a possibility that the course might not be completed. He had had no complaints of sore throat following injections.

Dr. R. Veitch Clark (Medical Officer of Health, Manchester) referring to the abolition of the initial and final Schick tests, said there appeared to be only one reason why the practice had been established, namely, the desire to secure immunisation of the largest possible number of children with the least disturbance to the individuals, and, as a very much smaller contributory reason, with the least expenditure of time and money. The results in Manchester had justified the procedure. Mass protection was desired, and the more immunisations that could be done the better the results. Over 20,000 children had been immunised,

and amongst them there had been no recorded case of diphtheria.

Dr. E. W. Caryl Thomas (Medical Officer of Health, Dagenham) asked if there was any significance in the sore throat which occurred during the week following the first injection. He would not like to omit the first Schick test, nor the last as 25 per cent. were found to be still positive. Some 2,500 children had been treated, the average each session being 133. There appeared to be familial susceptibility in some cases, and several families with from three to six children were quoted.

Drs. O'Brien, Bousfield and Forbes all stated in reply that the question of sore throat had not arisen in their experience.

Dr. A. H. Macdonald (Chief Medical Officer, Dr. Barnardo's Homes) said he had dispensed with Schicking in children under six years of age. Above the age of six, 60 per cent. had been found positive.

Dr. H. E. Marsden (Medical Officer of Health, West Lancashire Rural District) stated that in his area the clinic was held at the schools, with the advantage that the children were always available when the injections were due. He had found acceptances higher in the case of the Roman Catholic schools than in the others.

Dr. D. J. Thomas (Medical Officer of Health, Acton) remarked on the absence of local reaction in some 400 children who had been immunised in connection with a mixed epidemic of diphtheria and scarlet fever.

THE Directory of Maternity and Child Welfare Centres, recently published, takes the place of List II, M. & C.W. 9, issued by the Ministry of Health in March, 1925, but, unlike that list, which covered England only, includes all such centres as are known to be in existence throughout the United Kingdom, up to February 28th, 1933. The total number of addresses at which maternity and child welfare centres, or certain activities connected therewith, are at work, is no less than 3,408. It should not, however, be inferred that there are only 3,408 centres in the United Kingdom, for at some of these addresses as many as ten sessions per week are held, each attended by different groups of mothers and children. It should be pointed out also, that although the Directory records 1,085 addresses at which post-natal consultations are held, these are by no means necessarily separate consultations from those for ante-natal cases. Apparently only a comparatively few centres hold special sessions at which mothers are seen during the first six weeks after confinement, with a view to ensuring that no obstetric complication persists. Similarly, the list records toddler consultations as being held at 2,980 addresses, although many of the replies received only

Dr. W. G. Booth (County Medical Officer, Holland (Lincs.) County Council) enquired if there were any experience of the work having been carried out by general practitioners. In rural areas it was impossible for the part-time medical officers to do the work. He suggested that if some scheme could be evolved whereby children could go to their private doctor and be immunised at the expense of the local authority, the number of protected children could be greatly increased.

Dr. Nash, in reply, said that in his district some 15 per cent. of the general practitioners had done a little immunising work. The question of making use of the general practitioner was one for each medical officer of health to decide, and it depended largely on the psychology of the people in the particular area. He had under consideration the possibility of private medical practitioners co-operating in the work of immunisation, and also the question of fees to be paid for the services. In Detroit, and other American cities the private doctor assisted in the work to a considerable extent.

The President (Dr. G. H. Pearce) described the activities of the immunisation clinic in Heckmondwike. He had been amazed at the success attained. Up to the present, 650 children had been immunised, and no reaction or trouble of any kind had been reported. No Schick testing, either before or after, was done.

A vote of thanks to the speakers, proposed by Dr. Veitch Clark, was carried by acclamation and conveyed to the openers by the President on behalf of the Society.

indicated the number of toddlers with which the centres were in touch. The number of consultations for toddlers only cannot be accurately given from the information available. The Directory should be of real value in any public health department, and is well worth the modest price (2s. 6d.) charged for it. Copies may be obtained from the Association of Maternity and Child Welfare Centres, Carnegie House, 117, Piccadilly, London, W.1.

THE American Public Health Association announces its sixty-second annual meeting, to be held in Indianapolis, Indiana, U.S.A., from October 9th to 12th, 1933. The scientific programme will cover every aspect of modern public health practice, from the viewpoint of the health officer, the laboratory worker, the epidemiologist, the child hygienist, the industrial hygienist, the nurse, the vital statistician, the health educator, the food and nutrition expert, and the sanitary engineer. The American Public Health Association, 450 Seventh Avenue, New York City, will be glad to send more complete information to anyone interested.

Ut Ita Dicam.

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

Diphtheria Immunisation Progress in New York.

Knowing that the present issue of PUBLIC HEALTH was to be practically a diphtheria immunisation number, it may be imagined that my feelings were those of what's-his-name, famous in connection with the Peaks of what-d'you-call-it, when I discovered in the New York State *Health News* of March 20th, 1933, a table showing "the per cent. of children under five years of age in places of over 10,000 population, reported to have received three doses of toxin-antitoxin or two doses of toxoid as of January 1st, 1932, and as of January 1st, 1933, according to records on file in the State Department of Health on February 6th, 1933." New York, as is well known, some years ago made a big drive and arranged one of the very fashionable five-year plans with the object of securing the immunisation of all children within the State against diphtheria. Though the desired result was not obtained, the response to the effort was wonderful, giving no real cause for dissatisfaction or for a feeling of failure. In some places, indeed, over 50 per cent. of the children under five received protection, and in quite a number the 35 per cent., which is counted as the minimum safe figure, was attained. At January 1st, 1933, of the 67 cities and villages in the population group 10,000 and over, 32 attained 35 per cent. or over. Some of the figures given in the table are worth quoting. In the over 250,000 group, for instance, it is shown that Buffalo had 22 per cent. immunised at the beginning of 1933. Of cities with a population between 100,000 and 250,000, Utica returned 52 per cent., Syracuse 33, and Albany, the State capital, and Yonkers each 25 per cent. In the 50,000 to 100,000 group there were three with over 40 per cent.—Niagara Falls, Binghamton and Schenectady. Amongst cities having populations between 25,000 and 50,000, one—Newburgh—showed 66 per cent.; two others—White Plains and Auburn—returning over 50 per cent. The highest percentages of all, however, appear in the 10,000 to 25,000 group, Middletown heading the list with 87 per cent., two others giving over 70, two over 60, and five over 50 per cent. To us these figures are not only

interesting; they should fill many of us with envy, while at the same time affording encouragement and acting as a stimulus.

Milk Pasteurisation and Nutrition.

The number of investigations into the nutritive properties of pasteurised milk steadily increases, and the literature available to a person desirous of obtaining information, and from which he can draw conclusions suitable for any argument he may desire to put forward, grows almost embarrassing in amount. One of the most useful and authoritative summaries and analyses recently produced in this country is that of Dr. Savage, of Somerset, which appeared in the *Lancet*, of February 25th, 1933, p. 429, and March 4th, 1933, p. 485. Definitely, the pronouncements of Dr. Savage are for those who hold that the process of pasteurisation, in effect, interferes not at all with the nutritive properties of milk; insoluble calcium is increased by about 6 per cent., iodine is reduced by about 20 per cent., and there is a reduction of vitamin C. The effect upon the calcium would appear to be the only one worth further consideration, but here all the evidence procurable seems to point to the conclusion that, so far as regards the human infant, which naturally requires less calcium than the calf, pasteurised milk is no less nutritive than raw milk. Although some have attempted to deduce from experiments performed with calves that, because these thrive rather less well on milk that is pasteurised, so also must the human baby, such deductions are condemned as unscientific. As a fact, there are no human experiments which demonstrate that pasteurised milk is less nutritive to the young child than is raw milk. One statement in Dr. Savage's most useful summary that should appeal is that having reference to the "vast mass of clinical experience which shows that heated milk has been consumed for years by infants and young children without any detectable deterioration in their nutritive condition. In view of the negative evidence as to any nutritional damage by pasteurisation, this volume of clinical experience is entitled to the highest consideration." As a matter of fact, the amount of experience gathered by the health service in connection with the operation of milk schemes

must be enormous as regards all sorts and kinds of milks. That the results obtained must have been regarded as satisfactory, or, at any rate, not unsatisfactory, appears certain, since the arrangements originally made have continued in operation, A keeping on with such and such a kind, and B with such and such another, the children in each case doing finely or finely enough.

Views from Ohio.

Another interesting, useful and instructive series of experiments into the effect of pasteurisation on the nutritive qualities of milk is described in a bulletin recently issued from the Ohio Agricultural Experiment Station. Here, in addition to reporting the results obtained by workers there, the bulletin surveys the literature on the subject to show, in general, results favourable to pasteurisation. The new investigations discussed in the report are actually a second series, and were undertaken because certain workers at the State University had found themselves more favourably impressed with raw milk than experiments at the Station, extending over a period of six years and recently discontinued, appeared to justify. At the end of the second series the investigators, who repeated the earlier work on an extensive scale, exercising every precaution to make the only limiting factor the heat treatment of the milk, found themselves unable to say that there was any material difference in the nutritive properties of raw and pasteurised milk. The animals used were mainly albino rats, and amongst their conclusions are included the following: "There is no loss of iron or copper when milk is pasteurised. When the exclusive milk method of feeding is used (fortifying with copper and iron to eliminate the anaemia factor), no significant difference is apparent in the total nutritive effect of raw or pasteurised milk. The calcium and phosphorus in pasteurised milk are as readily available as in raw milk. Heating milk to 145° F. (62.5° C.) for 30 minutes in a closed glass vessel does not affect vitamins A, C and D, but does destroy at least 25 per cent. of the vitamin B originally present. The curd tension of milk is slightly reduced by pasteurisation. The nutritive deficiencies of pasteurised milk (vitamins B (B₁) and C) can be readily overcome by proper dietary control. *The continued use of pasteurised milk offers no serious problem from the food standpoint.*" To my mind the

most valuable, sensible, useful and, I think also, accurate conclusion of all is the last, and that is why I have italicised it. The fact is, of course, that what pasteurisation in the case of the milk of other animals does for man is to provide him with a safeguard against infection from milk so treated; the evidence of its success in this direction is overwhelming in amount. And no less overwhelming is the weight of evidence that any interference it may cause to the nutritive quality is too little to merit more than a very passing reference.

Little Doris (Aged 10) and Others on Food Hygiene.

On Flies.—"They are terrible germ carriers, and if they are allowed to crawl about on food which humans are going to eat, the germs will breed inside the body and so poison the whole blood by travelling along the blood vessels from time to time until the whole body is germinated."

On Lemonade.—"Because they are made to fizz by being mixed with gas, a cup of hot tea is much more refreshing than mineral waters. Lemonade seems to make one want more about half-an-hour after it, but tea keeps one refreshed for quite a long time."

Tommy the Tolerant on Drinks.—"Cocoa and milk are very nourishing foods and drinks. It is often that our parents drink beer because it contains a very valuable food called malt. Spirits do not do the body much good, but in the case of people who have to have it, it does them a great deal more good than it does us."

The Panacea.—"Another very cheap but nourishing food is the egg. It is included in vitamin A. It does away with all disease in the body."

And They Called it Food Poisoning.

This was the description: Archibald ———, aged four; sickness, diarrhoea and abdominal pains commenced two hours after dinner, which consisted of cottage pie, greens, rhubarb and custard; patient also had an ice cream "cornet."

P.

THE Senate of the University of London, on the recommendation of the Board of Management of the London School of Hygiene and Tropical Medicine, have appointed Professor Cyril Burt, of University College, to be Heath Clark Lecturer for 1933.

That Bottle of Cough Mixture.

By MAITLAND RADFORD, M.D., D.P.H., Medical Officer of Health, Metropolitan Borough of Shoreditch.

In the service there are few with a wider knowledge and experience of infant welfare work than Dr. Maitland Radford, and his views on the all-important but vexed question of the policy of the welfare service in relation to the treatment of disease, and the guidance he offers in this his presidential address to the Maternity and Child Welfare Group, will be found interesting, helpful and valuable.

I WAS sitting in my office one morning, not so very long ago, when a local doctor friend was announced. He entered, sat down, and came at once to the point by placing on the desk between us a bottle of cough mixture. I divined the horrid truth before he began to speak. It was as I feared; he had been called by a mother to see her child, and had found a very ill child to whom the mother was giving medicine from the bottle that stood between us. The mother had been given the bottle a few days previously at the welfare centre.

"What," he asked me, "is exactly the policy of the maternity and child welfare service regarding the treatment of disease?" What is it? First, I turned to history for the answer and, peering into the mists of antiquity, I dimly saw health visitors giving, on doctors' orders doubtless, bottles of cough mixture to the anxious mothers of bronchitic children. Secondly, I asked the welfare doctors about it. The orthodox answer is that cough mixture is ordered for the child with incipient chest trouble, and that the mother is always told to call in a doctor if the child becomes worse. It was agreed, however, that there are difficulties. On the one hand, it requires great strength of mind to withhold a placebo from a doting mother. On the other, if cough mixture is given for some slight condition there is a grave risk that the mother will not do as she has been told, and will not call in a doctor if the child becomes worse. The mind of the mother is seldom a *tabula rasa* upon which the doctor may write what he will, and very often her superstitious faith in the bottle of medicine far outweighs her belief in the advice which the doctor gives with it.

Now the advice to take the child to a doctor, if it becomes worse, is far more important than the bottle of medicine. If it is not carried out, the consequences may be most serious for the child, and if the child becomes very ill or dies, and the mother has continued to give the mixture

supplied at the welfare centre, the welfare doctor is exposed to the criticism of having assumed medical responsibility for a child that could not be visited and could not be seen until brought again to the centre.

It is true that the doctor told the mother to "call in a doctor if—," but knowing how all-important this advice is, and knowing that the mentality of the mother is likely to be such that the possession of a magic bottle of medicine will tend to deter her from following such advice, one may well question the wisdom of giving the bottle of medicine at all.

May I say one word more about the mind of the mother. It is most important, I think, to understand that there is something in her mental attitude to this bottle that is primitive in character. Something which harks back to the dark ages of medicine, when the disease and its name were one and the same, and when medicine was a magic with which to conquer the evil name. This explains the pressure brought to bear upon the doctor to order these bottles, and makes one sympathise with one doctor who said to me: "One orders more towards the end of the afternoon."

Whatever the reason for which cough mixture is ordered, there can be no doubt that the child who is to drink it must be regarded as in a state of ill-health that might easily develop into acute illness, and should therefore be taken to a doctor and placed under his care.

The family doctor, who is at all times available, and who probably well knows the resources of the family and the medical idiosyncrasies of its members, is in every way qualified, as the welfare doctor is not, to take charge of such a case. When the income is above a certain level, this is the normal procedure and it works well, but it does not work amongst the poor. The insured members of the working-class family have a panel doctor, but the uninsured, that is to say, the children, and generally the mother of the family, must pay for medical services, and

the services of a doctor upon anything like the middle-class family doctor basis can very seldom be afforded. It happens all too frequently that a sick child is taken once to a doctor or that a doctor is called once to the child and that then, as already described in the case of the bottle supplied at the welfare centre, the mother believes or persuades herself that she has wrested the remedy from the magician, and that nothing more is required but to pour it down the child's throat. Frequently, too, cough mixture bought at chemists is given, or the advice of grandmother is followed, until the child becomes obviously very ill.

The recognised alternative to the private practitioner is the out-patient department of the general hospital. These departments are excellent for the purpose of diagnosing the acute conditions for which operative or other hospital treatment is essential, but they are so crowded, and attendance entails such long periods of waiting, that they do not at all meet the general needs of sick and minor ailment children. The difficulties of the mother are now further increased by the fact that a charge, small it is true, but by no means inconsiderable to a poor mother, is often made in out-patient departments.

Our public health departments are in process of being fashioned slowly out of the chaotic darkness of the middle of last century, and ordered schemes and chaotic muddle now exist side by side. This business of the sick child under five is a case in point. So long as the child is well, the maternity and child welfare scheme welcomes him, fosters his health, and helps his mother like some rich and wise relation. But let this same child fall sick, and he moves from a white square to a black in which there is no satisfactory provision made for the treatment of his sickness, and in which he must knock about from pillar to post until he either gets better or becomes sufficiently ill to be admitted to hospital. Once in hospital, he receives excellent treatment—he is on a white square again, but the move into this square might in many cases be avoided if there were adequate arrangements for treatment at an earlier stage.

This lamentable failure to deal with the sick child is one of the chief causes of the well-known and statistically recorded fact that a high percentage of school entrants are found to be suffering from defects requiring treatment, and a further large number to be more or less impaired in health in various ways. It is true

that some of the blame for these findings of the school medical service must be borne by the maternity and child welfare service, which does not reach the older children in the under-five group in at all the same thorough manner that it does children under two years of age. This last point was emphasized by Dr. Ethel Cassie in the course of her presidential address last year, and we shall all agree with her that every effort should be made to improve our scheme in this respect.

The absence of a proper scheme for the medical treatment of the sick toddler, however, very much hampers this development. If there were a treatment scheme to which the sick child could be referred from the welfare centre, and from which he would be referred back when cured, it would be much easier for the centres to attract and to keep these children.

We have all, I am sure, listened to much discussion as to how such a scheme could best be provided. There are, I think, three main proposals, each springing from a different conception of the inter-relationship of the patient, our profession, and the State.

Some believe that the hope of the future lies in the raising of wages and general improvement in the economic position of the working-people to the point at which they are able to pay the fees of a doctor in private practice in the same manner as the middle-class parent. In my experience, the supporters of this view tend to take a somewhat optimistic view of the resources of the average wage earner, and to attribute his inability to pay for necessary medical attention for his children rather to bad management and extravagance than to sheer economic impossibility. You will notice that the State has no place in this picture.

Others hold that medical treatment for the child under five should be provided by the establishment of treatment centres as part of the maternity and child welfare scheme. There are, of course, many such centres already in existence, but the treatment given at these is generally specialised and not general in character.

In Shoreditch we have a scheme under which children can be referred from the welfare centre to hospital for examination and for treatment, either as in- or out-patients. In all cases a report upon the child is sent from the hospital to the doctor of the welfare centre. This is an excellent arrangement which might well be extended, but as it includes no provision for domiciliary treatment, it cannot claim to contain

even the germ of the solution of our problem. The cost of the treatment provided under this plan is borne by the public purse. To attempt to graft a scheme for the domiciliary treatment of children under five on to the maternity and child welfare services would, I think, be a mistake. The cost would be prohibitive; maternity and child welfare work would be deflected from its true function, and would be in direct competition with the private practitioner.

The third, and I think the most generally approved suggestion for the provision of this treatment, is that the National Health Insurance scheme should be extended so as to include the wives and children of insured persons. This represents a *via media* between the two proposals that I have just outlined. It is safe to assume that the cost would be regarded as prohibitive at the present time, but considered broadly, some such scheme as this has a very great deal in its favour. The cost, which would be great, would be met partly out of the public purse, and partly out of the contributions of wage earners and employers, and the financial basis of the scheme would thus rest securely upon a compromise between undiluted private enterprise on the one hand and State enterprise on the other.

A scheme based upon a compromise on questions of economic principle has the great advantage that it is likely to be considered more from the point of view of the toddler and the benefit to him, and less as a battlefield for doctrinaire economists. If once battle is engaged upon a question of economic principle, the claims of our toddlers are likely to be forgotten in the uproar, and the provision of this much needed treatment to be indefinitely deferred.

May I remind you that I chose this subject because a medical man in general practice came and talked to me about it. Soon after he left, I remembered that the British Medical Association had published a report entitled "Encroachments on the Sphere of Private Practice." I have re-read this report, and I would advise everyone who has not read it, or who has forgotten it, to do the same. The title page, suggesting as it does, a world complete in its isolation to be defended against all comers, does it less than justice.

Between the covers will be found many suggestions for the correlation of the work of the private practitioners and the various activities of the public health department.

In the attack upon unhealthy conditions and untreated disease, the profession must not be divided by ill-considered schemes which place the medical officer in the public health service and the general practitioner in virtual competition.

Whether the recommendations of this report are approved or not—and I think it most unlikely that this Group would approve them all—we must not forget that far from there being too many doctors, there are too few, and that future developments should be so designed as to absorb all the members of our profession. The economic crisis, however, makes discussion of the wholesale absorption of doctors in public work seem singularly unreal at the present time.

There is, so far as I know, no section of this Society or of any other medical society, devoted to the study of the effect of economic conditions upon health. I wish there were, for in the complex world of to-day, whether we consider ourselves as grouped nationally, or in families, or as individuals, economic conditions constitute an environment supplementing and qualifying every other element in the environment, and should accordingly be studied by workers in the field of environmental medicine.

We might begin with ourselves. The economic position of doctors, whether private or public, is both astonishing and typical. Like coffee, cotton and indiarubber, and countless other commodities, we are being under consumed, not because there is not an urgent need for medical service in all fields, but because purchasing power is so distributed that only a portion of the available service can be paid for. Clever people have, I believe, devised means of making coffee into bricquettes for use as fuel, but no such satisfactory solution for the problem in our case has yet been put forward.

If the present position were to continue, the inevitable result would be a drying up of the supply of doctors at the source, until the medical services of the country were stabilised at a lower level of efficiency.

The development of this situation can already be seen in the case of health visitors. Attracted by a useful and interesting career, and encouraged by the diploma and registration instituted by the Ministry of Health to believe that their services would be required, many women have trained themselves, and are training themselves as health visitors. Like the coffee and the cotton and the doctors, however, these newly-fledged health visitors are being under consumed.

There must be very few areas, indeed, in

which the number of health visitors employed is sufficient to ensure the adequate routine visiting of all children coming within the scope of the Maternity and Child Welfare Act, and yet as things now are, the services of additional health visitors cannot be afforded. The result of this state of things is likely to be that the number of recruits will dwindle, and that the standard of the personnel will not be maintained.

All things considered, one has the feeling that this is a difficult and a testing time for the maternity and child welfare services.

When the Maternity and Child Welfare Act was passed at the end of the war, we all felt that the removal of the reproach of being a C.3 nation was one of the, if not the most, important things in public life; there was no financial crisis, and schemes multiplied and flourished under the genial encouragement of a 50 per cent. Ministry of Health grant upon all approved expenditure.

Now, all this is changed. We hear less about our being a C.3 nation, and more and more about economy, and the Local Government Act has taken away our friendly grant. Maternity and child welfare, the baby of the special branches of the public health service, is no longer the darling of the Ministry of Health, and must henceforth appear on estimates on terms of perfect equality with other items of local government expenditure.

At the time of the passing of the Act, many of us were unhappy about the financial provisions for this growing child, but were reassured by an understanding that the claims of the maternity and child welfare service would receive special consideration at the end of the first block grant period, and that provision would be included in the next grant in respect of extensions and developments of this work. It appears, however, that that understanding was illusory. The amount of the block grant for the next four years is now being determined, and I think it will be found that no portion will be ear-marked, and that there will be no special consideration given to the requirements of the maternity and child welfare services.

Have I wandered too far from the bottle of cough mixture? I hope you will not think so. Until the abrupt advent of my doctor friend, described at the beginning of these remarks, I had not fully explored all the awkward questions raised by this bottle. I have now made it clear to myself, and I hope to you also, that this bottle is no ordinary bottle, but that it is a symbol standing on the boundary line between

preventive medicine and medical treatment. And I have done more. I have made a foray into the country beyond, in search of some more clearly defined point to which we might extend our boundary, and I hope that you will agree with me that there is no such point, and that the boundary should stay where it is.

There is nothing whatever defeatist in this suggestion, or in what I have just said about the difficulties that confront our work at the present moment.

I believe that when the history of this century comes to be written, the passing of the Maternity and Child Welfare Act and the rapid development of maternity and child welfare schemes all over the country will be seen to be matters second in importance to nothing else that is happening in the national life of the present time.

If anyone doubts this, the happenings of the hundred years before 1918 may be recalled. In 1818 the population of England and Wales consisted of some 12 millions, living for the most part in the country, in the light of the tradition of their forefathers. And then the industrial revolution. Now there are 40 million people living mostly in towns under conditions of mechanization and complexity further removed from those obtaining in 1818 than were those from conditions at the time of the Norman Conquest. It is, I think, impossible to realise the magnitude and importance of the task upon which maternity and child welfare work is engaged, without reminding ourselves what happened to the health tradition and culture of the working-people during these hundred years. We all know what happened: these things were lost sight of and forgotten and human existence sank to an appallingly low level.

Maternity and child welfare work in its widest conception is an expression of the determination to rebuild our civilisation. It begins at the beginning with the mother and her baby, requires no expensive buildings, challenges no vested interests, and opposes no economic laws. The mothers have seized it with both hands, and it is now an integral part of the life of the normal working-class family.

All these things being so, it is incumbent upon us to consider very carefully indeed the future development of our schemes.

On the one hand, there is the temptation to fritter our energies in fruitless raids into the territory behind the bottle, there to achieve little or nothing of real value and to risk

embroiling ourselves with the hitherto friendly tribes who inhabit this primitive region.

On the other, there is the task of extending and consolidating our work of prevention and education. Although great things have been achieved, our service is still far from adequate. It should be possible for every mother who so wishes to take her child to a welfare centre, and there to receive advice under reasonably good conditions as regards accommodation and individual attention, and for every child of pre-school age to be systematically visited in the home.

From the point of view of the national health and well-being, these things are as important as is attendance at school for the older child, though please do not imagine that I am suggesting that attendance at welfare centres should be made obligatory like school attendance.

Eleven years' experience has convinced me that mothers are as keen as they can be to participate in maternity and child welfare schemes, and my point is that these should be extended until attendance is as simple a matter for the mother as it is for her to send the older children to school.

The educational purpose of maternity and

child welfare work should, indeed, always be kept in mind. One of the most serious difficulties associated with the enormous centres that are now so numerous, is that doctors and health visitors have little or no time to devote to teaching. But if there is no teaching in the art of being a mother and a housewife, our work misses a most glorious opportunity. A young woman who was at school until she was fourteen and then at a factory, and who marries and finds herself trying to bring up a family in a one or two-room home in a tenement house, most urgently needs, and often keenly desires, to learn and to know about cooking and what to cook, about sewing, and about the hundred and one things necessary to the running of her home.

Let us stick to our last. Let us try to extend this service until there is everywhere a reasonably accessible centre to which the baby is brought to be kept well, and to which the mother comes to learn motherhood, and let us turn our backs on these bottles of cough mixture.

I have shaken the bottle, and administered the dose, and it only remains for me to express my thanks for the unprotesting manner in which this conglomeration has been taken.

In the Annual Reports.

DISCUSSING THE BIRTH-RATE.—The birth-rate question appears to be giving much concern to many people. There are, on the one hand, those who see in the declining birth-rate an ominous menace to the future stability of the country, and on the other hand, there are people who are equally emphatic that the birth-rate is still too high, and who strongly advocate contraceptive measures to secure its further decline. My own view of the matter is that the present position of the birth-rate need give no occasion for anxiety to public health authorities. At any rate, it is a matter which is mainly determined by biological laws, which can be little influenced, if at all, by legislative or administrative interference. I also believe that contraceptive propaganda is not a matter which concerns a public health authority as such, except in so far as it may be shewn to be detrimental to the health of those practising it. In the main, it is a sociological and not a medical problem. Occasionally, it may, of course, be a medical problem, but then it is a private matter between the persons concerned and their medical advisers.—*Dr. Thomas Gibson, Wakefield.*

ABORTION.—Abortion has now taken a definite place in the social life of the people, and with all its morbidity and mortality it is no longer reasonable to ignore the issue. Unwanted pregnancies, both legitimate and illegitimate, often lead to intense mental suffering, so that there is little wonder if the demand for abortionists is met. Disregarding the ethics of the problem, the facts require proper consideration,

and public opinion should be stirred from its present complacent attitude of turning a blind eye and pretending to ignore the existence of abortion, just as it ignored the existence of venereal disease until a few years ago. No one would suggest legalising wholesale abortion, but cases which, to be relieved of a pregnancy, are ready to risk life should not be left to the mercy of an amateur. Abortion carried out with medical skill and every consideration for safety may still be as dangerous as any major operation, so that abortion as illegally carried out to-day, secretly and hurriedly, is as dangerous to human health and life as can be imagined. Yet it is tolerated and one may well ask why?—*Dr. A. G. G. Thompson, Lambeth.*

DRESSING OF ENGLISH LAMBS.—The custom in England when dressing lambs after slaughter is to leave the shanks covered with fleece and not to remove the feet. It can readily be seen that when these carcasses are sent from the slaughterhouse to the various meat markets, and from there to the retail butchers, there is every opportunity for dirt and manure which are invariably found on the shanks and feet to cause contamination. It is understood that this method of dressing lambs is not allowed in Scotland, and it is to be hoped that the English Federation of Meat Traders will take the necessary steps to abolish this insanitary practice, so as to comply with the spirit of the Public Health Meat Regulations, which have for their object a clean and wholesome meat supply.—*Dr. H. W. Barnes, Camberwell.*

The Society.

Reports, Proceedings and Announcements.

THE SCOTTISH BRANCH.

President: Dr. A. S. M. Macgregor, O.B.E., Medical Officer of Health, Glasgow.

Hon. Secretary: Dr. W. G. Clark, Senior Deputy Medical Officer, Glasgow.

A meeting of this Branch was held in the City Chambers, Glasgow, on April 8th, 1933. The President occupied the chair, and some 20 members were present.

Dr. John Ritchie (Medical Officer of Health, County of Dumfries), opened a discussion on "The General Aspects and Administrative Control of Enteric Carriers," and concluded a very able and instructive paper by suggesting the following eight points:—

(1) All idea of isolating carriers, except for bacteriological examination, should be dropped.

(2) The aim should be to prevent the carrier engaging in such occupations as entail the handling of foodstuffs, including milk, and possibly certain other occupations, as, for example, work connected with public water supplies.

(3) Every person suffering from typhoid fever, whether isolated in hospital or at home, should be kept under bacteriological supervision until such time as he ceases to excrete typhoid bacilli. If excretion persists after clinical cure, he should be certified as a "temporary carrier" and released from hospital, if that be thought expedient. The period of certification should be extended from three months to a year, and there should be powers to require the carrier to return to hospital for examination before the certificate is cancelled.

(4) Any person shown to be excreting typhoid bacilli a year after the date of his original attack should be certified as a "permanent carrier." This certificate would not be for any specified period, but would remain in force till cancelled. The onus of showing that he was cured would rest on the carrier, and a high standard of proof would be required, but it would be an obligation on the local authority to afford all necessary facilities for examination, and if they were not provided the carrier would have the right of appeal to the Department of Health.

(5) During the currency of the certificate, whether temporary or permanent, he would be

under restrictions similar to those enforced by Section 58 of the Public Health (Scotland) Act, 1897. Whether any of the other sections relating to infectious disease should also be applied is a matter for discussion. It would be obligatory on the certifying authority to provide the carrier with details of the evidence on which certification was based, and of the restrictions applying to his condition.

(6) In the case of a person suspected on epidemiological grounds of being a carrier, but in respect of whom bacteriological proof is lacking, it should be possible to certify him as a "presumptive carrier," and to remove him to hospital for bacteriological examination. It may be objected that removal of an apparently healthy person on suspicion only is a somewhat drastic procedure. But it is submitted that it is no more so than the removal of a healthy contact to a reception house, for which there are powers under Section 47, Sub-section 4, of the 1897 Act. There is little difference in principle between removing a healthy person from a house where infection has existed and removing such a person from a house to which infection has been traced.

(7) It has already been suggested that details of all chronic carriers discovered should be submitted to the Department of Health, collated by them, and lists circulated to medical officers. The Department did not consider it expedient to adopt this suggestion meantime, but it is submitted that some such system would be of material assistance in investigating and controlling outbreaks of typhoid.

(8) The question of compensating persons precluded from following their usual occupation by reason of their having been certified as carriers should be considered.

After an animated discussion the meeting remitted these points to the Council of the Branch, with a recommendation that whatever steps possible should be taken to have them considered by the Department of Health for Scotland.

The President, on behalf of the members, thanked Dr. Ritchie for his very practical and useful paper, which will be published in full in a later number of PUBLIC HEALTH.

THE MIDLAND BRANCH.

President: Dr. H. D'Arcy Ellis, M.O.H., Amblecote and Brierley Hill Urban Districts.
Hon. Secretary: Dr. R. H. H. Jolly, M.O.H., Wolverhampton.

The fifth meeting of the session of this Branch was held at the Medical Institute, 154, Great Charles Street, Birmingham, on March 30th, 1933. Twenty-five members were present.

It was unanimously agreed that the Branch support the nomination of Dr. Charles Porter for the office of President of the Society for the session 1933-34.

The Hon. Secretary reported that Dr. C. V. Craster, Medical Officer of Health, Newark, New Jersey, might be making a lecture tour of this country in the autumn of this year, his subject being "Diphtheria Prevention Campaign Methods and Results." It was decided to send an invitation to Dr. Craster to deliver a talk on this subject at one of the Branch meetings if a convenient date could be arranged, and the Hon. Secretary was instructed to notify the Executive Secretary of the Society accordingly.

Dr. J. A. M. Clark (Medical Officer of Health, Walsall) read a paper on "A Municipal Maternity Hospital," in which he gave some of his experiences in connection with the maternity hospital established by the Walsall Corporation. He referred to the cost of the institution; staffing; regulations governing the admission of cases, and the scale of fees charged. An interesting discussion followed, in which the President, Dr. Wyndham Parker, and Dr. Jolly took part.

The meeting concluded with a display of the "Novox" resuscitation apparatus for the administration of a mixture of oxygen and carbon dioxide. A representative of the company supplying the apparatus was in attendance with various types of the apparatus, and he gave a demonstration of its method of use for various types of emergencies.

Cordial votes of thanks were passed to Dr. Clark for his paper, and also to the demonstrator of the "Novox" apparatus.

THE NORTH-WESTERN BRANCH.

President: Dr. T. W. Naylor Barlow, M.O.H., Wallasey.
Hon. Secretary: Dr. J. E. Spence, M.O.H., Eccles.

An ordinary meeting of this Branch was held at Parker's Restaurant, 18, St. Mary's Gate, Manchester, on Friday evening, April 7th, 1933, the senior Vice-President (Dr. J. J.

Butterworth) occupying the chair. Twenty-four members were present, and apologies for absence were received from eight members.

Following the receipt of a letter from the Metropolitan Branch, it was unanimously resolved to nominate Dr. Charles Porter for the Presidency of the Society for the session 1933-34.

A discussion on "The Salaries Scale" was opened by Dr. J. M. Mackintosh, Dr. Herd, and Dr. Ratner, on behalf of the maternity and child welfare, school medical, and tuberculosis services respectively. Other speakers were the Chairman, Dr. Graham, Dr. Robertson, Dr. Watkins and Dr. Critchley.

The following resolution, proposed by Dr. F. A. Sharpe, and seconded by Dr. Herd, was carried unanimously:—

"That a report upon the discussion be submitted by the Hon. Secretary to the Committee of the North-Western Branch with a view to a further discussion and that, if then approved, it be forwarded to the Council of the Society."

THE DENTAL OFFICERS' GROUP.

President: Grantley Smith, Esq., L.D.S., D.O., L.D.S., D.O., Bermondsey.

Hon. Secretary: W. Leigh Breese, Esq., L.D.S., 4, Valkyrie Road, Westcliff-on-Sea.

A meeting of this Group was held at the house of the Society, on March 10th, 1933.

Mr. Jeffrey Fletcher, L.D.S., R.C.S. (ENG.), Dental Officer, Yorks. (West Riding) County Council, and Hon. Secretary of the Yorkshire Sub-Group, read a paper entitled: "Has Recent Research proved Dental Enamel to be a Vital Tissue?" (A précis of this paper appeared in PUBLIC HEALTH, March, 1933, p. 207). Mr. Fletcher gave a résumé of various investigations on the subject, and compared the different findings. There appeared to be confusion amongst the research workers on the vitality or otherwise of enamel, and it seemed that the conclusion arrived at by Mr. Fletcher—that the case for vitality was "not proven"—was the correct one.

YORKSHIRE SUB-GROUP.

President: B. R. Townsend, Esq., L.D.S. (LIV.), D.O., Yorks. (W.R.) C.C.

Hon. Secretary: Jeffrey Fletcher, Esq., L.D.S., R.C.S. (ENG.), D.O., Yorks. (W.R.) C.C., Heathersett, Listerdale, Rotherham.

A meeting of the Yorkshire Branch of the Society was held at the School of Dentistry,

University of Leeds, on February 24th, 1933, in conjunction with the Dental Officers' Group.

Professor Talmage Read and his staff had prepared an excellent programme of demonstrations of the work of the various departments of the hospital, particular interest being displayed in the cases collected in the conservation room, showing beautiful examples of contour amalgam fillings, gold inlays, porcelain inlays, cohesive and non-cohesive gold fillings, porcelain jacket crowns and orthodontic cases. There were also demonstrations in the pathological and dental mechanics laboratories.

In the lecture room, Professor Talmage Read exhibited a series of lantern slides of clinical cases, showing alveolar abscesses which had pointed externally on the face; one very unusual case was shown which had pointed under the chin. Skiagraphs of misplaced teeth were also inspected together with some interesting cases of successful results of surgical treatment of pyorrhœa alveolaris.

Members were afterwards entertained to tea by the hospital staff in the library. Despite the very adverse weather conditions, the meeting was well attended and proved most successful.

THE FEVER HOSPITAL MEDICAL SERVICE GROUP.

President: Dr. E. W. Goodall, O.B.E.

Hon. Secretary: Dr. Alexander Joe, D.S.C., North-Western Hospital, London County Council.

In consequence of illness, Dr. Egerton Williams, of Sheffield, was unable to give his address on "Cerebro-spinal Fever," but the Hon. Secretary arranged a meeting at the North-Western Hospital, Hampstead, on March 31st, 1933, and entertained the members to tea. The President was in the chair, and 27 members and visitors were present.

Dr. Olga Tregelles read a paper on "The Treatment of Laryngeal Diphtheria by Suction." This method was brought into use some years ago in the United States, but has been very little employed in this country. Dr. Tregelles said that every case of laryngeal obstruction admitted to the North-Western Hospital was—unless in extremis—examined with a laryngoscope and, if necessary, submitted to suction. An attempt had been made to

evaluate on clinical grounds the success or otherwise of the procedure, and she gave statistics of the cases treated at the Hospital since the method was introduced two and a half years ago. Dr. Tregelles discussed its advantages over the old operations of tracheotomy and intubation, upon which she was of the opinion that it was a decided improvement. Occasionally, however, it failed to afford relief, and then resort had to be made to one of them.

A discussion followed in which several members took part. The instruments employed were demonstrated by Dr. Joe, the Medical Superintendent of the Hospital.

Hearty votes of thanks were accorded to Dr. Tregelles and Dr. Joe, and to the London County Council for permission to visit the Hospital.

A SESSIONAL Meeting of the Royal Sanitary Institute will be held at Weston-super-Mare, on Friday and Saturday, May 12th and 13th, 1933, under the chairmanship of Dr. Charles Porter (Member of Council of the Institute). On Friday, at 3 p.m., a visit will be paid to the cattle market and public abattoir. At 4.15 p.m., tea will be served in the Town Hall, followed at 5 p.m., by a discussion on "The Prevention of Human Tuberculosis of Bovine Origin," opened by Dr. W. G. Savage, Medical Officer of Health, Somerset County Council, and Mr. S. V. Golledge, M.R.C.V.S., Veterinary Inspector, Wiltshire County Council, and a paper on "Weston as a Health Resort," by Dr. A. E. Remmett Weaver, Medical Officer of Health, Weston (who is acting as Hon. Local Secretary of the meeting). On Saturday, visits will be made to the Wilts. United Dairies' milk factory at Bason Bridge, to a certified milk farm, and to places of interest in West Somerset.

THE British Association will hold its annual meeting this year at Leicester from September 6th to 13th, under the Presidency of Sir F. Gowland Hopkins, F.R.S.

THE International Hospital Association will hold its Third Annual Congress from June 28th to July 3rd, at Knocke-sur-Mer, Belgium. A five days' study tour in Holland will follow. Arrangements for the meeting are in charge of the Association Belge des Hôpitaux, 80, rue de Livourne, Brussels.

The Literature of Preventive Medicine.

Adulteration and Analysis of Food and Drugs.

Birmingham Methods and Analyses of Samples—Review of British Prosecutions during Half a Century. By J. F. LIVERSEEGE, F.I.C., PH.C., formerly Public Analyst to the City of Birmingham. London, J. and A. Churchill, 1932. Price 36s. net.

Mr. Liverseege in this book has struck such a logical yet original method of presentation of the details of the work and duties of public analysts in general, that the wonder is that his method has never been adopted before. Successful innovations are often so simple in principle that, once the ideas involved are revealed to the world, most men feel that they have it in them to inaugurate the self-same things themselves, and so it is with this work of Mr. Liverseege. It is the ideal presentation of very technical work made still more complex by the legal aspect of the interpretation of the results obtained on the technical side.

The book has, as it were, a dual personality. On the one hand, it presents a reasoned, scientific yet concise view and review of modern analytical methods for the examination of practically every sample of food or drug that may come the way of the public analyst. On the other, and not by any means the less valuable, it deals with the legal aspect of prosecutions, from considerations of the forms in which public analysts should state their results to considerations of judgments given in prosecution cases during the last 50 years.

That such a work, containing some 600 pages, should be quite free from fault is naturally asking more from the present state of evolution of humanity than can be reasonably expected. The mathematical error on page 332, in illustration of formula "A" given for cocoa on that page, is a case in point. Another is the confusion that may easily arise through the prosecution cases being always listed under the names of the police courts in which the various cases were heard. In London, at least, these by no means necessarily correspond to the analytical areas bearing possibly exactly the same name. This is because the borough areas are not co-terminous with the police districts, consequently cases initiated by one borough may

have their hearings in a court bearing the name of another borough. Numerous examples of such possible confusion could be given from the prosecution cases mentioned in the book. This point should be made clear when a new edition becomes necessary.

Apart from such relatively minor considerations, so many points of appreciation may be taken that it can be said truthfully, rather than conventionally, that no laboratory dealing with the analysis of foods and drugs can fail to find room for it on its shelves. Further, there is no public analyst who can afford to neglect the record of analytical methods and legal experiences which Mr. Liverseege has the ability and the public spirit to put on record so attractively for the benefit of his colleagues and his possible critics. From the stand-point of the public analyst, and from that of candidates for the examinations of the Institute of Chemistry in the food and drugs section, it may be said that not one of these can afford to be without the work; for the examination candidates, indeed, it should be one of their chief text-books, and to them the volume is unhesitatingly commended.

A Doctor to a Mother. The Management of Maternal and Infant Health. By EARDLEY HOLLAND, M.D., F.R.C.S., F.R.C.P., F.C.O.G., Obstetric and Gynaecological Surgeon, London Hospital; R. C. JEWESBURY, M.D., F.R.C.P., Physician in Charge of Children's Department, St. Thomas's Hospital; and WILFRID SHELDON, M.D., M.R.C.P., Junior Physician, Children's Department, King's College Hospital. London: Edward Arnold and Co., 1933. pp. 96. Price 1s. 6d. net.

The broadcast talks here most usefully reproduced cover the subjects of ante-natal care, the management and feeding of the infant and toddler, normal development, and various disturbances of health that are commonly met with in young children. They are clear and simple and practical, and are likely to provide the mother with just the kind of advice that she needs.

It is a little disappointing to find the principles of ante-natal care confined, in Dr. Eardley Holland's statement of them, to the prevention, discovery and treatment of com-

plications. The directions for keeping the nose clear leave something to be desired, and it is strange that, whereas the mouth is to be left to nature, as is proper, the nose is to be cleaned out with a rag instead of by the sneezing reflex which nature has provided for the purpose, together with the flow of moisture that occurs after each warm feed. Amongst other suggestions that might be criticised are those regarding the thickening of soups with bread-crumbs or flour, and the giving of hard food at the beginning instead of at the end of a meal during and after weaning, by which time the baby is quite ready to be set in the right direction in this respect.

These, however, are small details in a book full of such sound and valuable instruction, as might be expected having regard to the distinction of its authors.

Glen's Law relating to Public Assistance. By RANDOLPH A. GLEN, M.A., LL.B. CANTAB., Recorder of Penzance; assisted by E. BRIGHT ASHFORD, B.A., and ALEXANDER P. L. GLEN. London: Law and Local Government Publications, Ltd., 1933. pp. 786. Price 30s. net.

A volume dealing with the law relating to public assistance was an obvious necessity from the moment the Poor Law Act, 1930, was passed, and the variety of regulations dealing with public assistance and relief began to appear. Equally obvious almost was it that when the volume appeared it would bear the name Glen. To public health workers this name is known because of its association with the legal publication most frequently consulted in the health department—"Glen's Public Health" and that other that is almost as frequently consulted, "Glen's Local Government Act, 1929."

In the preface to this present publication, which hardly needs to be recommended to all concerned in any degree with public assistance, amongst whom must now be numbered, of course, members of the health service, there is a most interesting little historical note which is further extended in the introduction, where a short account of poor relief in other days is given.

In the general contents probably the parts dealing with the relief of those suffering from mental disability, and the Children and Young Persons Act, 1932, will be most inter-

esting to health officers. With regard to the former it is noted that though most of the Lunacy Act, 1890, remains untouched, the Mental Deficiency Act of 1913 introduced changes into the methods of dealing with this problem, and the Mental Treatment Act, 1930, and the Rules under it, introduced still further changes, and "lunatics" are now to be called "persons of unsound mind," and "pauper lunatics" either "rate-aided persons of unsound mind" or "rate-aided patients." "Asylums" are now "mental hospitals." All these Acts have been dealt with very fully, so far particularly as they concern poor law authorities. The Act of 1932, as to children and young persons, was passed while the work was going through the press, and repealed most of the provisions of the Children Act, 1908, affecting poor law authorities, which had already been set up by the printer. The repealed provisions have been left with footnotes referring to the new provisions, which are set out in an appendix.

In the preface the hope expressed for the book—in the preparation of which, it is acknowledged, great assistance was received from Miss Bright Ashford, Barrister-at-Law, a member of the St. Marylebone Borough Council—is that, coming from the hands of the third and fourth successive generations of Glens, it will be received with the same favour as were those which were written by the first and second. So far as this is concerned, there seems to be no doubt whatever that the hope will be realised, and the third and fourth generations may be congratulated on the manner in which they have upheld the standards set by the first and second.

Water Purification Control. By EDWARD S. HOPKINS, Principal Sanitary Chemist, Bureau of Water Supply, Baltimore. London: Baillière, Tindall and Cox, 1932. pp. 131. Price 10s. net.

As a result of experience gained in his laboratory in connection with the training of persons to take charge of water purification plants, the author came to the conclusion that a book dealing with this subject, short and as non-technical as possible, was required. He has gone to a great deal of pains to put together the facts that he considered necessary to include, and has done the work extremely well, providing illustrations and tabular state-

ments on matters that appropriately can be dealt with in that way. The matters discussed include coagulation, sedimentation, filtration, disinfection, tastes and odours, and plant control data. Under each head the matters appropriate thereto are discussed as simply and clearly as their nature permits.

The information provided should be helpful not only to those for whom the book is intended but to all interested professionally and otherwise in questions relating to water purification.

Hygiene for Nurses. By JOHN GUY, M.D., D.P.H. (CAMB.), F.R.F.P. & S. (GLAS.), F.R.C.P. (EDIN.), Medical Officer of Health, Edinburgh; Examiner in Hygiene to the General Nursing Council of Scotland, etc.; and G. J. I. LINKLATER, O.B.E., M.D., D.P.H., D.T.M. & H., M.R.C.P. (EDIN.), Assistant Medical Officer of Health, Edinburgh; Examiner in Hygiene to the General Nursing Council of Scotland. Edinburgh: E. and S. Livingstone, 1933. pp. 211. Price 5s. net.

The first edition of this book, which appeared in 1930, was reviewed in the August number of *PUBLIC HEALTH* for that year.

In this, the second edition, the authors have brought the subject matter well up-to-date, and have made a number of alterations and amendments. In addition, there has been a complete re-arrangement of the contents to bring matter relating to personal hygiene forward to the position formerly occupied by that dealing with sanitation and the communal aspects of hygiene. The result has been to improve the balance greatly, and to provide a book which cannot fail to appeal and to prove of very real value to the nurse undergoing training and preparing to meet the examiners in hygiene to the General Nursing Council of Scotland.

Diseases of the Eye. Practitioner's Series. By ANDREW RUGG-GUNN, M.B. (EDIN.), F.R.C.S. (ENG.), Surgeon to the Western Ophthalmic Hospital. London: Wm. Heinemann (Medical Books), Ltd., 1933. pp. 188, illustrated. Price 12s. 6d. net.

This book deserves to be regarded as one of the most useful additions to the series of

which it forms part. It is pleasantly written, and the carefully selected information it contains is set out with the fullest possible regard to the practical needs of those for whom it is intended.

One of the dreads of the author, whose preface is marked by an astonishing and wholly unnecessary modesty, was that, having regard to its nature, the book might degenerate into a series of notes. This definitely it has escaped. It is, indeed, wonderfully full, more especially and rightly in those sections dealing with treatment, particularly of diseases that come within the province of general practice.

The author deserves every praise for the care taken to ensure that everything that that might be helpful to the readers for whom he is catering should be included. The only point that might be raised is with regard to the shape and size of the book, the pages being of such a width as to suggest that reading might, after a time, tend to become something of an effort and rather tiring. Apart from this, there is nothing to be said other than that the book is most strongly recommended.

What the Diabetic Needs to Know about Diet. London: John Bale, Sons and Danielsson, Ltd., 1933. pp. 85. Price 2s. net.

Simple Instructions for Diabetic Patients. By DOROTHY C. HARE, M.D., M.R.C.P. London: H. K. Lewis and Co., Ltd., 1933. pp. 20. Price 1s. net.

These two little books may safely be recommended to those for whom they are intended. The former is stated to have been prepared by a science graduate and a certified dietitian who have made a special study of the subject, and to have been revised by a well-known physician—an authority on nutrition. No names are given, but the authors have all done their work well, and the book should be helpful.

The Simple Instructions for Diabetic Patients have been prepared by Dr. Hare for use particularly in the diabetic clinic of the Royal Free Hospital, to which she is attached. The book is clearly and simply written and certainly deserves to be known, and may advantageously be used over a wider area than that for which it was primarily intended.

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Editorial.

Chronic Enteric Carriers and their Treatment.

ELSEWHERE in this issue there appears a paper in which the carrier in enteric fever is regarded from the point of view of the medical officer of health, to whom, naturally, the problem of such individuals is very real and very serious. The moment would appear opportune, therefore, to make reference to a report* of a series of investigations recently carried out by Professor C. H. Browning, and a number of colleagues in the Pathology Department of the University and the Western Infirmary, Glasgow. In this, attention is directed to the overwhelming importance of

* Medical Research Council Special Report Series, No. 179. H.M. Stationery Office, 1933. Price 1s. 6d. net.

the carrier, to his vast potentialities and to the real need of devising methods of detection treatment, and cure of the carrier condition.

The enteric fevers—typhoid and paratyphoid A and B—it is pointed out, at the present time are responsible for only a small part of the morbidity and mortality of Great Britain, the comparative immunity being due probably to general hygienic measures, especially the provisions made for supplies of pure drinking water and for the efficient disposal of the sewage of large towns. The causal agents are still widely prevalent, however, and given favourable opportunities there is still the danger of these diseases again assuming large epidemic proportions. Even at the present time, there are parts of the country from which enteric diseases are never wholly absent.

The evidence is overwhelming that human beings constitute the sole source of the specific bacteria, and that "carriers" form an important part of this supply of infection. When the carrier state is chronic, as often happens in the enteric infections, the carrier is a standing danger to the community and may be the source of repeated outbreaks. The danger is the greater in that it may be unrecognised, and so defeat all ordinary sanitary precautions. Furthermore, the condition is often highly resistant to curative measures, while the presence within the body of a chronic focus of infection may lead eventually to ill health.

The report, in addition to giving an account of the authors' own researches, reviews also the available knowledge of the subject, and provides a volume of the most valuable recent information on every aspect of the problem. So far as prevention of the occurrence of the carrier state is concerned, the report stresses particularly the necessity for the adequate care of the patient during the acute attack—including a high calorie diet—and also in convalescence, and in discussing the modes of spread of the infection it is noted that, in view of the fact that enteric infections are so frequently spread by milk, it cannot be too strongly urged that efficient pasteurisation, if generally enforced, would greatly reduce the chances of transmission.

As regards the identification of carriers, this, it is asserted, depends on the isolation of the specific organism from discharges and secretions. The subsidiary tests, such as the demonstration of specific antibodies in the blood (Widal reaction, etc.) and the skin sensitivity reaction, in general, it is concluded, do not give reliable information, since carriers not infrequently yield negative reactions.

The treatment of chronic enteric carriers with a view to abolishing excretion of the specific bacilli is considered under two headings—non-surgical and surgical. As regards non-surgical treatment of intestinal excretors, the conclusion is reached that drug treatment (chemotherapy), physiotherapy, measures aimed at alteration of the reaction and the flora of the intestine and vaccine therapy, have all proved ineffective. On the other hand, where the gall-bladder is the site of infection, surgical measures directed toward that organ have yielded highly satisfactory results. The most extensive experience relates to cholecystectomy, which, according

to collected records has effected cures in 75 per cent. of cases. In the course of the investigation which is the subject of the report, three chronic intestinal excretors were operated on, and, as the result of very thorough and prolonged investigation afterwards, it is concluded that all were cured; these comprised two biliary carriers of *B. typhosus* and one of *B. paratyphosus* B. In chronic urinary carriers, treatment by antiseptics or vaccines fails as a result frequently of the presence of gross lesions in the urinary tract. In a few instances the infection has been proved to be unilateral by means of ureteral catheterisation and a lesion has been found on the same side. Operative treatment directed toward the lesion has then effected cure.

To health authorities and their officers this report is of peculiar interest and value, not only because of the adequacy of the discussion it offers of the tried methods of prevention, but because of the reminders it contains of a danger that is ever present and too liable to be overlooked.

The Royal Sanitary Institute Congress.

THE annual congress of the Royal Sanitary Institute, so often happily named the Public Health Parliament, meeting on this occasion at Blackpool, opens on June 17th, and continues in session until June 24th. Lord Cozens-Hardy will preside, and there is down for discussion a very large number of subjects. Amongst such as are of peculiar interest to members of the Society may be noted: a general medical service for the nation; some psychological problems in industry; the place of the maternity hospital in maternity and child welfare schemes; acute rheumatism in children; social care work of a rheumatism supervisory centre; decentralisation as an aid to economy in public health administration; hospital administration and its relationship to the health department; infant life protection; the training of health visitors; estimates of future population in relation to local government; and housing and slum clearance.

This congress, it is hardly necessary to mention here, is regarded as the most important public health gathering of the year, and a large attendance is already assured. In addition to the many local authorities in Great Britain who, in spite of the discouragements contained in a recent circular, have appointed

delegates, the following will also be represented: The Admiralty, the Air Ministry, the War Office, the Home Office, the Ministry of Health, the Department of Health for Scotland, the Ministry of Agriculture and Fisheries, and the Department of Agriculture for Scotland. From overseas, representatives are expected from various parts of the Empire; from the United States of America, and from many countries on the Continent, in Southern and Central America, and the East.

In connection with the congress, the usual Health Exhibition has been arranged in the Winter Gardens. The exhibits will include infant and invalid foods, household and kitchen appliances, hospital appliances, refrigerators, electrical and gas apparatus, and sanitary and drainage appliances. The Town Clerk and the Medical Officer of Health of Blackpool are acting as the honorary local secretaries and have made the fullest possible arrangements for the convenience of delegates, and many official and other invitations have been received indicating a strong local desire to secure success for the meeting.

*The Next President.**

WHEN Dr. Pearce took the chair at the meeting of the Council, on Friday, May 19th, it seemed but a few weeks ago that he had first entered his high office; nevertheless, the principal item on the agenda was the appointment of his successor. This is not an easy task at any time, for the choice is so wide, and out of the many who are worthy of the distinction there are few in any one generation who can be chosen. Thus, each year the Council of the Society faces the difficult problem of selecting a man of sound reputation and mature judgment, and one who will not only add lustre to the Society in the eyes of the outside world, but who will command the respect of his colleagues, many of whom are well qualified to hold office. On the present occasion there were four Fellows nominated for the presidential office, but eventually three withdrew in favour of one who, many years ago, earned the right to receive the highest honour the Society can confer upon him.

*The Editor does not accept responsibility for the opinions of correspondents, even when, in this case particularly, they are expressed in the pages reserved for editorials.

Dr. Charles Porter was mentioned for the Presidency of the Society ten years ago, and oft-times the question of his going forward has been raised. The delay has been his own doing, for he has repeatedly withdrawn his name on becoming aware that some colleague has been nominated. Last year, for example, he would not allow himself to be nominated because the Yorkshire Branch were advancing the claims of Dr. Pearce. At last Charles Porter's name came up, but not from his own Branch alone, for a number of others nominated him or supported his nomination, and his election was unanimous.

For 15 years he was the Honorary Secretary of the Metropolitan Branch, resigning from that office some ten years ago to become the Branch President. The Branch showed their appreciation of his services by appointing him President for a second period—a distinction rarely given. Although still young in appearance and very active both mentally and physically, Charles Porter is probably the senior member of the Council of the Society, and has been one of its most diligent workers for more than two decades. For six or seven years he has been the Editor of this journal, and throughout that time it has been consistently attractive. The articles published have been well chosen, and his editorials have been not only instructive, but also racy and humorous. The journal has, indeed, maintained a high level, and it is probable that no other member of the Society could have raised it to such a pitch. Whatever may happen to other journals, it is safe to say that the busiest of the members eagerly opens PUBLIC HEALTH, even if only to read *Ut Ita Dicam*.

The Society will prosper under the Presidency of Charles Porter, for there are few in the public health service who enjoy a wider range of influence. It would take too much space to enumerate the various organisations served by the President-elect, and it must be sufficient to say that he has just completed two years' successful Chairmanship of the Council of the Royal Sanitary Institute, and has been appointed Registrar of that body, and that every society in any way connected, with public health has for some years past been anxious to have him as a member of their council or governing body.

By his journalistic and other work, Dr. Porter is known to every member of the public health service as a fluent and forceful writer,

but not everyone may know that he has something of a gift of oratory also. Indeed, he may be claimed as one of the Society's most prominent speakers and writers. In a President it is not improbable that such gifts will prove of value, even of greater advantage to the Society used in the presidential office than they may have been in the past when employed outside it. In any case, Dr. Porter, by the manner of his election, received an assurance that his elevation is in accordance with the best wishes of his fellows, and that there is hope also that it may bring him much happiness.

The Prevention of Deafness.

THE report by the late Dr. Eichholz, entitled "A Study of the Deaf,"* bids fair to become, if it is not already, one of the most important pronouncements on the subject. Certainly it has attracted wide attention both here and elsewhere and drawn forth numerous comments, some less entirely favourable than others. In it the suggestion is offered that further research is needed into the causes of deafness, and this, it is understood, the Minister of Health has under consideration. That the statement contained in the report that the vital factor in dealing with deafness lies along the lines of prevention, and that, although much is already being achieved through the public health services to arrest child deafness and post-natal deaf-mutism, more could be done by pursuing the methods at present available, has attracted his attention, is shown by the fact of the issue of a special circular to maternity and child welfare authorities (circular 1337a).† In this the suggestion is endorsed that these authorities should give close attention to the early and continuous treatment of infants suffering from ear defects, with a view to preventing the deafness and deaf-mutism which are otherwise likely to ensue. Attention is drawn especially to the particular measures recommended in the report. These comprise (a) the early and effective treatment of ear diseases resulting from infectious diseases such as measles, scarlatina, diphtheria and meningitis and (b) the particular observation and treatment of nose and throat defects.

The hope is expressed that the authority will take into consideration at an early date (i) what use can be made of existing facilities (e.g., infant welfare centres and health visiting) and what additional measures are necessary in their area to ensure the early detection of these defects and diseases in infants; and (ii) what arrangements can best be made for providing the necessary treatment. Wherever practicable it is regarded as desirable that the treatment of ear diseases should be entrusted to a medical practitioner who has special experience of this work, and in areas where such a specialist is engaged for the school medical service it is very properly suggested that arrangements could no doubt be made for his services to be available to the maternity and child welfare authority.

L.C.C. Hospital Reports.

OF the multitudinous volumes that go to make up the annual report of the London County Council, not the least worthy of note is that numbered Vol. IV (Part III), and entitled "Public Health—Medical Supplement to the Report on the Hospital Services."* Compiled under the direction of Sir Frederick Menzies, the County Medical Officer of Health, it contains a series of papers and reports written and prepared by members of the Council's staff working in hospitals, clinics, laboratories, etc., included in the public health organisation. Many of the communications relate to particular matters connected with the clinical or preventive sides of the infectious diseases. Dr. Rolleston of the Western Hospital, has a note on return cases of scarlet fever and their prevention, while Dr. Joe, of the North-Western, discusses post-tonsillectomy scarlet fever. Dr. Kelleher's article on the relationship of pemphigus to measles is a contribution worthy of study. A series of articles relating to the venereal diseases come mainly from Dr. Anwyl-Davies or Dr. Orpwood Price. The paper by the former, in which attempt is made to account for the failure of venereal disease clinics to attract women patients, has great practical value. Amongst special articles and reports deserving of attention are those on the treatment of acute lobar pneumonia by artificial pneumothorax, by Drs. Purvis and

Coghlan; the treatment of pleural effusion by air replacement, by Dr. Richards; a case of tetanus, by Dr. Lomax; and two cases of silicosis, by Dr. Libman. Pathology is represented by two papers, one by Dr. Fowler, discussing a case of air embolism in the course of artificial pneumothorax treatment, and the other by Dr. Braxton Hicks, relating to death from rupture of an infarcted spleen in a case of malignant endocarditis. Of problems in hygiene, the only one investigated, or considered worth recording, has reference to chemical and biological considerations affecting the control of swimming baths. The persons concerned in this investigation were Mr. Coste and Mr. Shelbourn.

The Queen's Nurses and the Local Health Authorities.

A COMMON view in the past was that acute illness could not be successfully nursed at home, and that without the facilities provided in hospitals for the use of the nursing staff, the patients must necessarily suffer. The statistics compiled by the Queen's Institute of District Nursing, and presented at the annual meeting of this body in a report shewing the work done by Queen's nurses in England and Wales on behalf of public health authorities, in regard particularly to the various notifiable diseases, go far to prove this incorrect. The results of home nursing, indeed, are found to be exceptionally good. The activities of the Queen's nurses are shown to be very varied, and the scope is becoming an ever-enlarging one as the value of home nursing among the poor and middle classes is more and more realised.

In 1932, 13,470 cases of pneumonia were nursed; of these, 1,229 were living in London, 7,475 were in other cities and urban districts, while the remainder were in rural and scattered areas. Of these patients, 68 per cent. became convalescent. The results vary somewhat in the different districts, and are difficult to account for, but as medical facilities are not so easy to obtain in scattered districts, and the nurses have many miles to travel, this probably accounts for the rather higher mortality in those areas. In London, 66.4 per cent. became convalescent, 16.1 per cent. were sent to hospital, and 11.6 per cent. died; in the urban areas, 65.5 per cent. became convalescent, 11 per cent. were sent to hospital, and 16.9 per cent. died; and in the rural areas, 69.3 per cent. became convalescent, 7.1 per

cent. were sent to hospital and 17.6 per cent. died. In some cases the patient was provided for in some other way (such as by a resident private nurse, or the care of friends) after a few visits had been paid, but before convalescence.

Measles cases to the number of 3,307 have been attended, 639 of which were complicated with pneumonia. The death-rate for this disease was 8.3 per cent. in London, 10.8 per cent. in urban areas, and 7.9 per cent. in rural areas, while the proportion of convalescents at home was 79.6 per cent.

Over 460 cases of puerperal fever and puerperal pyrexia have been nursed, resulting in convalescence at home of 74.3 per cent., while 23.6 per cent. were sent to hospital, and 1.5 per cent. died.

The nurses have also attended 776 cases of ophthalmia neonatorum, 349 of chicken-pox, 695 of whooping cough, 446 of infantile diarrhoea, 145 of pemphigus neonatorum; while no less than 12,925 children under five years of age have been nursed. The total number of visits paid to these patients was 43,014.

This work is in addition to the midwifery undertaken by 949 Queen's nurses, and 2,814 village nurses working in connection with the Institute, who attended 67,496 cases. The maternal mortality amongst these cases, it is worth noting, was 2.1 per 1,000.

Brompton Hospital Reports.

NOT only for what it brings, but for what it promises in its successors, Volume I (1932) of these reports* deserves note and welcome. Its main contents are 15 papers recently published by members of the staff of the Hospital, in which is provided much food for thought to those interested in respiratory diseases.

Prominent amongst the articles is one by Sir James Dundas Grant, on "Tuberculosis of the Larynx," which offers useful hints on the treatment of this condition and especially how to alleviate pain, as, for instance, by blocking the external laryngeal nerve. In a second article the same author advocates removal of the uvula for certain patients with a troublesome cough, and cites cases where it has given relief. There is little doubt that this minor operation was at one time too frequently performed, but this is no longer true to-day.

* Price 2s. 6d., from the Secretary, The Hospital for Consumption, Brompton, London, S.W.3.

* H.M. Stationery Office. Price 3s. net.

† H.M. Stationery Office. Price 1d. net.

* Year 1931, No. 2937. London: P. S. King and Son, Ltd., 14, Great Smith Street, S.W.1. 1933. Price 6s.

Drs. Dorothy J. Dow and W. Ernest Lloyd contribute three mainly statistical, but none the less interesting, papers on tuberculosis. The first deals with tuberculosis mortality in children. Under one year the tuberculosis mortality dropped 86 per cent. from 1898 to 1927, while deaths due to all causes, including tuberculosis, diminished 56 per cent. From ages one to five the drop was 75 per cent. and 58 per cent. respectively; from five to ten 47 per cent. and 39 per cent.; and from ten to 15 years, 35 and 32 per cent. Abdominal tuberculosis under five years has dropped from 131 per 100,000 living at that age in 1898, to 14 per 100,000 in 1927—an 88 per cent. fall, and rather resembling the New York statistics, which show that abdominal tuberculosis fell from five to one per 100,000 between 1898 and 1923. The very low American mortality is attributed to the spread of the practice of milk pasteurisation. Mortality from meningitis in this country at ages 0 to 5 fell 62 per cent. between 1898 and 1927, and that from other forms of the disease, 77 per cent.

The second contribution of these authors deals with the incidence of tuberculous infection and its relation to contagion in children under 15. Analysis is made of 1,220 children tested with tuberculin, 217 by the von Pirquet method, and the remainder by the Mantoux intradermal test, which was found to be more delicate. From 0 to 5 years the incidence of tuberculous infection was five times greater where there was a history of contact with an open case of tuberculosis. An investigation into the influence on infection of home conditions, and in which homes were classified simply as "bad," "fair," or "good," showed no difference unless an open source of infection existed, in which case the figures were 86, 76, and 68 per cent. for the three types of home respectively.

From a comparative study of chest radiograms and the Mantoux test in children by these authors also, it is interesting to note that in 100 cases showing radiographic infiltration, 43 per cent. reacted negatively to tuberculin, and it was therefore concluded that radiographically demonstrable lesions are few in children infected with tuberculosis, and that a large number of visible lesions are non-tuberculous.

Dr. Wingfield, in a paper discussing the problem of the child in the tuberculous household, makes some original observations, and

concludes, *inter alia*, that "infantile infection exerts no recognisable influence on the incidence of adult tuberculosis."

Writing on chronic non-tuberculous infection of the lungs in children, Dr. F. H. Young points out how very frequent these cases are, and that a fair prognosis may be given in children that have been "chesty" over a long period of years, for such cases are almost never tuberculous.

Sanocrysin is the subject chosen by Dr. H. E. Mansell and Dr. E. E. Atkin. The classification of disease adopted by the former is so complex that the results are difficult to follow, though it may be noted that he finds the drug useful, especially, but not solely, in the acute cases. Dr. Atkin, writing on the inhibitory action of sanocrysin on tuberculous lesions, shows that while rabbits injected intravenously with dead tubercle bacilli died after the injection of old tuberculin one month later, this termination was prevented very largely by sanocrysin, which also prevented in treated rabbits the extensive formation of tubercles after the first infection which took place in controls.

Other papers deal with malignant neoplasms, lipiodol injections and empyema, rendering the volume, with the contributions from which quotation has been made, an important contribution to the understanding of chest diseases and their treatment.

Obituary.

SIR ARTHUR WHITELEGGE

WITH great regret the Society records the death of Sir Arthur Whitelegge, K.C.B., M.D., F.R.C.P. LOND., D.P.H., which occurred in his eighty-first year, at his house in Kensington, on April 25th, 1933, after a short illness.

Before his appointment as Chief Inspector of Factories, in 1896, he had been Medical Officer of Health of Nottingham for five years, and County Medical Officer of the West Riding for seven years. He was Milroy Lecturer to the Royal College of Physicians in 1893, and was also at that period Lecturer on Hygiene and Public Health at Charing Cross Hospital Medical School.

Sir George Newman, who knew Sir Arthur Whitelegge probably better than anyone in the service, having joined with him in the authorship of the later editions of the text-book on Hygiene and Public Health, in an obituary

notice appearing elsewhere, draws a fine and true picture of one who was always an outstanding figure in the world of public health. Referring to his reports to the Home Office, Sir George reveals that it was from these came his first intimate knowledge of Sir Arthur and his ways of work. In talking of him as a partner in the authorship of the volume already referred to—a partnership which lasted for something like 15 years—Sir George shows him as "an extremely pleasant partner, but not easy-going. Every sentence must be 'vetted.' In the early days we went, rather laboriously, over the proofs together, always worrying over two points—first, is this quite accurate, and secondly, can it be expressed in fewer words?" He is shown to have been strongly in favour of the introduction of a factory medical service (including women inspectors of factories), the school medical service, health insurance, and industrial welfare work, and to all four movements he lent his wisdom and experience. In concluding a striking tribute, Sir George says that, in his sphere, "Whitelegge belonged to the master-builders, Chadwick, Simon, Farr, Tatham, and Murphy. He shared their competence, ability, and wide learning, but his reliability, patience, and character had greater effect even than his skill and execution. He was always there, a firm rock in the background—no airs, grimaces, or swank, no tale-bearing or detraction—a solid trustworthy man of high principle, good-willed as well as strong-willed, an example to us all."

Sir Arthur Whitelegge was an Honorary Fellow of the Society of Medical Officers of Health. He married, in 1885, Fanny Marian, daughter of the late John Callcott Horsley, R.A., who, with their two sons, survives him.

DR. W. A. MACNAUGHTON.

The death is also announced with regret of Dr. William Alexander Macnaughton, who held the post of Medical Officer of Health of the County of Kincardine for nearly 40 years. He graduated in medicine at Aberdeen, and engaged in private practice in the North of England for some time. After the passing of the Local Government (Scotland) Act, 1889, he became one of the 16 whole-time medical officers of health appointed by Scottish county councils, retiring in 1930, partly for reasons of health, and partly because the duties of his department were extended under the new Local Government Act. Dr.

Macnaughton was one of the founders of the Caledonian Medical Society, and was a Fellow of the Society of Medical Officers of Health, attached to the Scottish Branch.

THE Joint Tuberculosis Council announces that Dr. Peter W. Edwards (Medical Superintendent, Cheshire Joint Sanatorium, near Market Drayton, Salop) has been invited, and is prepared to give a series of short intensive post-graduate courses of a practical nature on modern methods of therapy in tuberculosis of the respiratory system, with special reference to collapse therapy. In the sanatorium there is abundant material for the full demonstration of artificial pneumothorax and allied procedures. Methods of sanatorium administration will also be demonstrated. No class will exceed four members in number, and may be less. Suitable arrangements for board and residence can be made within a convenient distance of the institution. The difficulty experienced by many full-time medical officers in finding time to get away to post-graduate courses is recognised, and every effort will be made to meet the convenience of intending members. As they will be intensive, no course need exceed three days if more time cannot be spared by the members. Details of dates, expenses, etc., will be sent on application being made to Dr. William Brand (Hon. Secretary for Post-Graduate Courses), 8, Highway Court, Beaconsfield, Bucks.

THE Manchester Northern Hospital for Women and Children has recently published an illustrated brochure containing a history of the institution from the pen of Mr. E. Wheatley Jones, who undertook the task as a thankoffering to the hospital. The proceeds from the sale of the booklet, which is interestingly written and attractively produced, are to go to the new hospital building fund. Copies (1s. each, post free 1s. 2½d.) may be obtained from the Secretary, Manchester Northern Hospital, 38, Barton Arcade, Manchester.

DR. GEORGE F. BUCHAN, Hon. Treasurer and Past-President of the Society of Medical Officers of Health, and Chairman of its General Purposes Committee, has been elected Chairman of the Council of the Royal Sanitary Institute for the session 1933-4, in succession to Dr. Charles Porter, whose term of office has expired.

The Problem of the Carrier in Enteric Fever.

By JOHN RITCHIE, M.B., CH.B., M.R.C.P.E., D.P.H., Medical Officer of Health, Dumfriesshire.

Though enteric fever cases are comparatively few to-day, the infection is there ready to operate, given the opportunity. As sources of infection the carriers are probably the most important. The paper of Dr. Ritchie, submitted to the Scottish Branch, on April 8th, 1933, has the particular value that it acts as a reminder of the existence of the danger, of the need to be ready to take action and, in addition, offers practical suggestions as to what should be done in regard to an admittedly difficult problem.

THE title of my paper refers to the general aspect of the enteric carrier problem, and I shall make no attempt to deal with bacteriological or epidemiological details. These have been intensively studied during the past 30 years, and such conclusions as have been formulated are familiar to us all. But we are concerned, as medical officers of health, not only with the scientific problems which the carrier presents, but also with the administrative machinery available to us for dealing with him. That such machinery should be something less than ideal is perhaps inevitable. Science is constantly progressing, but civil law must have a certain degree of permanence and stability. It is neither possible nor desirable that every advance in knowledge, every modification of theory, should be reflected in an immediate alteration of the statutes by which that knowledge is applied. Nevertheless, there comes a time when we must take stock of the position, and must ask whether sufficient new information has been acquired, sufficient conclusions established, to justify us in suggesting that administrative methods should be reconsidered, and amended in accordance with past experience and contemporary ideas. The amount of information regarding typhoid carriers which is now at our disposal seems to warrant such a survey of the question.

I shall endeavour to show that our existing powers are inadequate, and that they could be amplified and extended without any very revolutionary innovation. If you agree that this is true, I shall ask you to consider whether this Society should use its influence to press for such an amplification. The time is perhaps not inopportune. Two epidemics which recently occurred in England caused a good deal of public alarm, and emphasised

the fact that typhoid fever, despite its diminished incidence in recent years, may still prove a serious menace to a community. Contemporary knowledge on the carrier problem has been codified in an authoritative report by Professor C. H. Browning, recently published by the Medical Research Council—a report which seems to have roused a good deal of interest in the lay Press. It is clear, however, that if we want extended powers we must put forward concrete proposals, and show that they have a sufficient backing of professional opinion. It is in the hope that such proposals may be put forward with the backing of this Society that I am raising the matter here.

It is sufficient to discuss the enterica group, as typhoid and paratyphoid fevers are the only important diseases spread by intestinal carriers in this country at present. But it is probable that regulations suitable for controlling those could be applied also to dysentery, cholera, and the salmonella infections—all of those being conditions in which it is recognised that carriers may occur.

The great reduction in the morbidity of enterica which has been reported in recent years from every civilised country is often referred to as a striking result of sanitary progress. There may, nevertheless, be reason for doubting whether the victory over typhoid has been quite so complete or so final as some enthusiasts would have us believe. Whether a disease shall prevail in epidemic form or not depends on the balance of many factors, and it would seem that an apparently trivial matter may tip the balance in either direction. To-day we have in our favour a constantly increasing knowledge of the pathology of the disease, facilities for isolation which reduce the risk of extension, and sanitary improvements which have closed many of the channels by which the

disease formerly spread. On the other hand, social evolution has opened other channels which may in future convey infection to a larger population than in former times. A public gravitation water supply is doubtless safer than a dip-well, but if the gravitation supply should become infected its potentialities of mischief are far greater. Such water borne outbreaks as those at Pforzheim, Hanover, or Lyons were all of the first magnitude, affecting thousands of victims. All of those occurred since the War. The development of the milk trade in cities, entailing "bulking" of large quantities of milk, affords opportunities for mass infection. The largest milk-borne epidemic of typhoid fever on record occurred at Montreal, and was attributed to contamination of an extensive milk supply by a carrier. This was so recently as 1927, and over 5,000 persons were affected—a fairly good record for a single outbreak of a disease sometimes referred to as though it were practically extinct!

Again, the low incidence of enterica in recent years may itself prove a source of future danger, as the number of persons rendered immune by previous attacks must now be much smaller than it was, say, 30 years ago. We may suppose that when the proportion of susceptibles in a population increases beyond a certain point, the risk of epidemic prevalence is increased.

There can be no finality in matters of this sort. We cannot afford to relax our vigilance in regard to enterica. Extensive outbreaks are still possible, and the carrier of infection remains a danger to society.

As to the extent of that danger it is not possible to speak with certainty. Various estimates have been made of the proportion of typhoid patients who are likely to become permanent carriers. The conclusions, of course, depend on the frequency of bacteriological examination and the efficiency of the technique employed. Comparing the results of various investigators we might perhaps take 8 per cent. as a generous estimate. In that case, we can count at present on about 15 chronic carriers being added yearly to the population of Scotland. What proportion of those are employed in handling food, and so are in a position to be a serious danger to the public, there seems no way of estimating. But it is probable, I think, that those chronic carriers are responsible for the bulk of typhoid infection in Scotland. We know that the

disease can arise only from a human source. That is, every outbreak of typhoid is due to infection either from a clinical case or from a carrier. Of the two, the clinical case is, generally speaking, the more easily detected. Now, of eleven outbreaks of enterica occurring in Scotland during 1928-31 inclusive, and regarded as sufficiently important to be worth special mention in the annual reports of the Department of Health, six remain unexplained; in two, contamination by a carrier seemed probable, though actual proof was lacking, while in three, infection by a carrier was regarded as proved. It is not unreasonable to suppose that some of the six unexplained outbreaks may have been due to the same cause.

To what extent is the chronic carrier a menace to his fellows? Admittedly he is a potential source of danger. But his existence in a community does not necessarily imply that an outbreak of typhoid will occur—we know, in fact, that he may live for many years without the slightest evidence that he has spread infection to any one. The presence of a carrier is not to be regarded as a *vera causa* of disease, but merely as one of the conditions essential to its occurrence. It is well to remember that a great many factors must be present to determine transference of infection—still more, its assumption of epidemic form. The occupation and the personal habits of the carrier, the frequency and the degree of his excretion of the *contagium vivum*, the presence of a susceptible population, and the existence of a vehicle by which infection can be transferred, are all as important as the existence of the carrier state itself. Can we contrive any legislative machinery to control those, and so prevent the spread of infection without interfering unduly with the liberty of the carrier?

The principal means by which the typhoid carrier may spread infection are:—

- (1) By personal contact;
- (2) By insect vectors;
- (3) By water; and
- (4) By foodstuffs, including milk.

(1) Personal contact is a term which seems to be rather loosely used. Strictly speaking, it should, I think, be confined to instances in which infection is directly conveyed from one person to another without any intermediary such as food. Instances of nurses who become infected as a result of handling cases

—often unrecognised cases—of enterica are, unfortunately, not uncommon, and may be properly classed as instances of spread by personal contact. It is claimed that considerable outbreaks amongst people living in overcrowded and insanitary conditions may be caused in this way. Such, for example, were a series of Brazilian epidemics recorded by Severin,² which occurred amongst settlers living in an extremely bad sanitary environment. In such outbreaks it is difficult to eliminate the possibility that domestic infection of the household food supply may be as important as personal contact.

There are instances of carriers causing extensive infection in their own households. Nelis and Geens³ record a series of eight cases, two being fatal, which occurred in a single household in the space of two years. It was proved that the mother of the family, who had been the first to be affected, continued to excrete typhoid bacilli three years after her own illness. But, generally speaking, the available evidence indicates that the carrier is more dangerous to strangers than to his or her own family. "It would appear," says Browning, "that their natural resistance becomes enhanced as the result of repeated doses of the infective agent." Admittedly our knowledge of the subject is still far from complete, but we may perhaps be justified in assuming that personal contact, using the term in the restricted sense I have indicated, is of relatively small importance so far as the carrier is concerned.

(2) The rôle played by insect vectors in the spread of infections of the enterica group in this country has possibly been over-emphasised. Their importance in tropical climates is admitted, and no doubt they were a prolific cause of infection when the "conservancy" system was usual in congested areas. But the privy is now practically confined to rural districts, and the powers already possessed by local authorities to require the introduction of the water carriage system whenever possible provide a better means of closing this channel of infection than any restrictions on carriers could be.

(3) That water may be infected by a chronic carrier is undoubted. The Ecclefechan epidemic in 1930 was an example of an outbreak on a fairly large scale.⁴ I have since seen two isolated cases (and possibly a third) where infection apparently resulted from drinking from a stream into which more or

less crude sewage from a carrier's house was passing.

But here again existing powers, if fully applied, provide the proper remedy. It is the duty of the local authority to see that recognised supplies of drinking water are safeguarded, and if anyone chooses to drink from sources evidently liable to pollution, he does so at his own risk. We cannot hold the carrier responsible in such cases.

(4) The risk of infection by food is the real crux of the typhoid carrier question, and in the great majority of cases some kind of food-stuff is the vehicle of spread. The importance of this observation is enhanced by the fact that the handling of food is largely the business of women, and that female chronic carriers are four to five times as numerous as male. It would seem that if we can devise some machinery to prevent the chronic carrier handling food we shall have made a real advance toward protecting the public against infection from this source. Obviously, this can only mean food for use by the general public. It is difficult to see how any legislation could be devised to prevent, for example, a mother preparing food for her own children! But if we can devise means to exclude the carrier from any connection with the public food supply, we shall have made a great advance—probably as great as the present condition of our knowledge justifies. Before discussing how this may be done let me describe our existing powers and indicate in what respect they are insufficient.

For dealing with carriers we depend at present on Section 18 of the Public Health (Infectious Diseases) Regulations (Scotland), 1932, which replace the Carrier Regulations of 1921. Under those Regulations a person may, on sufficient evidence, be certified as a carrier for a period of three months, and during that period is under the same legal restrictions as apply to persons suffering from infectious disease. Admirable in theory as those Regulations may be, they are in practice too limited to afford effective control, for the following reasons:—

(1) They make no distinction between the "convalescent" and the "chronic" carrier, though those present quite different epidemiological problems. The "convalescent" carrier has, in the majority of cases, been recently notified as a case of enterica. He has been kept under bacteriological supervision during illness and convalescence, and the

existing powers are probably a sufficient check on his activities until such time as he ceases to be infective, which is, as a rule, after a reasonably short period.

The case of the chronic carrier is quite different. He is generally detected only because he is the apparent cause of an outbreak. His original illness may have occurred years before, and there is not likely to be any bacteriological record for the interval. Of two cases that I have had to investigate recently, one admitted after repeated questioning that she had had typhoid more than 20 years before; the other declared that he had never had typhoid, though he had been in contact with a brother and sister who suffered from it about 40 years previously. In such cases one's first business is to determine whether the suspected person is now actually a carrier within the meaning of the Regulations.

(2) For this, it seems necessary to prove that he is actually excreting typhoid bacilli. The definition of a carrier is given in Section 2—"Carrier, in relation to a particular disease means a person who has within himself the germs or other infective virus of that infectious disease, but has no other sign or symptom thereof, and is certified to be a danger to others in terms of these Regulations or of any Regulations revoked by these Regulations."

In practice, one can only prove that he has within him the germs or virus of the disease by demonstrating their presence in his excreta. Neither epidemiological evidence, presence of specific agglutinins in the blood, skin reactions, nor any other test is sufficient. Bacteriological proof that the virus is being excreted seems essential.

Now, there is no statutory obligation on a suspected carrier to submit specimens for bacteriological examination unless he be engaged in dairy work and so subject to Section 20 of the Milk and Dairies (Scotland) Act, 1914, when he may be called upon to provide specimens of mucus, faeces, or urine. There does not appear to be power under this Act—nor, so far as I am aware, under any other enactment—to authorise the medical officer to take blood for agglutination tests. It is often desirable that blood should be taken to indicate which of a number of persons is most likely to be a carrier, if there be no evidence pointing to a particular individual.

Apart from the dairy trade we have no powers. A grocer, a baker, a restaurateur, a professional cook, may flatly refuse material for examination, and, however strong the evidence implicating them may be, we are impotent, so far as the final test is concerned.

Even if the suspected carrier provide specimens, there is no guarantee that they are genuine. On the first occasion they may be, but the carrier soon realises that his condition entails certain annoying restrictions, and human nature being what it is, there is nothing extraordinary in his attempting to defeat what he generally considers an unjustifiable interference with his activities. Some obliging friend provides the necessary material, and suspicion is diverted. Recently I had to deal with a woman who had been proved a carrier in 1926. Five specimens of her faeces were examined in 1932. All were negative. But at the same time we were successful in cultivating typical typhoid bacilli from the cesspool which took the drainage from her cottage. One is not always so fortunate, and, as a matter of fact, the only way of ensuring that specimens are genuine is to remove the suspected carrier to hospital where it is possible to take precautions against substitution.

But, observe, we have no powers to remove him to hospital until he has been certified, and so brought under the relevant sections of the Public Health Act. In short, we cannot be sure whether he is a carrier without removing him to hospital; and we cannot remove him to hospital until we are sure that he is a carrier.

(3) If identified as a carrier, the person can be certified as such, but only for a period of three months. This may be sufficient in the case of the convalescent carrier, who is frequently cured within that time, but is quite useless in the chronic condition, which, once established, is likely to be permanent. The Report to the Medical Research Council states that "those who continue to excrete the bacilli after a year will not become cured spontaneously and are to be regarded as permanent (chronic) carriers." Obviously, a system which requires re-examination and re-certification of a chronic carrier every three months throughout his life time is not likely to be practicable. Legislation should recognise that the chronic condition, once established, will almost certainly be permanent.

(4) Owing to the fact that the excretion of typhoid bacilli by the chronic carrier may be intermittent, a negative bacteriological examination, or a series of such examinations, is no guarantee that he has ceased to be infective. The carrier who was responsible for the Ecclefechan outbreak was kept under supervision from September 7th, 1930, till February 24th, 1931. During that time 25 examinations of his faeces were made; 16 were positive, generally very markedly so; nine were negative. On two occasions, three consecutive negatives were obtained. Obviously, had he been examined for the first time during one of those negative periods, his condition would not have been recognised. Intermittent periods extending to several years are recorded. This is an additional argument against the three months' period of certification. Should its termination happen to coincide with a period when the carrier is not excreting bacilli he is at once freed from all supervision and restrictions, and presumably cannot be dealt with again till fresh cases have been traced to him.

Assuming, however, that our suspected carrier has submitted genuine specimens of his excreta, that those have been shown to contain typhoid bacilli, and that certification has been duly carried out, what follows? We cannot isolate him for the rest of his life as lepers were segregated in the Middle Ages. Before suggesting that any member of the community should be thus condemned to perpetual isolation it would be necessary to prove beyond all doubt that the danger incurred by leaving him at liberty was so great that incarceration was the only possible safeguard. To make him live under a three-monthly certification system—a sort of pathological ticket of leave—is almost as impracticable. One may sometimes find him work under conditions which make it unlikely that he can do damage—I have at present a chronic carrier working as a general handy man at a fever hospital—but such jobs cannot always be found. The chronic carrier, once detected, becomes a problem as vexatious to the administrator as he is fascinating to the bacteriologist, and the medical officer finds himself much in the position of a man holding a wolf by the ears—anxious to be rid of him, but afraid to let go!

How, then, shall we deal with him? We must recognise that his condition is incurable, and that, unless he is prepared to undergo a

somewhat serious surgical operation, he will in all probability remain a carrier until he dies. Legislative measures based on the possibility of ultimate spontaneous cure may therefore be rejected as inapplicable.

Isolation, as has been indicated, would logically have to be permanent, and so lies outside practical politics. What remains?

I have pointed out that contamination of foodstuffs is by far the most important way by which the typhoid carrier can spread disease. If we can devise some means of preventing his undertaking work which entails handling food we shall have found the solution for our chief difficulty. There is, of course, nothing in the least new or revolutionary about the suggestion. As a matter of fact, we already possess the necessary legal powers in some degree, if only we could exercise them. As soon as we are sufficiently certain of our carrier to certify him, he comes under the provisions of Section 58 of the Public Health (Scotland) Act, 1897, and so is prohibited handling foods, exactly as though he were a clinical case of typhoid fever. The real difficulty, as I have indicated, is getting the evidence to justify certification. It is in this respect that our powers require strengthening and extending, and the following suggestions are made as a basis for discussion:—

(1) All idea of isolating carriers, except for bacteriological examination, should be dropped.

(2) Our aim should be to prevent the carrier engaging in such occupations as entail the handling of foodstuffs, including milk, and possibly certain other occupations, as, for example, work connected with public water supplies.

(3) Every person suffering from typhoid fever, whether isolated in hospital or at home, should be kept under bacteriological supervision until such time as he ceases to excrete typhoid bacilli. If excretion persists after clinical cure, he should be certified as a "temporary carrier" and released from hospital, if that be thought expedient. The period of certification should be extended from three months to a year, and there should be powers to require the carrier to return to hospital for examination before the certificate is cancelled.

(4) Any person shown to be excreting typhoid bacilli a year after the date of his original attack should be certified as a "permanent carrier." This certificate would not be for any specified period, but would remain in force till cancelled. The onus of showing that he was cured would rest on the carrier, and a high standard of proof would be required, but it would be an obligation on the local authority to afford all necessary facilities for examination, and if they were not provided the carrier would have the right of appeal to the Department of Health.

(5) During the currency of the certificate, whether temporary or permanent, he would be under restrictions similar to those enforced by Section 58 of the Public Health (Scotland) Act, 1897. Whether any of the other sections relating to infectious diseases should also be applied is a matter for discussion. It would be obligatory on the certifying authority to provide the carrier with details of the evidence on which certification was based, and of the restrictions applying to his condition.

(6) In the case of a person suspected on epidemiological grounds of being a carrier, but in respect of whom bacteriological proof is lacking, it should be possible to certify him as a "presumptive carrier," and to remove to hospital for bacteriological examination. It may be objected that removal of an apparently healthy person on suspicion only is a somewhat drastic procedure. But I submit that it is no more so than the removal of a healthy contact to a reception house, for which we have powers under Section 47, Sub-section 4, of the 1897 Act. There is little difference in principle between removing a healthy person from a house where infection has existed and removing such a person from a house to which infection has been traced.

(7) It has already been suggested that details of all chronic carriers discovered should be submitted to the

Department of Health, collated by them, and lists circulated to medical officers. The Department did not consider it expedient to adopt this suggestion meantime, but I submit that some such system would be of material assistance in investigating and controlling outbreaks of typhoid.

(8) The question of compensating persons precluded from following their usual occupation by reason of their having been certified as carriers should be considered.

Those are the lines along which I suggest action is possible and desirable. Many points of detail require to be worked out and many adjustments made. It is in the hope that this Society may regard them as worth further consideration that I have laid them before you.

REFERENCES

- ¹Chronic Enteric Carriers and their Treatment. Medical Research Council, Special Report Series, No. 179.
- ²Muench. Med. Woch. 1930. V. 77, 1885.
- ³Rev. d'Hyg. et de Méd. Préventive, 1930. V. 52, 609.
- ⁴Journal of Hygiene, 1932. V. XXXII. 417.

THE Nineteenth Annual Conference of the National Association for the Prevention of Tuberculosis will be held on July 13th, 14th and 15th, 1933, in the Lecture Theatre, Engineers' Institute, Cardiff, under the Presidency of Sir Robert Philip, M.D., LL.D., Chairman of the Council. The principal discussion will deal with "The Part Played in the Production of Tuberculosis respectively by (1) Infection; (2) Environmental Conditions," the speakers including Dr. Ralph M. F. Picken (Cardiff); Dr. F. C. S. Bradbury (Lancashire); Dr. H. D. Chalke (Cardiff); Dr. G. C. M. M'Gonigle (Stockton-on-Tees); Dr. R. J. Peters (Glasgow); Dr. W. G. Savage (Somerset); and Dr. Harley Williams (London). Addresses will also be given on "The History and Organisation of the King Edward VII Welsh National Memorial Association" by Lord Davies of Llandinam, Professor Lyle Cummins, and Dr. D. A. Powell. In addition to visits to institutions, there will be a demonstration on the pathology and bacteriology of tuberculosis, and an exhibition of X-ray films. Full particulars of the Conference may be obtained from the Secretary of the Association at Tavistock House North, Tavistock Square, London, W.C.1.

AN International Congress on Cancer will be held in Madrid, from October 25th to 30th, 1933, under the patronage of the President of the Spanish Republic. The subject will be considered from the scientific and social standpoints, and, in addition, there will be an exhibition dealing with apparatus, experimental cancer, models of institutions, a bibliography of the subject in all languages, etc. All enquiries should be addressed to the Secretary-General of the International Congress for the Scientific and Social Fight against Cancer, Faculty of Medicine, Atocha, 104, Madrid.

THE Empire Municipal Directory and Year Book, 1933-34, is so well established as scarcely to need further recommendation. The present is the fifty-first annual issue, and, like its predecessors, contains, in addition to a directory of local authorities and their officials in the British Isles and Overseas Dominions, a wealth of information on housing and town planning, sewerage and water supply, public health law, and many other subjects of concern to health officers. Copies of the publication (price 12s. 6d. net.) may be obtained from the Sanitary Publishing Co., Ltd., 8, Breams Buildings, London, E.C.4.

Ut Ita Dicam.

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

The Extraordinary Meeting.

One of the meetings called for Friday, May 19th, was an "extraordinary" one, but it was not by any means the only one at which there were extraordinary happenings. At the Council meeting, for one person something that was extraordinarily pleasant occurred, when, one after the other, Dr. Nash, Dr. Ward and Dr. Wilshaw, nominees for the high office of President, with a fine generosity, withdrew so that one name only should receive consideration. That the individual so favoured by colleagues, with claims so strong as the men named possess, appreciates and will treasure the memory of the fineness of the gesture may be accepted. For some people at the extraordinary general meeting, which was called half an hour earlier than the ordinary meeting for the purpose of considering and, if thought fit, passing with or without amendment the revised articles of association, the happenings were not quite so pleasant as that mentioned. From all accounts it would seem that the word "extraordinary" was taken to mean that the meeting should be made extraordinary. So extraordinary was it at times that it was difficult to be quite certain what was on, and the why and wherefore of the situation. One effect of discussing here and there, and by and large, was to encroach to such an extent upon the time allotted to the ordinary meeting that when the opportunity of dealing with the business set down for consideration thereat arose, the hour was so late and the attendance so meagre that it was deemed unfair to ask Dr. Macdonald, of Stockport, to read his paper on "The Responsibility of the Local Authority towards the Blind." As Dr. Macdonald had come all the way to headquarters at the express invitation of the Society to open a discussion on this extremely important subject, the extraordinariness of the extraordinary meeting must be regarded as particularly unfortunate and distressing in his case. That he should have been willing to agree to postpone the reading of the paper till a meeting in the next session, and to undertake a further journey to London for the purpose, is particularly generous on his part, and

places the Society all the more deeply in his debt.

On Names.

The chief cause of the prolongation of the extraordinary meeting was the need felt by a number of those present to discuss at length the question of changing the name of the Society. The decision arrived at was to refer the matter back to the Council of the Society, which, of course, leaves the question *sub judice* and forbids that, here particularly, it should be discussed. It is permissible to say, however, that this business of naming is always an annoying one, and that Shakespeare was quite wrong—as others have pointed out—in trying to belittle the importance of finding the proper name for things and people, and supposing that it made no difference if one called a rose something else, or applied the name "William" to a person whose actual given name is "George." Come to think of it, there is always something rather disreputable about changes of names. In police-court charge sheets or, for that matter, in common lodging house lists, how invariable it is to find John Parker is also known as Percival Parkinson, and willing, too, to respond if addressed as Michael Mouse. I have wondered why there should be this desire to have more than one name on the part of the young man of no fixed abode other than a common lodging house. Largely I think it is due to a boyish wish to appear to have gone all the way so far as badness is concerned; because it gives an air of mystery and stimulates a belief that there is something to hide. Anyway, behind it there is something not quite nice and an entirely different regard for names than that possessed by a prominent tradesman, with whom I had contact many years ago in a district in which I worked, who refused to allow his numerous progeny to have any name at all, addressing always the first-born as "one" and the brothers and sisters in accordance with the number reached at the time of his or her arrival. Whether or not any of the extremely handsome boys and very attractive girls took the trouble to change from "one" and "two" or "three" and "four" to George or Mary or Percy or Ermyntude I never learned, but I think no

No Change Here.

Amongst folks who do not believe in changes of name are such as are concerned with the production of journals and books. Before me at the present moment there is a volume with a title very familiar to all connected in any way with public health work during the last 30 years or more, though in the period that has elapsed since its first publication, its form, its authorship, its trend and its intent have all altered many times. The "Sanitary Inspector's Handbook," a title originally used for a book written by Mr. Albert Taylor, a sanitary inspector, of Westminster, in the nineties, and dealing with the practical side of an inspector's job, now applies to a quite distinguished volume having as its author, Mr. H. H. Clay, a member of the staff of the London School of Hygiene and Tropical Medicine of the University of London. Unlike the earlier volumes, Clay's handbook in appearance, in the matter of its point of view, its contents and its arrangement bears no resemblance to them whatever. The sort of impression that, wittingly or unwittingly, Clay gives, is that the need for teaching is very much greater to-day than formerly it was, and that a very great deal can be done by teaching, particularly if the method is right. All the way through he is a teacher, teaching. The old Taylor "Handbook" gives a different impression entirely. The author was not an expert teacher, teaching against a background of knowledge, experience and understanding of sanitary inspection, as Clay is; he was a skilled and practical day by day inspector, showing how he performed certain of the duties he was called upon to carry out.

The Sanitary Inspector's Handbook.

The new "Sanitary Inspector's Handbook" of Mr. Clay,* as was to be expected in the case of a book prepared by a teacher, is not satisfied with merely describing duties and detailing the methods of their performance. In regard to every matter it gets down to reasons and seeks not only to make things plain but interesting as well, and to stimulate a desire for fuller knowledge and experience and the securing of the results any particular procedure described is designed to produce. The whole plan of the volume is entirely

* London: H. K. Lewis and Co., Ltd., 1933. pp. Price 15s. net.

different from that followed in the earlier editions. The balance is different and the tone. In the arrangement of the matter in the various chapters, Mr. Clay has followed the practice, originally introduced about 1905 in a text-book still largely used by students of public health and others, of preceding the discussion with a summary of the law bearing upon the subject. In deciding to follow this example, Mr. Clay chose wisely and by doing so has certainly added to the readability and teaching value of the book. Throughout there is evidence of the extremist pride in his subject on the part of the author, and that there was no sparing of effort on behalf of the reader to secure that everything should be absolutely clear and accurate. Myself, I find it an excellent and wonderful production; written with knowledge and discrimination; excellently arranged and most perfectly and fully illustrated. Mr. Clay, I feel sure, has made it an absolute certainty that the name "Sanitary Inspector's Handbook" will never be changed, but that it will be continued for so long as there is any need for sanitary inspectors and the training of those who are to act in this capacity.

A Rhyme or Two.**MURAL DECORATION.**

Mary Mary's Pa's contrary;
With Schicking he doesn't agree.
But through his objections
To simple injections,
Poor Mary's got diphther-ee!*

JUST LIKE MANCHESTER.

Old King Cole was a silly old soul,
"I like my milk raw," said he,
"So ban for this nation
"All pasteurisation;
"Who cares about Bovine T.B.?"

* Which provides opportunity for mentioning that Dr. Nash, whose paper on "Diphtheria Immunisation" appeared in the May issue of PUBLIC HEALTH, asks that it should be pointed out, though he did not record it in his paper, "that amongst the earliest work done in this country with regard to immunisation was that by Dr. C. B. Ker, and also Dr. Benson, at Edinburgh. I hasten therefore," he adds, "to make these facts known, in order that credit shall go to whom credit is due."

The Society.

Reports, Proceedings and Announcements.

NOTICES.

NOMINATIONS.

The following nominations have been received for the next election.

As Fellows:—

George Vincent Ashcroft, M.D. (MAN.), D.P.H., M.R.C.P. (LOND.); William Frederick Twining McMath, M.D., M.R.C.P. (LOND.), D.P.H., L.M.; Clayton Conyers Morrell, L.R.C.S., L.R.C.P. (EDIN.), D.P.H. (LOND.); Archibald Campbell Munro, Lieut.-Colonel, I.M.S., M.D., CH.B. (GLAS.), D.P.H. (CANTAB.); John Morrison Watt, M.D., CH.B. (EDIN.), D.P.H.

SCHOOL MEDICAL SERVICE GROUP.

A meeting of the above Group will be held at Christ's Hospital (Girls), Hertford, on Saturday, June 10th. Members are asked to meet at the School at 3 p.m.

The Headmistress has arranged for members to be taken over the School and tea will be served.

The Green Line 'bus passes the door of the School, which is adjacent to Hertford Station.

Will those intending to be present kindly notify the Hon. Secretary as early as possible.

L. C. ADAM,

Hon. Secretary.

Embassy Hotel,
Bayswater Hill, London, W.2.

FEVER HOSPITAL MEDICAL SERVICE GROUP.

The next meeting of the above Group will be the Annual General Meeting, and will be held at the house of the Society, on Friday, June 30th, at 3.30 p.m.

The principal business will be the election of officers and Council for 1933-34, and an address by Dr. Benn, Birmingham, on "Heart Failure in Diphtheria."

The above meeting will be preceded by a meeting of the Council at 3 p.m.

A. JOE,

Hon. Secretary.

North-Western Hospital,
Lawn Road, London, N.W.3.

MATERNITY AND CHILD WELFARE GROUP.

Programme of Post-Graduate Course.

Please note changes and additions to the programme.

Monday and Tuesday, July 3rd and 4th, 1933.

Monday, July 3rd, 1933.

10.30 a.m. Royal National Orthopaedic Hospital, 234, Great Portland Street, W.1. Demonstration by Mr. W. H. Trethowan, F.R.C.S.

2 p.m. Royal Westminster Ophthalmic Hospital, Broad Street, W.C.2. Demonstration by Mr. C. L. Gimblett, F.R.C.S. Tea at the invitation of the Hospital.

Tuesday, July 4th, 1933.

11 a.m. Queen Charlotte's Hospital Isolation Block, Ravenscourt Square, W.6. Demonstration by Mr. L. Phillips, F.R.C.S.

12 noon. Demonstration of laboratory work.

3 p.m. (A). North Kensington Women's Welfare Centre, 12, Telford Road, Ladbrooke Grove, W.10. Demonstration of Contraceptive Technique by Dr. Helena Wright.

or (B). Mothercraft Training Society, Cromwell House, Highgate Hill, N.6.

Inspection of the Home and the new Princess Elizabeth of York Hostel. Demonstration of cases by Dr. R. C. Jewesbury. Tea at the invitation of the Society.

7.45 p.m. Annual Business Meeting at the house of the Society, 1, Upper Montague Street, Russell Square, W.C.1.

8.30 p.m. Presidential Address, "War in the Family," Dr. Margaret Emslie.

The Post-graduate Course is open to all doctors attending the National Association for the Prevention of Infant Mortality Conference, July 5th, 6th, and 7th. Members intending to be present are requested to notify the Hon. Secretary as soon as possible, and to state whether it is desired to attend A or B on the afternoon of July 4th.

C. ISOBEL WRIGHT,

Hon. Secretary.

121-131, Rosebery Avenue, E.C.1.

COUNTY DISTRICT GROUP.

The Annual Meeting of the Group will be held at Blackpool, during the Congress of the Royal Sanitary Institute. Details of the day, time and place will be circulated to each member.

C. HERINGTON,

Hon. Secretary.

Council Offices, Erith, Kent.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society, on Friday, May 19th, 1933, at 2 p.m.

The President was in the chair, and there were also present: Drs. T. W. N. Barlow, G. F. Buchan, J. J. Buchan, A. K. Chalmers, R. P. Garrow, C. E. Herington, J. Howard-Jones, Professors W. W. Jameson, J. Johnstone-Jervis, Drs. A. Joe, G. C. M. M'Gonigle, J. Mair, C. Killick Millard, H. J. Milligan, W. A. Muir, E. H. T. Nash, A. H. Nicoll, R. M. F. Picken, T. N. V. Potts, T. P. Puddicombe, E. H. Snell, P. H. Stirk, J. A. Stirling, D. J. Thomas, E. Ward, H. Gibbons Ward, R. H. Wilshaw, F. T. H. Wood.

The minutes of the last meeting were confirmed and signed, and apologies for absence were received from Drs. A. F. Cameron, R. Veitch Clark, James Fenton, R. H. H. Jolly, G. W. N. Joseph, W. Paterson, Charles Porter, and V. F. Soothill.

Before proceeding to business the President expressed the gratification of the Council at Dr. G. F. Buchan's recent election as a Fellow of the Royal College of Physicians; this was especially pleasing in view of the prominent part Dr. Buchan had always taken in the Society's affairs. Dr. Buchan returned thanks.

Public Health Veterinary Officers.—The Executive Secretary reported correspondence with Mr. J. A. Dixon, Chief Veterinary Officer, Leeds, on the question of a Society to represent whole-time veterinary surgeons in the service of local authorities, and that he had suggested to Mr. Dixon as a first step that whole-time veterinary officers should form themselves into a Group of the Society; 17 of the Society's veterinary Associates were from the Yorkshire area.

Herefordshire Salaries.—Letters were reported from members of the Society in the service of the Herefordshire County Council asking for action to be taken on their behalf in regard to salary reductions in that county. The Council asked Dr. G. F. Buchan to take such action as he thought best in this matter.

Report of the General Purposes Committee.—Dr. G. F. Buchan presented the report of the General Purposes Committee (meeting held May 5th) as follows:—

Advisory Committee on Salaries.—Dr. E. Ward, referring to the minutes, asked whether fuller minutes could be given in future regarding the meetings of the

Advisory Committee. The chairman stated that he would enquire into the possibility of a short report of these meetings being circulated to the medical journals.

Administration of Anaesthetics by a Dental Surgeon.—Referring to the minutes, the Secretary reported that the legal advisers of the Associate in question were definitely of opinion that no action against his authority for wrongful dismissal would lie; the case of Brown v. Dagenham U.D.C. (1929) demonstrated that a local authority, under the Public Health Act, 1875 (Sec. 189), can dismiss an assistant medical or dental officer without notice, even if the terms of the particular appointment include provision for notice of termination. In this instance the dental officer had now sent in his resignation, and his solicitor would claim his arrears of salary up to the day on which the appointment was terminated. The above mentioned anomaly regarding termination of appointments was dealt with in the draft Bill of the Local Government Consolidation Committee.

Short-Time Appointments of Medical Officers.—A letter was received from the British Medical Association, reporting that following the opinion expressed by the Society in November last, the Public Health Committee of the Association had resolved:—

"That the Association take no action with a view to the extension from one to two years of the probationary period referred to in the Note to Section I of the Memorandum of Recommendations, but if this question should arise after March 31st, 1934, the Committee will consider the advisability of suggesting amendment of the Note to Section I of the Memorandum in the following terms:—

'Note:—Where the appointing authority limits the appointment to a term not exceeding one year and not renewable, or to a term not exceeding two years and not renewable if the appointment provides for a substantial change in professional duties or affords facilities for study for a post-graduate qualification during that term, this salary shall not apply, nor shall it apply to officers without previous professional experience.'

Superannuation.—A letter was received from the Legal Secretary, National Association of Local Government Officers, replying to the Society's representation in regard to superannuation as follows:—

"I beg to acknowledge receipt of your letter of the 30th March with enclosures, for which I am obliged. You can rest assured that this Association will continue to press the Ministry of Health for legislation to make compulsory the adoption of the Local Government and Other Officers' Superannuation Act, 1922, by all Local Authorities.

"The Council of the Association has expressed itself in favour of a provision that Local Authorities shall be empowered to add years of service up to 10 in cases where special technical qualifications, necessitating several years of training and a correspondingly late age of entry to the Service, are required. I think, however, that it is very unlikely that Parliament would agree to a provision making the addition of years in such cases compulsory."

In reply to a further enquiry the Legal Secretary, N.A.L.G.O. had written:—

"This Association has already asked the Ministry of Health to include in any Bill to amend the Local

Government and Other Officers' Superannuation Act, 1922, with the object of establishing a compulsory Superannuation Scheme for all Local Government Officers, a provision to enable the widows of superannuated persons to receive pensions on terms not less favourable than those given by the Cardiff Corporation Act, 1932. In the case of Cardiff, the Superannuation Scheme is one established by a local Act, but similar provisions relating to pensions for widows have been incorporated in a scheme made under the Superannuation Act of 1922 by the Cambridge Corporation Act, 1932. Five Bills introduced this Session contain a similar provision relating to pensions for widows, namely, those promoted by the Barking, Manchester, Salford, Wigan and Workop Corporations respectively."

Training of Nurses.—A letter was received from the Organising Secretary, National Association of Local Government Officers asking the Society to consider and, if possible, arrange means whereby prospective nurses might have opportunities for acquaintance with public health work from the preventive side prior to engaging in the study of the curative side of nursing. It was suggested that, with the co-operation of medical officers of health, school medical officers, tuberculosis officers and others, probationers and prospective probationers might attend for given periods at day nurseries, nursery schools, welfare centres, etc., before taking up sick nursing; and that the centres at present in use for the training of health visitors might be utilised to train approximately one-third health visitors and two-thirds trainees for prospective hospital probationers, with a view to avoiding a continuance of the preparation of an excessive number of health visitors. The giving of opportunities for clerical work, such as filing and the keeping of records, was also suggested.

The Committee suggest that the Council should reply stating they are of opinion that the type of training outlined above would be advantageous for nurses, but that arrangements for such a course of training would have to be made locally.

The Council confirmed the above recommendation.

"Health and Empire."—A letter was received from the Secretary-General, British Social Hygiene Council, stating that it was proposed to circulate the quarterly journal, "Health and Empire," to the M.O.H. and Director of Education of each local authority to be available for the use of lecturers, and asking whether the Society would approve of this proposal.

The Committee directed the Secretary to thank the B.S.H.C. for informing them of this proposal, which would no doubt be welcome to members.

The President of the American Social Hygiene Council.—A letter was received from Dr. T. Drummond Shiels (British Social Hygiene Council), stating that Dr. Keyes, Professor of Urology in Cornell University and President of the American Social Hygiene Council, would be in London for the Imperial Social Hygiene Congress (July 3rd-7th) and asking whether there was a possibility of the Society arranging a meeting for an address from Dr. Keyes.

The Committee is of opinion that the month of July is not a favourable time for such a meeting owing to the incidence of other conferences and holidays. They suggest, however, that if Dr. Keyes stayed for a longer

period the Society would be glad to hold such a meeting late in September or early in October.

Antimony Poisoning.—The Association of Municipal Corporations forwarded a letter from the Town Clerk, Dover, re Antimony poisoning and requested the observations of the Society. The Town Clerk, Dover, wrote that his Committee had had under consideration Ministry of Health Memo. 171/Med., in which it was suggested that now that the use of antimony in the place of tin was becoming common in the enamelling of hardware, it was advisable that the public should be warned that enamelled hollow-ware vessels, obviously intended for other purposes might be dangerous if used for the preparation or storage of food or drink. The Dover Town Council requested the Association to make representation to the Ministry of Health for an order requiring that such vessels should be clearly marked by manufacturers as unfit for use in the preparation or storage of food or drink.

The Committee recommend that a reply be sent stating that the Council are of opinion that the proposal of the Dover Council would be the best course if it were practicable, but consider that the Minister's circular gives adequate warning to the public in the present circumstances.

Drs. G. C. M. M'Gonigle (Stockton-on-Tees), C. Killick Millard (Leicester) and A. Joe (L.C.C. Hospital Service) informed the Council that enquiries had been made recently in their respective areas regarding the risk of antimony poisoning from enamelled hardware vessels. The Council therefore decided, in the light of the information given, to inform the Association of Municipal Corporations that in the opinion of the Society, antimony should not be used in the manufacture of enamelled hardware vessels. If, however, it was impracticable to prohibit the use of antimony in this connection, the Society was of opinion that the resolution proposed by the Dover Council should be adopted by the Association of Municipal Corporations.

Accounts Sub-Committee.—The Committee received the following report of the meeting of the Accounts Sub-Committee held on March 24th, 1933. The following were passed:—

CHEQUES—MARCH 24TH, 1933.

"Public Health" A/C.—Mr. A. H. James—Editorial assistance, March quarter, 1933, £12 10s.; Mr. G. S. Elliston—Commission on advertisements, March quarter, 1933, £19 5s. 6d.; Messrs. H. R. Grubb, Ltd.—Printing February and March issues, £102 0s. 9d.; Messrs. Press Etching Co., Ltd.—Blocks for March issue, £1 0s. 6d.

General A/C.—Messrs. C. E. Norris & Sons—Fixing new electric fan, repairs to window sashes and Yale lock, etc., £10 12s.; Sun Insurance Office, Ltd.—Premiums on fire policy, £3 18s.; Major D. S. Rabagliati—attending meeting of sub-committee re milch cattle. Maintenance and travelling expenses from Wakefield, £3 4s.; Messrs. Gestetner, Ltd.—

Stencils for duplicator, foolscap paper and postcards, £2 19s.; G. L. C. Elliston—Salary March, £37 10s.; G. L. C. Elliston—Petty cash requisition, £60; Dr. E. E. Stephens—Refund sub paid through Bank since resignation, £2 2s."

The Sub-Committee resolved to pay Dr. Charles Porter £50 to complete his honorarium as Editor of PUBLIC HEALTH for the year ending September 30th, 1933.

It was also resolved to hold quarterly meetings of the Sub-Committee. Between meetings the Hon. Treasurer would settle the usual recurring accounts, and report thereon to the Sub-Committee at the next meeting.

Licensing of Grade A Milk Producers.—Dr. Gibbons Ward wrote in reference to the point raised by him at the last Council Meeting, that he found it was peculiar to his own county and that as the administration of the regulations was being tightened he did not propose to carry the matter any further.

Medical Appointments in County Districts.—The Committee considered a memorandum on Section 58 of the Local Government Act by Dr. C. E. Tangye forwarded through the West of England Branch.

The Committee recommend that a Sub-Committee be set up to report on Dr. Tangye's memorandum, viz., Dr. G. F. Buchan (convener), and Drs. G. H. Pearce, C. E. Tangye, R. M. F. Picken, T. N. V. Potts, E. Ward, H. Gibbons Ward and James Ferguson.

The Council agreed to this recommendation, and added the names of Drs. Agnes Nicoll and T. P. Puddicombe to represent the maternity and child welfare and school medical services respectively.

Administration of Vaccination.—A memorandum was received from Dr. A. E. Cope, Hon. Secretary, Public Vaccinators Association, in regard to the advice given by representatives of the Society to the Association of Municipal Corporations to the effect that compulsory vaccination should be abolished and powers should be given to local authorities to provide facilities for voluntary vaccination and immunisation against other infectious diseases. Dr. Cope's memorandum expressed the regret of his Association that the Society had committed itself to the immediate policy that compulsory vaccination should be abolished. The Association had hoped that the effect of the Local Government Act, 1929, would have been that the influence of medical officers of health would have supplemented the activities of vaccination officers and public vaccinators, and have rapidly increased the numbers of infants submitted to vaccination in their early months. His Association were apprehensive as to the wisdom of giving up the small amount of so-called "compulsion" in exchange for a voluntary system, the effect of which could not be estimated. The abolition of compulsion would deprive the public of the services of a public vaccinator, would abolish domiciliary vaccination, and might lead to the cessation of the government lymph preparation. The Association were also doubtful as to the effect of the relaxation of the central control of vaccination which seemed to be suggested by the extension of powers of local authorities who were not always in the past favourable to vaccination. Dr. Cope expressed thanks for the invitation to confer

with the General Purposes Committee; but stated that his Association had thought it better first to give some of their views in writing, leaving the way open for a conference if thought desirable later. They wished they had had an opportunity of putting their point of view before the Society had entered into communication with the Association of Municipal Corporations.

The Committee suggested that a reply be sent to the Public Vaccinators Association thanking them for their memorandum and stating that the Society has always made a practice of consulting any specialist Group before making recommendations to the Association of Municipal Corporations or other such bodies. In this case, however, the Public Vaccinators were, unfortunately, outside the Society, and the urgency of the matter had not allowed time to approach them. The Committee also pointed out that the only resolution passed by the Council of the Society was that of May 20th, 1932, viz.,

"That this Society while reaffirming its belief in the efficacy of vaccination in conferring immunity against smallpox, is of opinion that the time has arrived when the question, whether greater protection of the public against smallpox would be afforded by voluntary rather than compulsory, vaccination, should be considered."

The Council agreed to the above recommendation of the Committee.

Constitution of the Central Midwives Board.—The Committee received a memorandum prepared by Dr. J. J. Buchan on the constitution and functions of the Central Midwives Board.

The Committee considered that Section I of the memorandum, "The Midwife," deals with a matter that might be left to our representative on the Board. They recommend that Section 2 "The Local Supervising Authority," and Section 3, "The Central Midwives Board," should be forwarded for the information of the Association of Municipal Corporations, with an additional recommendation that there should be an increased representation on the Central Midwives Board of general practitioners practising midwifery (through the B.M.A.) and of this Society.

The Council agreed to this recommendation, and the following memorandum will, therefore, be submitted to the Association of Municipal Corporations:—

THE LOCAL SUPERVISING AUTHORITY.

The direct supervision of midwives cannot be undertaken by the central body, whose duty it is to make rules for supervising the practice of midwives, while it is the duty of the local supervising authority to exercise a general supervision of midwives in their area in accordance with these rules. No unreasonable rules have been made by the central body as to how the local authority should carry out its supervision of midwives, but it is undesirable that local authorities should be made subject to definition of their duties and to direction as to how these duties should be carried out in this matter, by any body other than the Ministry of Health.

The local supervising authority must, under the Act, investigate certain charges and, if a *prima*

facie case is found, report the same to the central body (Midwives Act, 1902, Sec. 8 (2)). Local supervising authorities have no discretion in the matter, if a *prima facie* case is established, with the result that many cases of very small importance have been reported to the Central Midwives Board. This procedure requires amendment, so that local supervising authorities may be in a position to deal with minor cases of malpractice, negligence or misconduct, if they see fit, by way of censure or caution or otherwise, the only cases which need be reported to the Board being those which, in the opinion of the local supervising authority, are so grave that the question of the removal of a name from the Roll arises. In such cases, it is clearly necessary that the local supervising authority should be in a position to submit the evidence given at their investigation, to the Board. If the powers and duties of local supervising authorities were revised in this fashion, it would be of much advantage to the midwives charged with offences, as local authorities would require to go much more strictly into the evidence of an offence, and not be merely satisfied with the existence of a *prima facie* case. It would be of advantage to the Central Midwives Board, saving that body the responsibility of the investigation in London of merely *prima facie* cases of offences, often of a minor character.

The local supervising authorities, when county or county borough councils, are made responsible for any adverse balance each year in the Central Midwives Board's accounts, apportioned in proportion to the population. The adverse balance in the Board's accounts amounts each year to about half of its total expenditure.

THE CENTRAL MIDWIVES BOARD.

The existence of a body under an indefinite and very loose control by the State, yet endowed with certain powers of levying from local authorities, and imposing duties upon them, is, to a large extent, anomalous and repugnant to the spirit of English administration. The functions and constitution of such a body require close examination and enquiry, and some such enquiry into the Central Midwives Board was made by a Departmental Committee of the Ministry of Health, which reported in July, 1929. In a public sense, the only reason for legislation to secure the better training of midwives and to regulate their practice, is the welfare of the mother and child, a duty now recognised as falling upon the Ministry of Health and local authorities; and if it be necessary to set up a special Board to secure these ends, the representation of the Ministry and these authorities should constitute the majority of the Board. It is clearly proper that practising midwives should be represented, but as one of the objects of the legislation is to regulate and restrict within proper limits, the practice of midwives, it would be eminently improper and dangerous to the public interest if they, or their representatives, had a controlling voice in the affairs of the Board. On the other hand, as the regulation of the education and examination of midwives is a

function of such a Board, then a proper representation of those with experience in this class of work is desirable, while the medical profession associated with Maternity and Child Welfare Schemes and those in the actual practice of Midwifery should clearly be adequately represented. Under the Midwives Act, 1918, the Board itself is the body which initiates changes in its constitution, and since the first constitution of the Board in 1902, there has been only one change, which, although considerable, did not alter its essential character as an *ad hoc* body upon which the representatives of the Ministry and local authorities were in the minority. The Board itself has felt this want of adequate representation, as it has periodically arranged conferences with local authority representatives, but, despite all these, there has existed, and still exists, a certain want of understanding between the Board and local authorities, which is not altogether for the good of Maternity and Child Welfare work in this country.

Though the Central Midwives Board has done so much by prudent administration, to bridge over the difficulties encountered, yet the time has now arrived when the constitution and functions of this Board should be revised, so as to secure still greater protection for the mother and child.

Ministry of Health Circular 1311.—The Committee considered the above circular relating to the report of the Ray Committee on Local Expenditure, and have no observations to offer.

Local Government Consolidation.—The Committee deferred for further consideration the Interim Report and Draft Local Government Bill prepared by the Local Government and Public Health Consolidation Committee.

Salaries of Whole-Time Public Health Medical Officers.—Dr. G. F. Buchan reported on the meeting of the Advisory Committee held May 3rd.

Proposed Lecture Tour by Dr. C. V. Craster.—The Executive Secretary reported he had arranged provisionally as follows for lectures on Diphtheria Immunisation by Dr. C. V. Craster:—

Thursday, Nov. 2nd,	Newcastle upon Tyne.
Friday, " 3rd,	Glasgow.
Monday, " 6th,	Edinburgh.
Tuesday, " 7th or	} Yorkshire Branch B.M.A.
Wednesday, " 8th	
Thursday, " 9th,	Birmingham.
Friday, " 10th,	London.
Monday, " 12th and following days,	Cardiff and South Wales.

The Committee understand that on receiving an official invitation from the Society, Dr. Craster will approach one of the large American Foundations for financial assistance towards the tour. They recommend that an official invitation be sent to Dr. Craster accordingly.

The Council agreed to the above recommendation.

Sessional Programme, 1933-34.—The Executive Secretary submitted provisional programme for next year's meetings as follows:—

1933.

October 20th, 5 p.m.—Ordinary Meeting, Induction of President and Presidential Address.

November 3rd, 1.45 p.m.—Trustees. 2.15 p.m.—General Purposes Committee.

November 16th or 23rd, 11 a.m.—Annual Health Education Conference. 7.15 p.m.—Annual Dinner.

November 17th or 24th, 2 p.m.—Council. 5 p.m.—Annual General Meeting.

December 15th, 1.45 p.m.—Accounts Sub-Committee. 2.15 p.m.—General Purposes Committee. 5 p.m.—Ordinary Meeting.

1934.

February 2nd, 2.15 p.m.—General Purposes Committee.

February 16th, 2 p.m.—Council. 5 p.m.—Ordinary Meeting.

March 23rd, 1.45 p.m.—Accounts Sub-Committee. 2.15 p.m.—General Purposes Committee. 5 p.m.—Ordinary Meeting.

May 4th, 2 p.m.—General Purposes Committee. 1.45 p.m.—Accounts Sub-Committee.

May 25th, 2 p.m.—Council. 5 p.m.—Ordinary Meeting.

June or July.—Annual Provincial Meeting.

September 4th, 2 p.m.—General Purposes Committee.

September 21st, 1.45 p.m.—Accounts Sub-Committee. 2.15 p.m.—Council Meeting.

The alteration in the date of the Annual General Meeting to November as set out in the revised Articles of Association will necessitate some slight changes in the Bye-Laws of the Society's meetings, which are being submitted for approval to the Ordinary Meeting on May 19th.

Recruitment.—The Executive Secretary reported recruitment to April 30th, 1933:—

1928-29—	Fellows, 78—	Associates, 16.
1929-30—	" 100—	" 8.
1930-31—	" 92—	" 9.
1931-32—	" 40—	" 17.
1932-33—	" 70—	" 8.

The Council suggested that the Editor of PUBLIC HEALTH be asked to make some reference to recruitment in the journal shortly.

Appointment of Medical Inspector of Factories.—The Committee considered a letter from a member of the Society who had previously been Assistant M.O.H. and S.M.O. and was now in general practice. He had recently applied for a part-time appointment as Medical Inspector of Factories and his application was unsuccessful. He wished to draw attention to the fact that his previous experience in public health and his holding of the D.P.H. had apparently no weight with those making the appointment.

The Committee recommend that the facts of this case be submitted as a matter of principle to the Medical Committee at the House of Commons together with the suggestion that the position of Certifying Factory Surgeon should have a definite relationship to the public health service.

Public Health Service Representatives on British Medical Association.—Letter received from the Medical Secretary, B.M.A., stating that Drs. H. J. Milligan and R. M. F. Picken are re-elected members of the

Council of the Association for 1933-34; and that Drs. C. K. Millard, E. H. T. Nash, J. C. Saunders and R. H. Wilshaw are elected representatives on the Representative Body of the Association for the same period.

Effect of Salaries' Reductions on Superannuation.—It was reported that Capt. G. S. Elliston, M.P., hoped to call a conference at the House of Commons on May 18th, of parties interested in the proposed Government Superannuation Bill dealing with the effect on superannuation of salary deductions.

The Executive Secretary reported that Dr. James Fenton and himself had attended before the Medical Committee on the 18th. There were also representatives from the British Medical Association, N.A.L.G.O., and Mental Hospitals Association. The proposed Local Government Bill would regularise the action taken by local authorities who had, contrary to the advice of the Minister, arranged for their officers to pay superannuation contributions on their gross salaries. Nothing was being done for those authorities whose officers were contributing on their net (reduced) salaries. It had been agreed to hold a further meeting with the other associations concerned, on Tuesday, May 30th, and it was hoped that some amendment to the proposed Bill might be devised which would remove anomalies.

London School of Dietetics.—The Committee considered an invitation received from the President of the London School of Dietetics asking the Society to nominate a representative on their Council.

The Committee recommend that no action be taken in this matter.

The Council agreed to this recommendation.

Instruction of Medical Students in Infectious Diseases.—The Committee received the following recommendations from the Fever Hospital Medical Services Group for a standard of instruction of medical students in infectious diseases:—

"(a) The course should be taken in the final year of medical study.

"(b) In teaching schools in which no systematic instruction in infectious diseases is given as part of a systematic course in general medicine, the minimum number of attendances at a fever hospital should be 16, each of at least a duration of one hour and a half, and extending over a period of at least eight weeks.

"(c) In teaching schools in which systematic instruction is given in infectious diseases as part of a systematic course in general medicine, the minimum number of attendances at a fever hospital should be 12, each of a duration of one hour and a half, and extending over at least eight weeks.

"(d) Whenever possible if the arrangements are as in (c) the systematic instruction in infectious diseases should be given by the teacher responsible for the practical instruction."

The Committee consider it desirable that the above

recommendations should be discussed with representatives of the Fever Hospital Group, and they suggest that the Council authorise them to confer with such representatives and to report to the Council.

The Council discussed at some length the advisability of taking immediate action in regard to the Fever Hospital Group's recommendations, in view of the fact that the medical curriculum is now under discussion by two important Committees. It was, however, agreed that the course suggested by the General Purposes Committee be followed. The Committee would, therefore, confer with representatives of the Group, and report their decision to the next meeting of the Council. It was hoped that Professor Jameson would be able to attend the conference also.

Diseases in Milch Cattle.—Dr. J. J. Buchan reported that on May 8th, he, with Dr. T. Orr, and Major Rabagliati, and Drs. A. S. M. Macgregor and W. G. Clark (Scottish Branch representatives), had attended before the Committee on Cattle Diseases of the Economic Advisory Council. They had spent some two hours before the Committee, and had been questioned on certain aspects of the memorandum submitted before the Society.

Licensing of Grade A (T.T.) Milk Producers.—Dr. J. J. Buchan reported that he, with Dr. C. E. Tangye, Major Rabagliati, and the Executive Secretary, visited the Ministry of Health, on Monday, May 8th, to make representations in regard to the above. They were received by Dr. J. M. Hamill, who later was joined by Dr. Thomas Carnwath. The Society's representatives urged that the present system by which licenses are granted direct by the Ministry was not altogether satisfactory, and that Grade A (T.T.) milk could not be regarded as above suspicion.

It was suggested that the Minister of Health, where he was satisfied that the county council or county borough was so capable, having a veterinary staff, should allow that authority to be the licensing authority. Alternatively that he should consult the county council or county borough as to the hygiene of the premises, etc., before he himself granted a license. It was also suggested that the Minister should ask local authorities from time to time to report to the Ministry as to the general sanitary condition of Grade A (T.T.) dairy farms.

Dr. Hamill stated that it was the hope of the Minister at the right moment to hand over the licensing powers to local authorities, but that

the Minister would no doubt consider it advisable to await the finding of the Committee at present considering various aspects of the milk problem.

The President, 1933-34.—The following nominations had been received from the Branches:—

Dr. E. H. T. Nash (Home Counties).

Dr. Charles Porter (Metropolitan, Scottish, Welsh, North-Western, Yorkshire, Midland).

Dr. Ernest Ward (West of England, Northern, East Midland, East Anglian).

Dr. R. H. Wilshaw (Southern).

Drs. Ward, Nash and Wilshaw having withdrawn their nominations, it was agreed to submit the name of Dr. Charles Porter to the Society for election as President in the coming session.

Officers of the Society.—The following were elected officers of the Society for 1933-34:—

Vice-Presidents.—Drs. G. H. Pearce, C. Killick Millard and J. J. Buchan.

Hon. Treasurer.—Dr. G. F. Buchan.

Hon. Editor.—Dr. James Fenton.

Representation of the Society.—The following were nominated by the Council to represent the Society:—

(a) Imperial Social Hygiene Congress (London, July 3rd-7th), Dr. James Fenton.

(b) Sanitary Inspectors' Association Annual Conference (Clacton-on-Sea, September 4th-9th), Dr. T. W. N. Barlow.

(c) Royal Sanitary Association of Scotland Congress (St. Andrew's, October 3rd-7th), Dr. G. F. Buchan.

The Council then adjourned.

EXTRAORDINARY GENERAL MEETING.

An Extraordinary General Meeting was held at the house of the Society, 1, Upper Montague Street, W.C.1, on Friday, May 19th, 1933, at 4.30 p.m.

The President (Dr. G. H. Pearce) was in the chair, and the following signed the attendance book: Sir Francis Fremantle, Drs. A. K. Chalmers, Charles Sanders, W. G. Willoughby, E. H. Snell, G. F. Buchan, T. W. N. Barlow, J. J. Buchan, C. K. Millard, J. Howard-Jones, R. H. Wilshaw, H. J. Milligan, C. E. Herington, E. H. T. Nash, P. H. Stirk, A. Joe, J. B. Howell, G. C. M. M'Gonigle, J. J. Jervis, F. T. H. Wood, T. N. V. Potts, J. A. Charles, James Mair, H. Gibbons Ward, M. Radford, A. H.

Nicoll, R. P. Garrow, T. P. Puddicombe, J. A. Stirling, W. W. Jameson, R. M. F. Picken, V. Borland, E. Ward, F. J. C. Blackmore, T. W. Hill, and H. A. Bulman.

The Executive Secretary read the notice convening the meeting, and the motion was put that the Articles of Association filed in 1923 be rescinded and that the amended Articles of Association as circulated to members, be substituted therefor.

Dr. M'Gonigle proposed, and Dr. Charles seconded, an amendment to Article 3, sub-heading "Association," put forward by the Northern Branch. The amendment proposed to substitute for the words "The Society of Medical Officers of Health" the words "The Association of Public Health Medical Officers." After discussion, the President ruled the above amendment out of order on the ground that the sub-heading "Association" defined the Society's name as incorporated in the Memorandum of Association; a change of title would, therefore, require a separate procedure.

The following resolution was then proposed and carried:—

"That Article 3 of the Articles of Association presented for adoption by this Extraordinary General Meeting be referred back to the Council of the Society, with the instruction that they consider how best an alteration in the name of the Society may be effected, such alteration to be submitted to a later Extraordinary General Meeting."

Amendments, proposed by Drs. M'Gonigle and Blackmore, relating to Article 17, the method of election of the President, were lost.

Dr. Charles proposed, and Dr. M'Gonigle seconded, as an amendment to Article 19 (Election of the Council) paragraph (c) that it should read "Two representative members elected by or from each Group." This amendment and another that the paragraph should read "One representative member from each Group, and a second representative member when its membership reaches 150," were not carried.

A resolution, proposed by Dr. Willoughby, and seconded by Dr. Radford, was thereupon carried:—

"That paragraphs (c) and (d) of Article 19 be referred back to the Council of the Society for further consideration."

All the other Articles of Association, apart from those to which the above resolutions referred, were approved by the meeting.

The meeting then adjourned.

ORDINARY MEETING.

An Ordinary Meeting of the Society was held at the house of the Society, on Friday, May 19th, the President (Dr. G. H. Pearce) being in the chair.

The minutes of the last meeting having been confirmed and signed, the President announced that the Council wished to submit the name of Dr. Charles Porter for election as President of the Society for the session 1933-34. This nomination was unanimously accepted by the meeting, and the President announced that Dr. Charles Porter was duly elected as his successor.

The following candidates, who had been duly proposed and seconded, were elected to the membership of the Society:—

As Fellows:—

Clarke, Mary Christiana, M.B., CH.B., B.A.O., N.U.I.; Mackenzie, John, Col., A.M.S., M.A., M.B., CH.B. (ABERD.), D.P.H. (LOND.); Proudfoot, Mary Elizabeth, M.B., CH.B. (ST. AND.); Walker, Jane H., L.R.C.S.I., L.R.C.P.I., M.D. (BRUX.), C.H., J.P., LL.D.

As Associate:—

Blakeley, Mabel H. B., L.D.S. (ENG.).

Several nominations were received for the next election.

The meeting then approved a minor amendment in the bye-laws governing ordinary meetings of the Society, in view of the transference of the Annual General Meeting from October to November.

The next item on the agenda was a paper by Dr. E. K. Macdonald (M.O.H., Stockport) on "The Responsibility of the Local Authority towards the Blind." As the Extraordinary General Meeting had greatly exceeded the time allotted to it and the hour was now late, the President suggested to the meeting that it would be only fair to Dr. Macdonald to postpone his paper and discussion on it to a later meeting. Dr. Macdonald consented to this course, and the meeting agreed that he should be asked to read his paper at an early date in the new session.

The meeting then adjourned.

Branch and Group Reports.

THE METROPOLITAN BRANCH.

President: Dr. A. F. Cameron, Medical Superintendent, River Hospital Service, London County Council.
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 March 31st, 1933. The President occupied the chair, and 17 other members were present.

The Council had before them a letter from the Yorkshire Branch expressing their intention of nominating Dr. Porter for the Presidency of the Society. A communication received from the North-Western Branch stated that that Branch had resolved to support Dr. Porter's candidature.

A draft programme of the proposed visit to the Bemax Factory on June 30th, 1933, was approved by the Council.

It was agreed that the ante-natal advice pamphlet intended for use throughout London should be circulated to all London medical officers of health in its final form.

The Council passed a vote of thanks to the sub-committee who had prepared the pamphlet.

Dr. Thompson proposed, and it was agreed, that a communication should be sent immediately to the Metropolitan Boroughs' Standing Joint Committee, urging that metropolitan borough councils should be the supervising authorities under Part 2 of the Pharmacy Bill, instead of the London County Council.

A further meeting of the Branch Council was held on board the Port of London Sanitary Authority's motor launch "Joseph White," on April 28th, 1933. The President occupied the chair, and 18 other members were present.

Nomination of officers for the session 1933-34, including that of Dr. James Fenton as President of the Branch, were decided upon, for submission to the Branch at their annual meeting on May 26th, 1933.

The Council had before them a letter from Sir Frederick Menzies to Dr. Thompson, putting forward a proposal that all the tuberculosis officers of London should be put on the London County Council's hospital staff as honorary consultants for tuberculosis. Dr. Thompson reported that the tuberculosis officers had met and had decided to agree to

the suggestions contained in Sir Frederick's letter. The Council therefore authorised Dr. Thompson to write to Sir Frederick and state that his proposals are accepted.

During the day the members were the guests of Mr. Sidney Greenaway, Chairman of the Port Sanitary Committee of the City of London Council. The party were taken down river from Westminster to Tilbury, paying visits *en route* to the Royal Albert Dock, where there was a demonstration of cyanide fumigation and of imported meat, to the port sanitary hulk "Hygeia," and the port hospital, Denton. At luncheon the President of the Branch returned thanks for Mr. Greenaway's hospitality, and gratitude was also expressed to Dr. C. F. White, Port Medical Officer, for the excellent arrangements made for the visit.

THE NORTHERN BRANCH.

President: Dr. A. Stuart Hebblethwaite, M.C., M.O.H., Sunderland.
Hon. Secretary: Dr. J. A. Charles, M.O.M., Newcastle-upon-Tyne.

A meeting of this Branch was held at the City Hospital for Infectious Diseases, Walker Gate, Newcastle-upon-Tyne, on March 31st, 1933, the President occupying the chair. Twenty-one members and four visitors were present.

Before the meeting the members had tea, and the President, on behalf of the Branch, thanked the Matron of the Hospital for her kindness in making the necessary arrangements.

Dr. Anne Fairweather (Part-time Maternity and Child Welfare Medical Officer, Newcastle-upon-Tyne), and Dr. Frank Phillips (Assistant School Oculist, Durham County Council) were elected members of the Branch.

The following nominations for the Presidency of the Society were considered:—

Branch	Nominations
West of England ...	Dr. Ernest Ward.
Metropolitan ...	Dr. Charles Porter.
Southern ...	Dr. R. H. Wilshaw.

A ballot vote was taken on the three nominations, and the President declared that Dr. Ernest Ward had received the largest number of votes.

It was therefore resolved that the Northern Branch support the nomination of Dr. Ernest

Ward for the Presidency of the Society for the session 1933-34.

Dr. W. T. Benson (Medical Superintendent, City Hospital, Edinburgh) gave a most instructive address on "The Value of Scarlet Fever Serum in Fever Hospital Practice."

At the conclusion of an interesting discussion, and after the speaker had replied to various points raised, a vote of thanks was accorded to Dr. Benson, on the proposition of Dr. James Bannerman, seconded by Dr. James Hudson.

In the evening twenty-three members of the Branch and their friends attended an informal dinner, in honour of Dr. W. T. Benson, at Tilley's Restaurant, Newcastle-upon-Tyne.

THE YORKSHIRE BRANCH.

President: Dr. T. N. V. Potts, M.O.H., West Riding of Yorkshire.
Hon. Secretary: Dr. James Mair, M.O.H., Harrogate.

A meeting of this Branch was held in the Town Hall, Halifax, on April 28th, 1933, the President occupying the chair. Sixteen members were present.

A letter was read from Dr. Charles Porter, expressing appreciation of the honour done him by the Branch in nominating him for the office of President of the Society.

The President informed the meeting that Dr. Scatterty, formerly Medical Officer of Health, Keighley, and a Past-President of the Branch, had been made a Magistrate for the Borough of Keighley, and the Hon. Secretary was instructed to convey to Dr. Scatterty the congratulations of the Branch.

The arrangements for the June meeting, which must be held in the East or North Riding or the City of York, were considered. It was resolved that this meeting be held in Hull, if possible, and the Hon. Secretary was directed to communicate with Dr. Gebbie, Medical Officer of Health, Hull, and make the necessary arrangements.

Dr. G. C. F. Roe (Medical Officer of Health, Halifax), in a paper, illustrated by lantern slides, on "The Mental Deficiency Problem," dealt with pathological, sociological, and public health aspects of the problem, and opened up a very wide field for discussion. Dr. Potts briefly opened the discussion, and was followed by Dr. Scott when, owing to lack of time, it was necessary to defer further discussion until the next meeting. A vote of thanks, proposed by Dr. J. J. Buchan, was

unanimously accorded to Dr. Roe for his interesting paper.

The members afterwards received a very warm welcome from the Mayor of Halifax, and partook of tea provided by His Worship. The thanks of the Branch were expressed by the President, and acknowledged by the Mayor.

THE EAST MIDLAND BRANCH.

President: Dr. Cyril Banks, M.O.H., Nottingham.
Hon. Secretary: Dr. J. A. Stirling, M.O.H., Chesterfield.

A meeting of this Branch was held in the Guildhall, Nottingham, on April 6th, 1933, the President occupying the chair. Fourteen members were present.

A letter from the Executive Secretary regarding possible features for future Branch meetings was further considered, and the Hon. Secretary was instructed to arrange for a demonstration of the Novox resuscitation apparatus to be given early in the next session.

Dr. J. C. Buckley read a paper entitled "The History of the Nottingham Venereal Diseases Clinic," tracing in a very interesting manner the history of the clinic since its inception. An interesting discussion followed, and Dr. Buckley was accorded a hearty vote of thanks on the proposition of Dr. Stevens, seconded by Dr. Barker.

THE SOUTHERN BRANCH.

President: Dr. H. C. Maurice Williams, M.O.H., Southampton.
Hon. Secretary: Dr. H. D. Kelf, Asst. M.O.H., Hants. County Council.

A meeting of this Branch was held at the County Council Sanatorium, Chandlers Ford, Hants, on April 7th, 1933. In the absence of the President, the Chair was taken by Dr. H. Leslie Cronk.

Dr. W. J. Hart read a paper on "Tuberculosis in Children" with special reference to the Mantoux test. He referred to the usual forms of tuberculosis in children, bovine and human infection, and the various tests that have been used. He described in detail the technique of the Mantoux test, with illustrations of the reading of results, and showed several children who had been recently tested.

A discussion followed, to which Drs. H. L. Cronk, F. J. H. Coutts, B. L. Lloyd, S. Chesney, and D. P. MacIver contributed.

Dr. Hart received a cordial vote of thanks for his very interesting paper.

A further meeting was held at The Royal Naval Hospital, Haslar, Portsmouth (by kind permission of the Medical Director-General), on May 5th, 1933. In the absence of the President, the chair was taken by Dr. R. H. Wilshaw.

A paper entitled "**The Naval Health Officer**" was read by Surgeon-Commander H. Colson, R.N., who dealt with the history of the introduction of specialists in hygiene and sanitation in the Navy, and described the manifold duties of the Naval health officer during his appointment on shore and on ships. He dealt in great detail with the various infectious diseases, including tuberculosis, cerebro-spinal fever, and scarlet fever, in the Navy, and also referred to venereal diseases.

Most of the members present asked questions, and after the reply a very hearty vote of thanks was accorded to Commander Colson for his paper.

The members afterwards paid an interesting visit to the wards, X-ray room, kitchens, etc.

THE WELSH BRANCH.

ASSISTANT MEDICAL OFFICERS' AND SCHOOL DENTISTS' SUB-GROUP.

Chairman: Dr. D. P. Holmes, Assistant Medical Officer of Health, Glamorgan County Council.
Hon. Secretary: Dr. W. P. Phillips, Assistant Medical Officer of Health, Cardiff City Council.

A meeting of this Sub-Group was held at the Institute of Preventive Medicine, Cardiff, on April 5th, 1933. The Chairman occupied the chair, and 17 members were present.

Dr. R. M. F. Picken (Medical Officer of Health, Cardiff) gave an address on "**The Future of the Public Health Services.**" Present-day conditions, he pointed out, made anything in the nature of a prophecy into the future of the health and social services extremely difficult. The public health service was of comparatively modern origin, and its development had been greatly accelerated by the Great War. The Local Government Act of 1929, though an important advance, had left many problems to be solved in the future. Before any very definite improvement in the way of co-ordinating the health services could be made, re-arrangement of local boundaries required to be dealt with on a much wider scale than the Local Govern-

ment Act contemplated. The great obstacle to this, however, was local prejudice. The two reports of the British Medical Association on "A General Medical Service for the Nation," and "Hospital Policy," together with Sir Arthur Newsholme's "Medicine and the State," the speaker held to be important publications which should command the close attention of those interested in medical development. A pressing need was the proper co-ordination of voluntary and rate-supported hospitals in order that an efficient hospital service might be obtained. In this connection, special interest attached to the Dawson Report, and the system of primary health centres and secondary health centres linked with the large teaching hospitals. Maternity and child welfare schemes formed another branch of public health work in which certain changes should lead to a better service. The much closer association of ante-natal supervision with medical and nursing care during parturition was desirable, and this was likely to be one of the earliest reforms brought about by legislation. It was possible that changes in the future would remove some part of the clinical work from whole-time medical officers, and it was certain that the relative number of senior posts would not increase, however great might be the growth of the whole-time services. Dr. Picken therefore stressed the importance of those engaged in public health work taking an interest in administration and also endeavouring to make a specialty of some department of their clinical work, the two things not being incompatible. Above all, research and contribution to medical knowledge would have an increasing influence on promotion in the service.

A discussion followed, and a vote of thanks, proposed by Dr. Whitman and seconded by Dr. Culley, was carried by acclamation.

Mr. John Young (Senior Dental Officer, Glamorgan County Council) in a paper on "**Diet and Dentition,**" dealt fully with modern views on this subject, and gave an interesting summary of historical references. In his opinion, the importance of vitamins as the chief cause of dental caries was probably being overrated by some observers to the neglect of other factors, such as the mechanical use of the jaws.

This paper also was followed by a discussion, at the conclusion of which a vote of thanks was accorded the speaker on the proposition of Mr. Elliot.

THE MATERNITY AND CHILD WELFARE GROUP.

President: Dr. Margaret Emslie.

Hon. Secretary: Dr. Isobel Wright, Public Health Department, 121-131, Rosebery Avenue, London, E.C.1.

A meeting of this Group was held at the house of the Society, on March 24th, 1933, the President occupying the chair. Sixteen members were present.

Dr. Sydney Owen opened a discussion on "**Neo-Natal Abnormalities,**" and showed some excellent photographs, X-ray films, tracings and records to illustrate his cases. Abnormalities compatible and incompatible with life, and of function, were described, and included those of the skull, heart, limbs, blood vessels, alimentary canal, idiopathic bleeding, and a rare case of tachypnoea in which the respiration rate reached 380.

Drs. Alice King, Maitland Radford, Emslie, and Nash took part in the discussion which followed, and at the conclusion a hearty vote of thanks to Dr. Owen was proposed by Dr. Nash and carried by acclamation.

A further meeting of the Group was held at the house of the Society, on April 28th, 1933. In the absence of the President, Dr. G. C. M. M'Gonigle took the chair. Fifteen members were present.

A discussion on "**Acute Otorrhoea—In-Patient and Out-Patient Treatment**" was opened by Mr. T. B. Layton, F.R.C.S., who held the view that the general practitioner had more experience of acute otorrhoea than the otologist. He divided the condition into two stages: one before and one after the perforation of the drum. The latter he further divided into the invasive, and a second period where inflammation was continuing but had not become chronic. This was the "key" period. In infants, diagnosis was often difficult until rupture occurred, and at that age, in the speaker's opinion, nature's opening was as good as the surgeon's. He thought there was no difference between acute otorrhoea occurring in the specific fevers and that from other organisms. The large reniform perforation described in text-books was now rare. Whether paracentesis was desirable, the moment for performing it, and the choice of an anaesthetic were discussed. Gas should not be used as it altered the appearance of the drum. Where home conditions

were not suitable, the patient should be sent to hospital, not for too long a period because of the danger of "hospitalisation." The patient should be kept in bed in an even, warm temperature, and the head covered with Heath's cap or with wool. The "toilet" of the ear was most important; cure depended on good "mopping," either by an intelligent parent or an experienced nurse. Children of six years of age could be taught to mop their own ears, and at puberty, ears which had been discharging for some time often cleared up owing to a higher standard of personal cleanliness.

In the discussion which followed, Dr. Nicoll urged in-patient hospital treatment, in the acute stage, for patients from poor homes; it was difficult for the mother, with all her other duties, to keep the child in bed, and to perform the "toilet" of the ear. Out-patient treatment she held to be waste of doctors' and nurses' time. Drs. Bernfeld, M'Gonigle, Nash, and Maitland Radford also took part.

A hearty vote of thanks to Mr. Layton was proposed by Dr. Nash, seconded by Dr. M'Gonigle, and carried by acclamation.

BIRMINGHAM AND MIDLAND SUB-GROUP.

President: Dr. Jessie Balsillie, M.O. (M. & C.W.), Stoke-on-Trent.

Hon. Secretary: Dr. G. I. Brodie, Asst. M.O. (M. & C.W.), Birmingham.

A meeting of this Sub-Group was held at the Municipal Maternity Home, Moseley, Birmingham, on May 18th, 1933, the President occupying the chair.

An interesting talk was given by Dr. Victoria M. Crosse (Medical Officer in charge of the Home) on "**The Care of the Premature Child,**" followed by a tour of the premature babies' ward and other parts of the Home.

Later the members were entertained at tea by the Matron and her staff. Votes of thanks were proposed by the President, and seconded by Dr. Young.

YORKSHIRE SUB-GROUP.

President: Dr. J. Johnstone Jervia.
Hon. Secretary: Dr. Gladys J. C. Russell, Asst. M.O. (M. & C.W.), Leeds.

A meeting of this Sub-Group was held on April 6th, 1933, in the Clinical Lecture Theatre of the Leeds General Infirmary.

Dr. C. W. Vining (Professor of Diseases of Children, University of Leeds) showed a

variety of cases, and, in addition to providing a most interesting and instructive demonstration, illustrated his remarks with lantern slides and X-ray plates.

A hearty vote of thanks was accorded the lecturer on the proposition of Dr. Mair.

THE FEVER HOSPITAL MEDICAL SERVICE GROUP.

President: Dr. E. W. Goodall, O.B.E.

Hon. Secretary: Dr. Alexander Joe, D.S.C., North-Western Hospital, London County Council.

The provincial meeting of this Group took place at the Municipal Buildings, Poole, on May 19th, 1933.

The Mayor entertained the members at tea, and, having welcomed them to Poole, the chair was taken by the President.

Dr. R. J. Maule Horne (Medical Officer of Health and Medical Superintendent of the Isolation Hospital, Poole) opened a discussion on "The Position of the Smaller Provincial Fever Hospitals in relation to Section 63 of the Local Government Act of 1929." Dr. Horne dealt with such matters as the responsibility of local authorities for the provision of accommodation for infectious diseases under the Act, and of finance. He also discussed what diseases were to be admitted to hospital, the proportion of beds per 1,000 of the population, the proportion of nurses to patients, how patients' accommodation should be arranged, and whether provision should be made for paying patients.

The discussion was continued by Mr. Alderman Julyan, J.P., Dr. Gordon Smith, Dr. Banks, and Dr. Asten. After Dr. Horne had replied to questions, hearty votes of thanks were accorded to the Mayor and Council for their hospitality, and to Dr. Maule Horne for his most interesting paper.

THE DENTAL OFFICERS' GROUP.

YORKSHIRE SUB-GROUP.

President: B. R. Townend, Esq., L.D.S. (LIV.), D.O., Yorks. (W.R.) C.C.

Hon. Secretary: Jeffrey Fletcher, Esq., L.D.S., R.C.S. (ENG.), D.O., Yorks. (W.R.) C.C., Heathersett, Listerdale, Rotherham.

A meeting of this Sub-Group was held at New County Offices, Wakefield, on April 26th, 1933. Ten members were present, and the President occupied the chair.

A proposal by Miss Thom, seconded by Mr. A. G. Moxon, that the Sub-Group Council be increased from five to seven members was carried unanimously.

Miss R. Sclare, L.D.S. (Leeds) read a paper on "Some Diseases of the Gums and Mucous Membrane of the Mouth in Children." Several members who had served as dental officers during the Great War were able to give their experiences of Vincent's angina (trench mouth), a condition now happily seldom seen. Messrs. Townend, Batten, Long, Noel Moxon and Fletcher took part in the discussion, and a vote of thanks to Miss Sclare for her very lucid and interesting paper was carried by acclamation.

THE EAST MIDLAND BRANCH.

President: Dr. Cyril Banks, M.O.H., Nottingham.

Hon. Secretary: Dr. J. A. Stirling, M.O.H., Chesterfield

A meeting of this Branch was held in the Guildhall, Nottingham, on May 11th, 1933, the President occupying the chair. Fourteen members and one guest were present.

It was unanimously agreed to accept the kind invitation of the Nottingham City Health Committee, to hold the annual meeting of the Branch at Bulwell Hall Sanatorium, on Thursday, July 13th, 1933.

It was agreed that Drs. C. Banks and Fairer be appointed the Representatives of this Branch on the British Medical Association, Midland Branch Council.

Dr. W. B. Stott read a paper entitled "Municipal Workshops for the Tuberculous," dealing in a very interesting and instructive way with such a scheme originated by him at Cleethorpes. After an interesting discussion, Dr. Stott was warmly thanked for his paper on the proposition of Dr. Millard, seconded by Dr. Stevens.

THE TUBERCULOSIS GROUP.

President: Dr. George Jessel, T.O., Lancs. C.C.

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 19th, 1933, the President occupying the chair. Ten members were present.

The Hon. Secretary and Council Representative reported:—

(a) That the memoranda on clerical aid for tuberculosis officers and the employment of tuberculosis staffs had been forwarded by the Society to the Ministry of Health who had replied courteously, but had pointed out that in these matters the decision rested with the local authority concerned.

(b) That the Advisory Committee dealing with difficulties anent the application of the salaries scale had met twice since the last meeting of the Committee and had dealt with difficulties at York, Hertford, Liverpool, West Ham, Glossop, and Bradford, some details of which were given. He thought that greater publicity should be given to the work of this committee, and was endeavouring to secure it. As time passed it became more evident that the interests of departmental officers would receive greater attention if one of their number sat on that committee.

(c) That an important memorandum on the administration of the Local Government Act, 1929, had been prepared by Dr. Tangye and submitted to the Council of the Society by the West of England Branch. A committee comprising Drs. G. F. Buchan, Tangye, Potts, Ferguson, Picken, Pearce, Ernest Ward, and Gibbons Ward had been appointed to consider and report on the points raised.

(d) That he had raised the question of security of tenure of departmental officers in the Local Government Bill shortly to be

brought forward; the time, however, appeared inopportune to press for this.

Dr. Jessel was nominated for the office of President of the Group for the session 1933-34; Drs. Trayer and Peter Edwards, Vice-Presidents; and Dr. Ernest Ward, Hon. Secretary and Council Representative.

The position of departmental officers within the Society was next discussed, and the Hon. Secretary was asked to prepare a memorandum concerning the advantage of membership of the Society to these officers for consideration at the next meeting.

The position of tuberculosis officers in London public assistance hospitals had been settled to the satisfaction of London members. Special remuneration could not be paid in future, but those losing special salaries would receive compensation.

The prevention of human tuberculosis of bovine origin was next considered, and the Hon. Secretary was asked to prepare a memorandum on this matter also for discussion at the next meeting.

Artificial pneumothorax was discussed, and the necessity for more general application of this method of treatment. On this subject Dr. Peter Edwards was invited to prepare a note for the next meeting.

Friday, November 17th, 1933, at 10.30 a.m., was the date and time fixed for the next Committee meeting.

PROFESSOR H. R. KENWOOD, having relinquished the Registrarship of the Royal Sanitary Institute, a position which he had held for a number of years, Dr. Charles Porter, until recently Chairman of the Council of the Institute, has been elected his successor. The Council, in accepting with regret the resignation of Professor Kenwood, decided to place on record their high appreciation of the work performed by him as Registrar. During a great part of the life of the Royal Sanitary Institute, Professor Kenwood has received every honour that the Council had to offer, and has rendered service of the extremist value in furthering the objects for which the Institute stands.

THE National Baby Week Council, while regarding all aspects of the maternity and child welfare problem as important subjects

for propaganda, urges that during 1933, special attention should be concentrated on (a) the ways and means of preparation for parenthood; and (b) the furtherance of the aims and objects of the Central Union of Fathers' Councils with the object of promoting the formation of more fathers' committees at infant welfare centres throughout the Empire. National Baby Week this year (July 1st to 7th) will again be the occasion of a Conference on Maternity and Child Welfare, organised by the National Association for the Prevention of Infant Mortality, to be held in London, on July 5th, 6th, and 7th, at The Friends' House, Euston Road, N.W.1. Full information regarding the Conference, and visits to child welfare institutions arranged in connection therewith, may be obtained from the Secretary, National Baby Week Council, 117, Piccadilly, London, W.1.

AN AMERICAN LETTER.

Our Correspondent speaks mainly of the Modification of Prohibition and its Effects, and those of the Californian Earthquake, on the Economic and Health Situation.

Modification of Prohibition.

Two recent happenings of outstanding importance in this country call for mention, since both may involve health to some extent—one probably to a great extent. It will be remembered that the Democratic platform declared for the repeal of the Volstead Act. The new Congress lost little time in making beer of 3·2 per cent. alcoholic content legal. According to our Constitution, a certain proportion of the States must ratify an amendment, and it is necessary for them to assent to repeal. Further than this, each of our States has the right to make its own laws in regard to almost everything, except such as have been delegated to the federal government. At present, the sale of beer has been legalised in 24 States, and by July 1st, it will be legal in all but two or three. Some curious twists are brought about by the conflict of federal and state laws. For example, in Utah, beer can be manufactured but not sold in the State. Kansas, the home and origin of Carrie Nation (who gained her reputation by invading bar-rooms, smashing beautiful mirrors, and hacking the mahogany bars), has a law prohibiting the sale of any liquor which is "in fact intoxicating." There have been many and learned (?) discussions on this point. Professor Henderson, of Yale, is quoted as saying that one cannot consume enough 3·2 per cent. beer to become drunk, except in those cases where an extraordinary susceptibility exists. Certainly, not many of us can hold enough beer of this percentage to become really drunk. Doubtless many legal questions will come up before the matter is finally settled.

Economic Effects.

From the practical standpoint, we have reports from lumbermen, glass factories, farmers, motor companies, rubber companies, and others, showing the number of men who will be employed in the manufacture and handling of beer. The Department of Commerce states that breweries will purchase, in the near future, 4,590 trucks and 4,960 passenger automobiles. Other breweries are overhauling motor vehicles which have been stored. One glass company reports an order

for 30 million bottles, another for 15 million, and a third for one million tumblers. The barrel factories are working overtime. One small county in Arkansas is operating 70 mills cutting staves, and in Massachusetts one firm is filling an order for 125,000 cotton-wood beer cases. The rubber producers expect trade amounting to \$4,250,000 for pneumatic tyres, power belting, conveyers, hose, rubber boots, aprons, etc. The farmers are looking for great things, as the brewing industry is expected to consume annually 2 billion pounds of malt, 167 million pounds of rice, 650 million pounds of corn, 41 million pounds of hops, 115 million pounds of sugar, and 204 million pounds of grits, wheat, bran and barley. The repairs and improvements to breweries are put down at \$65,000,000. The American Federation of Labour estimates that 1,250,000 men will be employed eventually. These figures are taken from official reports, and may be regarded as approximately correct. Certainly there will be some gain in employment, which is important from the health standpoint. A government tax of \$5.00 a barrel has been put on beer, from which \$150,000,000 revenue is expected. It is estimated that 30 million barrels will be consumed in 1934. In 1914, 66 million barrels were consumed, but it is believed that home brewing has become so common that people will not immediately return to the manufactured article, largely on account of the increased expense.

Medical and Health Aspects.

Medical questions will be sure to arise. The prohibitionists have pointed to the improvement in the death-rate, and have attributed much of it to prohibition. They have taken the decreased incidence of cirrhosis of the liver as indicating a lessened consumption of alcohol. The answer to this, which is at least partly true, is that the "moonshine" or "hootch" which the public buys from bootleggers, as well as the denatured alcohol poisoned by government orders, is so rapidly fatal that one goes to Heaven without lugging along a hobnail liver. The Government considers beer of 3·2 per cent. as not intoxicating in fact, but in many cities and states, laws and

ordinances are being passed prohibiting the sale of such beverages to minors, the age of 18 being the highest noticed up to the present.

Great Changes Anticipated.

Unquestionably great changes will follow the legalisation of beer and wine of the same alcoholic content. No one can predict just what will happen, but we know from official sources, such as the report of the Wickersham Commission, as well as by many observations, that things could not be much worse than they have been, and that prohibition has established an "aristocracy" of bootleggers who have exploited the country, influenced judges and legislation, committed practically every crime up to and including murder, and gathered in millions of dollars a year, most of which came under the control of big bosses, such as Capone in Chicago. We have had all sorts of Directors of Prohibition, from retired army men, like General Lincoln Andrews, to Mr. Amos W. W. Woodcock, a lawyer, who has just been replaced by Mr. Dalrymple, of California. Great things were expected of Mr. Woodcock. One witty editor, in predicting improvement, said: "Everyone knows that Woodcock is a game bird." He undoubtedly did his best, but the average observer could not see much improvement.

The Earthquake in California.

The other big event was the earthquake in California. Presumably even Californians will now admit that they do have earthquakes in that State, though in spite of the damage done, and the areas affected, they insist it was "mild." For those who do not know the peculiarities of the native-born Californian, it may be said that the terrible destruction in San Francisco some years ago was due to a fire, not an earthquake! One should never speak of the earthquake in San Francisco any more than he should call the city "Frisco." Both are like shaking a red rag at a bull. The earthquake occurred on March 10th, 1933, at 5.31 p.m. The precautions taken and relief afforded were striking examples of organisation. Dr. Estes, Health Officer of Compton district, immediately had the gas cut off and furnished Coleman gasoline lanterns which had been stored for emergencies. Within the first 15 minutes, 25 or 30 injured persons were brought in, and within a few hours, some 80 had been taken care of. The ambulance service was promptly mobilised, not only to

evacuate the injured and those in danger, but to bring in supplies. All electric lights were off, but one of the moving picture studios supplied a portable electric unit to the hospital.

Health Organisation.

The water supplies failed practically immediately, but distilled water was obtained from a hospital, and a much larger amount was brought in by the American Legion. Bottled water was sent in by truck before midnight, and by 8.30 the next morning, a supply of good water was again available. By the following morning 100 public health workers of various types were mobilised at the Huntington Park Health Centre. The earthquake area was districted, and employees sent to each district to chlorinate water supplies, to instruct people to boil all drinking water, to make a house-to-house canvass to inspect sewage disposal, to find those in the need of medical care, to detect the presence of contagious disease, to inspect dairies, and to make provision for the pasteurisation of milk, the heat supply for which had been cut off in many instances, and to begin immunisation against typhoid fever. Water examination was begun on the day after the earthquake, and up to the 19th, 450 samples had been examined, these having been taken from every section of the earthquake area. Progressive reports were made in the meantime, and forwarded to the respective health officers, though where the preliminary tests indicated pollution, telephone messages were sent at once. In the Compton area the feeding of homeless people was begun less than 24 hours after the earthquake, and some 6,000 people were fed three meals daily, with no case of food poisoning. Up to the present, no epidemic disease has appeared, and no outbreak is anticipated. The report of these activities is condensed from those of several health officers and inspectors, and though they varied slightly in different sections, they may be taken as correct for the whole earthquake area.

MAZYCK P. RAVENEL, M.D.

DR. J. ALISON GLOVER, of the Ministry of Health, Dr. G. F. Buchan, Medical Officer of Health for Willesden, and Surg.-Captain S. F. Dudley, R.N., Professor of Hygiene at the Royal Naval College, Greenwich, have been elected Fellows of the Royal College of Physicians of London.

The Literature of Preventive Medicine.

Workmen's Compensation: Its Medical Aspect.

By SIR JOHN COLLIE, C.M.G., D.L., M.D., J.P., Lieut.-Col. R.A.M.C., Consulting Medical Officer to the Ministry of Pensions; Medical Examiner to various accident insurance companies; etc., etc. London: Edward Arnold and Co., 1933. pp. 160. Price 7s. 6d. net.

After the appearance of his previous book, "Fraud in Medico-Legal Practice," thanks from the medical profession were showered upon Sir John Collie. Now that he has produced, as something of a sequel, this further book, the shower is likely to become a deluge. That he, as the member of the profession most widely versed and experienced in this class of work should be willing to devote time in his retirement, and from the leisure he has so well earned, to the preparation of these books and the instruction of his fellows, is a wonderful example of unselfishness and almost beyond all praise.

Its aim and the hope of the author is that the present volume will enable medical practitioners to acquire a working knowledge of the legal rights of those who have sustained injury whilst at work. Dealing fully, and, of course, practically and clearly, with the rights and obligations arising under the principal Act, and with the various statutory orders and other provisions which confer rights on working men who suffer personal injury in their employment, it is certain to receive, as it well deserves, a very warm welcome not only from a large part of the medical profession, but from lawyers as well.

Mothercraft for Older Girls. By HESTER VINEY, S.R.N., Certificated Teacher, Parents National Educational Union, etc. London: Faber and Faber, Ltd., 1933. pp. 126, illustrated. Price 3s. 6d. net.

This small book is attractively written and produced. It is illustrated with actual photographs of children at various age-periods which give an added interest. The first half discusses the hygiene of the expectant mother and of the baby from birth to two years. The second half deals chiefly with physiology explained in simple language. A short chapter on the reproduction of the species is care-

fully handled and should prove useful to those entrusted with the explanation of this matter to the adolescent.

The author dedicates her book to the girl guides of the Empire, but it might be read with advantage by older girls and women in all classes of life whose duties entail the care of small children.

The Nervous Child at School. By HECTOR CHARLES CAMERON, M.A., M.D. (CANTAB.), F.R.C.P. (LOND.), Physician in Charge, Children's Department, Guy's Hospital. London: Humphrey Milford, Oxford University Press, 1933. pp. 160. Price 6s. net.

This book is a sequel to the author's well-known little monograph on *The Nervous Child*, and as such will be read with interest. It concerns itself with the subject of fatigue and unhappiness in school life, the factors that tend to produce them, the disorders of health and conduct apt to be associated with them, and their treatment. Special chapters are devoted to bed-wetting, stammering, and disabilities like word-blindness and inability to learn mathematics.

The subject matter is more familiar than that of Dr. Cameron's first book, but none the less important since, as he notes, nervous disturbances in school children seem to be increasing. In discussing the reasons for this he ascribes some of the trouble to the greater care bestowed by the modern parent and by infant welfare organisations, etc., on the individual child, and the atmosphere of anxiety that surrounds it. Most observers will agree with this, and with his exhortation to all who deal with the "nervous" child to make it their business to conceal from it any fears they may harbour or corrective efforts they may be making on its behalf.

Yet Dr. Cameron is too wise a man to miss the truth that higher development of mind and character must be paid for, and that the greater nervousness of our school children may be part of the price of civilisation. Without condemning the modern parent, schoolmaster, and doctor for their zeal, he gives them, out of his store of special experience, many helpful directions how to avoid pitfalls and to deal with difficulties that are likely to arise in connection with this type of child.

PUBLIC HEALTH

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Editorial.

National Baby Week.

MATERNITY and child welfare work will achieve its objects only in so far as the public is thoroughly in support of the undertaking, and in so far as the individual parents make use of the opportunities which the administrative bodies and the voluntary organisations put at their disposal. The work has now reached a stage in its evolution where its further development may hinge upon demand and supply. This is where National Baby Week comes in to stimulate local authorities and public alike.

Her Majesty the Queen, who is Patron of the National Baby Week Council, on the occasion of the Seventeenth Baby Week, has addressed this message of goodwill to the Council:—

"It gives me great pleasure to record once more my deep interest in the important work which is carried out by the National Baby Week Council from year to year. I would again express my good wishes for a successful continuance of the labours of the Council, and my keen appreciation of their efforts on behalf of the mothers and babies throughout the country."

The National Baby Week Council, it may be taken, will plan its campaign of propaganda judiciously and with due appreciation of all the relative circumstances. The present time is one when money is short, and the purse-strings of administrative bodies are not easily loosened. Expansion of administrative services, therefore, is limited. This, in spite of the fact that maternity and child welfare

work has been publicly recognised as of fundamental importance to the national health, and when, if any developmental schemes at all are undertaken, maternity and child welfare services should have first claim. The fact that action on the part of the local authority may be delayed need not stop the individual parent, and no doubt appreciation of this conception lies behind the National Baby Week Council's selection of "Ways and Means of Preparation for Parenthood" as a subject for special attention in its campaign this year. Many a young mother and many a father too, finds that when the first baby comes they would have approached their task of parentcraft with much more confidence had they had more actual knowledge of what marriage and parenthood involved.

Preparation for parenthood is a long and complicated process, and, looked at from its various aspects, and in its various relationships, calls for the setting up of a comprehensive scheme including many elements. To establish a scheme, however, is not in itself enough. Services may be available, but the public must be taught to make use of them. This is a movement which it is desirable from every point of view to encourage, and the National Baby Week Council, which, in connection with the celebration of National Baby Week from July 1st to 7th this year, lays down lines along which progress to the desired end may be made, deserves thanks and encouragement from all bodies, official or voluntary, engaged in maternity and child welfare work.

* * * * *

Rural Housing.

THE subject of rural housing is one to which increasing importance appears to be attached by the central authorities, and at the same time (May 22nd, 1933) as there was issued the circular (1334) to housing authorities and county councils inviting attention to the Housing (Financial Provisions) Act, 1933, to county councils and rural district councils there was directed a separate circular (1335) on the subject. In this, there are a number of points of interest to which it seems proper that reference should be made.

The immediate need in most rural districts, it is shown, is for improving the existing

housing conditions, and the object of the circular is to provide a reminder that there are two principal sets of powers and subsidies which are available for this purpose, and should be used to the utmost possible extent.

The Housing (Rural Workers) Acts, 1926 and 1931, under which financial assistance is available for the reconstruction and improvement of rural cottages, afford a most satisfactory and economical method of providing improved accommodation for agricultural workers, and in circular 1207 of July 23rd, 1931, particular attention was drawn to the need for co-operation between county and district councils, to the comparative economy of improving existing houses as against building new ones, and to the fact that improvements, where they have been effected, have not involved any material increase in the rents. Some of the county councils (in whom the administration is mainly vested at present), it is noted, have administered the Acts with energy and success. In some counties, however, for various reasons, little has been done, and in order to secure action the Minister declares himself to be prepared, in suitable cases, to give sympathetic consideration to applications from rural district councils, that the administration of the Acts should be transferred to them.

In the case of houses which, in the opinion of the local authority, cannot be repaired at reasonable cost, or are not suitable for treatment under the Act of 1926, Councils are urged not to hesitate to use their powers under the Housing Act, 1930, which applies equally to rural as to urban districts, and, indeed, provides a specially increased rate of subsidy in regard to displacements effected in agricultural parishes. The Exchequer subsidy, combined with the contribution from the rates which the Act requires, is equivalent to about 5s. per week (and an even higher amount in agricultural parishes) in the rent of each three bedroomed house provided in replacement of houses demolished by action under the Act. The maintenance of the subsidy at this high level is intended to encourage local authorities to concentrate on the rapid removal of insanitary conditions, and the amount of the subsidy makes it possible for all rural district councils to provide the necessary rehousing accommodation, at rents within the means even of the lowest paid workers.

The subsidy under section 26 of the Act, it is explained, is available in respect of persons displaced from clearance areas, improvement areas, or individual insanitary houses outside such areas which are demolished under the powers of Part II of the Act. In some rural districts there are, no doubt, some groups of cottages which are so bad that nothing short of demolition is requisite, and such groups of houses may be suitable for declaration as clearance areas under section 1 of the Act.

The power granted by sections 7 and 8 to local authorities to declare and treat areas which are called improvement areas is referred to, and it is shown that though areas suitable for treatment as such are more common in towns, they are to be found also in some rural parishes. Where they exist, they should be dealt with under the powers of the Act.

The provisions of the Act of most assistance to and most commonly used by rural district councils, are those contained in section 19, relating to the demolition of individual unfit houses which are not considered to be repairable at reasonable cost. Old cottages of this class (which are beyond the possibility of reconditioning under the Act of 1926) exist in most rural districts; although the cost of building and the price of money have fallen to relatively low levels, the subsidy is being maintained at a very high level, and rural district councils will be well advised to take advantage of this conjunction of circumstances to secure the early demolition and replacement of all unfit houses in their districts.

For the information of county councils, particular note is made of the fact that part IV of the Housing Act, 1930, imposes a special responsibility in relation to the provision of houses in rural districts, and section 34, which enables contributions to be made by the county council towards the cost of the provision of houses by rural district councils, and requires a contribution to be made where houses are required for the accommodation of the agricultural population of the district, is also specially mentioned.

For the encouragement of the rural district councils, by whom the circular deserves the fullest and most careful consideration, it is added that any contribution so made by the county council, reduces *pro tanto* the charge upon the rates which would otherwise fall to be borne by the rural district council.

The Royal Sanitary Institute at Blackpool.

THE Congress of the Royal Sanitary Institute was aptly described by an overseas delegate last month as "the Mother of Health Parliaments," and the variety and importance of the subjects discussed at Blackpool made it more evident than ever that this is one annual occasion, at least, to be missed by no one who attaches value to free and open discussion of public health problems. It is also one occasion during the year upon which large numbers of members of this Society have an opportunity of making personal contact and of exchanging views. It was, therefore, especially gratifying to note at the Blackpool Congress that an officer of the Society, Dr. George Buchan, the Honorary Treasurer, has directly succeeded another, Dr. Charles Porter, the Honorary Editor, in the important office of Chairman of the Council of the Royal Sanitary Institute; while the President, Dr. G. H. Pearce, occupied the chair at the Conference of Medical Officers of Health, and opened its proceedings with a statesmanlike address in which he drew attention to many needed reforms in matters affecting the nation's health.

At the inaugural meeting of the Congress, Dr. Buchan introduced the President, Lord Cozens-Hardy, who made an instant, most favourable impression, and submitted an address that deserved and elicited every evidence of complete approval and satisfaction. It is perhaps invidious to single out any of the discussions for mention where the general level was so high; it is proper, however, to commend the Section of Preventive Medicine, in which there was provided an interesting critical review of the health insurance scheme by its President, Sir Henry Brackenbury, and a thorough discussion of the proposals for a general medical service, opened by papers from Dr. Alfred Cox, Sir William Hart, Dr. R. G. McGowan, and Dr. R. M. F. Picken. The Conference of Medical Officers of Health was the scene of a lively debate on decentralisation in health administration and the size of local government areas for public health purposes, the protagonists being Dr. E. W. Caryl Thomas, for the county districts, and Dr. T. N. V. Potts, for the counties. At this Conference also, Dr. C. O. Stallybrass contributed a valuable paper on hospital administration and its relation to the health department. The Section of

Maternity, Child Welfare and School Hygiene and the Conference of Sanitary Inspectors and of Health Visitors also attracted many delegates.

Blackpool excelled herself in making the social side of the Congress a success, the welcome offered by the Mayor, Alderman T. Fenton, J.P., being obviously most sincere and hearty. The Royal Sanitary Institute, and notably Dr. Dudley Robinson, the Secretary, and his staff, deserve the greatest praise for the excellence of the organisation and the smoothness with which the arrangements worked. Rightly also, gratitude must be expressed to Dr. E. W. Rees-Jones, Blackpool's Medical Officer of Health, upon whose shoulders, on this occasion, as at the Congress of 1914, must have fallen the greater part of the responsibility for local arrangements.

That delegates to the Congress will show by their reports to their authorities that their time has been well spent, and that, even in these days of economy, such occasions as this merit their fullest support as a means of gaining and refreshing knowledge and renewing inspiration, may be taken. It is one of the ways in which appreciation, here expressed on behalf of the Society, may be shown of the efforts of the Institute and those connected with it and with the organisation and conduct of the Congress.

London's Water in 1932.

OWING to financial considerations, the scope of the twenty-seventh annual report by Sir Alexander Houston (Director of Water Examination, Metropolitan Water Board), on the results of the chemical and bacteriological examination of the London waters,* has had to be greatly curtailed, and some of the very attractive features which had appeared likely to become permanent are missing.

The report shows, however, that watch and guard over the quality of the supply have been maintained as faithfully as in the past, and the policy remains of increasing, and not diminishing, the purification safeguards. Speaking generally, the safety factor has been maintained at a very high level during the year 1932. The number of routine samples examined during the period was: chemical, 4,677; bacteriological, 12,934; while in addition, a very large number of samples have been examined for special purposes. The

* London: P. S. King and Son, Ltd. Price 10s. 6d.

total rainfall (in inches) during 1932 was as follows: Oxford, 26.52; West Molesey, 23.25; Greenwich, 24.70; Feilde's Weir, 20.03; Thames Valley, 28.26; Lee Valley, 23.82; and Camden Square, London, 23.29. The average rainfall at Camden Square during the period 1881-1915 is shown to have been 24.47-in.

The number of cases of enteric fever notified in the Administrative County of London during 1932 has been the satisfactory low one of 195, a figure that may be compared with the 4,292 of 1900. Reference is made to the outbreaks in Malton and Denby Dale, and Sir Alexander quotes, with approval, the remarks of Sir George Newman and Wolman in regard to the necessity for the control of water supplies. The average daily consumption of water in London, in million gallons, in 1932 was 281.4. In noting that the year was a very satisfactory one as regards the avoidance of taste troubles, Sir Alexander is reminded that in some American cities, which suffered grievously in the past (before chlorination was practised) from water-borne epidemics, the consumers often complain, not when the water has a taste, but when it is tasteless, as they then imagine that the waterworks authorities are underdosing with chlorine, and fear the consequences.

If the report lacks some of the pronouncements on water supplies and fails to lead its readers so frequently along fascinating by-paths as its predecessors have done, it provides a vastly instructive record of work done by a master investigator with the object of securing the integrity of the most important service of the people of London.

The British Red Cross.

GRATIFYING advances in all branches of its work are recorded by the British Red Cross Society, in its Report for 1932, presented at a recent meeting of the Council of the Society, with H.R.H. the Duke of York in the chair.

The numbers of the Society's trained personnel continue to increase. There are now 162 men's and 813 women's detachments, with a membership of 4,185 men and 19,422 women. The six counties heading the list are Norfolk, London, Devonshire, the North Riding of Yorkshire, Somerset, and Hampshire.

The numbers of both mobile and non-mobile members, as is shown in a chart in

the Report, have grown steadily over the past ten years.

At the Society's clinic for rheumatism in the year under review, 78,589 attendances were made for treatment in the general patients' department, as against 77,892 the previous year. In the private patients' department there were 8,040 attendances.

During 1932, 2,790 new patients (1,072 men and 1,718 women) attended the general patients' department for preliminary consultations. In the private patients' department new patients numbered 549 (178 men and 371 women).

Out of a total of 3,154 discharged cases, 36 per cent. of the men, and 43 per cent. of the women were able to come for their treatment without interrupting their work, and a further 22 per cent. of the men, and 6 per cent. of the women were hoping to return to work at the end of their treatment, although they had been off work when they first attended. The object of the clinic, therefore, to provide facilities for treatment of those patients who are in the early stages of disease, and who are still able to remain at work, is thus being clearly maintained.

A record has been kept of the length of time that each patient has been off work before he or she has reported for treatment at the clinic. As one would expect, those who had been off work for a very long period seldom were discharged from the clinic as fit for work. Only 3 per cent. of those who had been, for instance, unable to work for over two years, were able to return to work after treatment. On the other hand, 54 per cent. of those who had been off work for less than six months were fit, after treatment, to take up employment again.

These figures, says the report, are even more encouraging when reference is made to the "accepted" group of patients, that is, those sent by approved societies. Here it is found that 5 per cent. of those who had been off work for over two years were able to start work again after treatment; 35 per cent. of those who had been off work for a period of from six months to two years were also proposing to go back, and 69 per cent. of those who had been unfit to work for less than six months, were able to return to their jobs. These details seem to indicate that the approved societies are sending the "early" cases, and the results of the treatment are correspondingly favourable.

During the year, 76 approved societies sent 1,136 new patients to the clinic under the additional benefit scheme, and, of these, 16 societies sent patients for the first time.

An investigation into the results of treatment of 2,133 patients discharged during the year with treatment completed shows that 73.4 per cent. were cured or improved. This is a figure of which the committee and the medical and treatment staffs may feel justly proud.

The detailed figures are as follows:—

	Men	Women	Total
	838	1,295	2,133
Cured ...	27.3%	12.9%	18.6%
Improved ...	46.5%	60.2%	54.8%
Unchanged ...	24.9%	25.5%	25.3%
Worse ...	1.3%	1.4%	1.3%

Although, of course, London and the Home Counties have provided by far the greatest number of patients, patients have come from 41 counties. Over 100 patients have been to convalescent homes during the year.

Throughout the year the clinic has been visited almost daily by many medical men and social students, not only from this country, but from the Dominions, as well as from most European countries.

The results of treatment shown by the report of the medical board and the interest taken in the problem of rheumatism, both in medical and lay circles, are evidence of the success of the clinic. It is the fervent hope of the British Red Cross Society that increased financial support will be forthcoming this year to enable further investigations to be made into the causes of the disease. Research is urgent, but a further extension of facilities in this direction is limited by lack of money.

The number of calls upon the blood transfusion service, it is shown, continues to increase with arithmetical regularity, 2,442 calls having been received for 1932, as against 2,078 for 1931, 1,627 for 1930, and 1,360 for 1929. The daily average was slightly under seven, but on 84 occasions ten or more were received, the record, 23, being reached on April 5th. The highest month was June, when 243 were recorded. There was no day without a call, 118 arrived on Sundays, and 170 were night calls.

The personnel of the London Service now numbers 1,304; 308 donors served for the first time, 308 for the second, 265 for the third, 228 for the fourth, 175 for the fifth. 80 for the

tenth, 19 for the twentieth, two for the thirtieth, two for the fortieth, and one for the forty-fifth.

The numbers of hospitals making use of the Service increased by 24, the largest accession since 1926, and the last great hospital of London, which had hitherto maintained its own service, has now abolished this, and taken advantage of the facilities offered by the Society.

The Junior Section of the Red Cross continues to make satisfactory progress. During the year, 1,805 certificates and 102 proficiency badges were awarded for junior first aid, nursing, and hygiene to boys and girls taking the examination under the Society's regulations.

Reference is made in the report to the growing activities of the Red Cross in Canada, Australia, New Zealand, South Africa, India, Kenya and Rhodesia, and it is announced that a branch of the Society has been formed in the Gold Coast, and that negotiations are in progress for the establishment of a branch in Swaziland.

The British Red Cross Society, it is recorded, has been asked by the Government to assume the responsibilities which fall to Great Britain under the newly constituted International Relief Union, and Mr. Algernon Maudslay, C.B.E., a member of the Council of the Society, has been appointed to represent Great Britain at the first meeting of the Union, which takes place this year.

In a foreword to the Report, Sir Arthur Stanley, Chairman of the Executive Committee, says:—

"The economic crisis through which the world is passing has involved a strain on our financial resources, but out of the inevitable reductions in state and municipal health and social services have arisen fresh opportunities for the voluntary services for the promotion of health and the mitigation of suffering, to which the Society is pledged under its supplemental charter.

"In response to the appeals by the Prince of Wales, as Patron of the National Council of Social Service, several of our county branches are co-operating in local schemes for the assistance of the unemployed and at hospitals, clinics and welfare centres the services of our trained members have been increasingly welcomed."

Obituary.

SIR WALTER FLETCHER.

THE death of Sir Walter Morley Fletcher, F.R.S., Secretary of the Medical Research Council, which occurred on June 7th, after an operation, at the age of 59, constitutes a grievous loss to the whole field of medical research. Appointed Secretary of the Medical Research Committee, a body set up and functioning in connection with the administration of the National Insurance Acts, just before the outbreak of War, almost immediately after the entry of this country into hostilities he was called upon to organise investigations of a multiplicity of medical problems, referred to him by the Navy and Army medical departments. Before peace was restored, and largely as a result of his efforts, the Committee had gained for this country the undisputed world leadership in medical research. The Medical Research Council, the successor of the Committee, has progressed steadily in the scope and utility of its work, and few, if any, enterprises have been undertaken in which the personal activity of Sir Walter Fletcher could not be traced. Though he died while comparatively young, Fletcher lived long enough to secure honourable recognition. The K.B.E. awarded at the close of the War was followed by a C.B. in 1929. Honorary doctorates were bestowed upon him by a number of Universities, and he enjoyed the Fellowship of the Royal Society for many years. Preventive medicine, like every other branch of medicine, is much poorer because of the loss of Sir Walter Fletcher, and all engaged in its practice will long and deeply mourn that loss.

DR. A. DUNCAN.

With great regret the death is recorded of Dr. Alexander Duncan, Medical Officer of Health and School Medical Officer for the County Borough of Merthyr Tydfil, which occurred on June 24th, after a long illness. Dr. Duncan graduated in medicine at Glasgow, and took the D.P.H. at Cambridge in 1898, and prior to his appointment at Merthyr Tydfil had held hospital appointments in London. He was a Fellow of the Society of Medical Officers of Health, attached to the Welsh Branch.

Social Medicine and the New Psychology.

By NEIL R. BEATTIE, M.D., B.HY. (DURH.), D.P.H.

This thoughtful paper gave both pleasure and inspiration to the members of the Yorkshire Branch to whom it was read on January 13th, 1933. That there should have been pleasure and inspiration will be understood by all who read the paper.

"The business of Preventive Medicine is to make human life better, larger, more capable and useful, happier—and it is to prolong our days. Its purpose is to make the time in which we live, and the future, a better time for all men."

IN these words Sir George Newman has clearly defined and indicated the meaning and purpose of the public health service; and for that reason it might be well if they were permanently displayed in a prominent position in all health departments. It is not sufficient that we should concern ourselves with our limited and respective tasks. Before us should always be a comprehensive idea of the general philosophy underlying the great communal endeavour of state or preventive medicine.

The present health services have come into being in an attempt to ensure that man might live his life. As a result of their contribution he lives longer than ever he did before; his children do not die so tragically and abundantly; and from his path have been removed many hazards and much suffering. It is, however, in connection with his physical health that all, or most, of this applies; and while it is readily admitted that the possession of a body functioning freely and easily is an essential and desirable aim, it must be obvious that this alone is not enough. The preservation of life is not an end in itself—it is simply a beginning. The ultimate concern is—*how is life lived?*

In assessing general conditions of health, a study of vital statistics reveals the facts upon which we base our conclusions, and with these most of us are familiar. But there is another field of vital statistics with which most people are less well acquainted, and it is here that we find some answer to the question—*how does man live?*

At the present time, in England and Wales alone, the number of certified patients in mental hospitals exceeds 146,000; and every year about 20,000 new admissions are reported. Apart from these certifiable

cases, many thousands of persons come under observation for mental breakdown. Each year nearly 5,000 persons commit suicide, and many fail in their attempt to escape from life. During 1930, some 60,000 persons were sent to prison in this country, while the number of juvenile offenders was nearly 13,000. The annual number of divorces and separations is considerable and indicative of much unhappiness, as is also the existence of chronic alcoholism and drug addiction.

To these obvious instances of mental ill-health—which has been well defined as madness, badness and sadness—it is necessary to add the innumerable individuals in all sections of the community who are leading unhappy, incomplete, frustrated and unsatisfactory lives. The field of education, too, has its problems, for in all schools are to be found difficult or maladjusted children whose conduct or educational progress causes dissatisfaction and anxiety. All these examples, which are so evident as to require no elaboration, constitute problems in our social life which cry out for investigation, treatment—and prevention.

It will be obvious that mental ill-health manifests itself in aberrant or abnormal conduct or behaviour; and many health workers may fail to perceive how they can contribute to the solution of these problems, which may, at first sight, appear to be outside the scope of their immediate functions. Indeed, to them faulty conduct may mean deliberate perverseness, or the irrevocable result of some cerebral or bodily maldevelopment. To those so minded we may well proffer this consideration:—

"What purpose is served by preserving physical health, through teaching hygiene habits, if it means only healthy bodies having more or less sick or unhappily functioning minds—minds obsessed by fears, prejudices, jealousies, inhibitions? What purpose is there in lengthening the span of life if it means only a little longer dragging out of a weary existence of thwarting, conflicts, dissatisfaction, frustration?"

Obviously the purpose of preventive medicine must mean something more than that, and if we are to make human life better, larger, more capable and happier, we must examine all the possibilities which present knowledge

has to offer. The question before us, then, is that of human behaviour, and there is now available a wide field of knowledge which has been steadily growing for many years—the science of psychology, or the study of conduct.

As medical men and women we have been subjected to an education and training which has been almost entirely mechanistic in character. Our teachers have been, for the most part, similarly mechanistic in outlook, and as a result we have come to regard Medicine in terms of anatomy, physiology and pathology. It does not seem to have occurred to us that the body of man is merely a part and not the whole. The absence of any philosophical teaching has caused us to forget that in every man there is a body, a mind and a spirit. This trinity, if it may be so called, is not divided into separate and distinct divisions having little or no relation to each other; there is an intimate connection between all three; and they all react upon each other. Thus, merely to treat the physical basis of any patient is a mistake—a mistake which is responsible for many failures in the consulting room and at the bedside, and one which might be frequently avoided by a study of what is known as modern psychology.

Sigmund Freud may be said to be the father of modern psychology, for it was as a result of his association with Charcot and Janet, the French neurologists, that he began to be aware of the significance of the unconscious or sub-conscious mind as a great factor underlying human conduct and behaviour. After many years of research, study, and thought, he elaborated this theory and eventually founded a school of analytical psychology in Vienna. From these beginnings much extension has taken place, and to-day we find that the three outstanding exponents of modern psychology are Freud, Jung and Adler. I do not propose to discuss the differences between these three leaders, as it seems to me there is much in common with them all, even if their methods and outlooks differ.

The contribution of modern psychology is that it has proved that whatever the innate mental equipment of an individual may be, his attitude towards life and his general behaviour therein depend upon the effect which the environment of his earliest years has had upon his sub-conscious mind. This part of our mind is full of memories which, although apparently forgotten to us, play an enormous

part in our daily thinking, acting and doing. A little reflection will reveal the profound significance of this fact, for it shows the importance of the correct handling of young children by parents and others; and it indicates the method of approach in dealing with cases of mental maladjustment in later life. The child, indeed, is the father of the man, and more and more is the truth of this statement being realised.

"We must see the first images which the external world casts upon the dark mirror of his mind; or must hear the first words which awaken the sleeping powers of thought, and stand by his earliest efforts, if we would understand the prejudices, the habits, and the passions that will rule his life. The entire man is, so to speak, to be found in the cradle of the child."

INDIVIDUAL PSYCHOLOGY.

Before discussing the place of mental hygiene in the public health service, I shall amplify this preliminary introduction by a description of Alfred Adler's teachings which are known as "Individual Psychology"—a school of thought having a great appeal in Europe and America. Adler considers that every individual differs from all others mentally as well as physically, and that by the time he is about five years old he has developed a "pattern" or "style" of life which may persist until death. His attitude towards all the problems of the world is governed by this early "life plan," the formation of which depends on his early experiences in the family—especially his position therein—and in the school, but particularly in the home. The real problems of life are social realities, and of these there are but three—friendship or social contact; occupation or choice of livelihood; love and marriage. Happiness in any of these factors depends, to a considerable extent on the degree of co-operation which has been developed by the individual in childhood.

As a result of experiences in our early years there is evolved for each one of us an attitude or meaning of life, and it is upon this meaning that our future mental health largely depends. It is Adler's opinion that the meaning of life is, for the greatest part, co-operation; co-operation in the family, in the school, and in the outer world. We are all aware of the comparative infrequency of co-operation; that needs no elaboration. And it is for those interested in the purpose of life to examine this question of co-operation fully. Why do we find so much unfriendliness, envy, jealousy, hatred, malice and all uncharitableness? If

co-operation with the world is the secret of mental health, why then the existence of so much mental maladjustment? The answer would seem to lie in the fact that although there seems to be in us all an innate ability to co-operate, the development of that ability depends upon training.

"The ability to co-operate can and must be trained. It is as with a subject like history or geography; if a person is not trained in geography, and would solve a geographical question, you will see that he fails." (Adler.)

It will be agreed that the suicides, the insane, the criminals, the alcoholics, and all unhappy and maladjusted people are, in a phrase, the failures of life; and it is perhaps right to say that behind much of this failure is the refusal, because of one reason or another, to co-operate with the world. Successful, happy men and women are those who have learned the art of co-operation, and who face life with that attitude, an attitude born of courage and self-confidence. The failures are not ready to co-operate, they are too self-centred; they think always of themselves, and they do so because they lack confidence and courage—in other words, they are afraid of life. Fear, then, is perhaps at the root of much mental ill-health and—in the wider sense—of all evil.

To face life with an attitude of fear indicates the existence of a sense of inadequacy or inferiority. The individual does not feel prepared or able to cope with his problems. This sense of inferiority has been described by Adler as an "inferiority complex" or an "inferiority sense"; and he is of the opinion that it is caused by the following influences in childhood:—

- (a) Pampering and spoiling.
- (b) Snubbing and suppression.
- (c) The presence of an "organ inferiority."

Pampering and Spoiling.

"The greatest part of failures spring from pampered children because these children are more interested in themselves. They want to exploit others, to appropriate others. They want to utilise the co-operation of others, and they do not feel strong enough themselves in facing social problems. When they have to face a problem it appears in their whole behaviour and attitude that they do not feel prepared. They have a sense of inferiority, and this is because they have not been trained in co-operation and they have not enough social interest. Now the child's inferiority complex may be like a stimulus, but the dependent children do not try to compensate this by feeling worth while. They exclude this way of co-operation, and they look for a goal of personal superiority, where there is a feeling of being more

than others. For instance, the urge to oppress others to kill others, to deprive others, to make other unhappy, to disesteem others, and so on." (Adler.)

You will readily see that this attitude towards life does not make for the happiness of the individual concerned and for those with whom he comes in contact. He uses others for his own ends; he is selfish; and all selfish people are unhappy.

Snubbing and Suppressing.—The snubbed suppressed and crushed child feels inferior because all his attempts to develop confidence have been thwarted and nipped in the bud. Like his spoilt brother or sister, he feels insecure; to him the world is hostile; he is afraid of himself; life to him is faced with a sense of impending defeat. He wants to co-operate, but dare not.

Organ Inferiority.—The spoilt and the snubbed children feel inferior because they have not been trained to face life courageously; but the delicate, the crippled, the dwarfed, the blind, the deaf, and the plain or ugly children may come to regard their particular organ inferiority as an obstacle, as a handicap which prevents the development of self-confidence, unless they are trained to realise that "what matters is not the inferiority, but the courage by which it is met." The true mental defective, too, is really suffering from organ inferiority. All these children are liable to suffer from the sneers and taunts of others. Thus, they also learn discouragement.

We may consider all types of these discouraged people as neurotics, who, instead of taking their place in the world properly and co-operatively, fall back upon the line of least resistance; and thus there is created the criminal who wishes to have an easy way of earning a living, the drunkard who must escape quickly and easily from the problems of life, the suicide who is driven to the escape from which there is no return, the insane person who simply withdraws from the world altogether to live in a little private world of his own, and so on.

The problem is obvious. You are all aware of these and similar classes of persons—the non-co-operatives. But what can we do about it? We can do this: we are now in a position to say to the failures, the cowards of life as it were:—

We understand how your attitude to life came about, we know the cause of your lack of courage and your sense of inferiority; but has it ever occurred to you that although you may feel discouraged and inferior, you are not compelled to do so? No one forces you

long she is dealing with 'people's attitudes towards health or disease, and attitudes are not overcome by an official manner.

"Regarding the public health nurse's equipment to deal with problems of mental health and mental hygiene, I think I may say that the public health nurses have not yet in their hands a satisfactory body of information regarding mental health or mental growth. Neither has the nurse's training prepared her satisfactorily for her educational task. She does not understand the problems involved in adult education, and particularly in this difficult field of adult education regarding principles of mental health. Probably in no other field are so positively ingrained beliefs, prejudices and intolerant attitudes as around the question of behaviour of children and of adults, involving as it does the problem of discipline and obedience, of moral and ethical behaviour, sex interests, etc. 'The nurse's training has done, I should say, remarkably little to help her to understand and look behind the resistances and defences of the adult individuals whom she is trying to re-educate.' (W. T. B. Mitchell.)

This is too large a question to discuss at length at present, but I would urge all medical officers dealing with health visitors to realise that they do want encouragement and help. I am sure that they do not get too much of this, especially in those places where the health visitor is regarded as a collector of statistics, and where her immediate supervision is devoid of really intelligent understanding of her tasks and of her needs. It is obvious that our maternity and child welfare workers require to be trained to look upon infants and toddlers, not merely with physiological and pathological interest, but *sociologically*, that is to say, as individuals who one day will have to take their place in the world fully prepared for the problems which they will there find.

SCHOOL MEDICINE.

How often has one heard the observation that school medical inspection can be very dull. So long as the school medical inspector regards the school child as a collection of teeth, tonsils and flat feet, so long will he be apt to find the work somewhat monotonous. If after finishing the physical examination of the boy or girl he were to say: "Now, how are you getting on at home and at school?" he would open up an enormous field for investigation and of no little interest.

No medical examination of any child is complete without some inquiry into his emotional life; and when the school medical service begins to be generally interested in mental hygiene a great step in progress will have

been made. Faulty conduct and insufficient scholastic progress are not infrequently regarded as a deliberate action on the part of the child, an action to be treated by the infliction of bodily pain or by a torrent of sarcasm. Few attempts seem to be made to approach these problems of faulty conduct and learning by using the scientific term—"Why?"

The rebellious, the delinquent, the lazy and the apparently stupid child does not so behave out of sheer perversity. Always there is some emotional conflict at the root of their behaviour, and the intelligent way of dealing with these children is to investigate the cause of these a-social reactions. It is clear that both the school medical officer and the teacher, in these days, require a considerable amount of psychological insight if they are to be of real service to the child. Modern psychology will, in time, revolutionise our whole conception of education, since it will show us the true meaning of discipline, which is very frequently confused with tyranny. Canes, straps and such like relics of barbarism will one day be relegated to the museum to occupy the same show-case as the thumb-screws and the rack. A child who cannot be taught social adjustment or lessons without physical violence is in urgent need of the services of the psychologist.

The problem of mental deficiency is well-known to you all, and constitutes an important aspect of school medicine. The idiots, the imbeciles and the low-grade defectives do not, as a rule, reach the school, but the great stratum of the high-grade defectives and the so-called dull and backward children causes much difficulty and anxiety to the teacher and to the State. These pupils are, of course, suffering from "arrested development"—a condition of which we know but little. Heredity, that much abused word, is generally blamed, and indeed is undoubtedly the cause in many instances. But if we are to attack this grave social problem, we shall not have to be content with moaning and bleating about this great burden and yearning for the marvels which are promised by sterilisation. We shall have to learn that while "organic heredity" is unquestionably an important factor, "environmental or social heredity" plays a greater part than is commonly supposed.

"Mental deficiency is connected with a collapse or refusal of will. The feeble-minded person is usually capable of amelioration, but is not commonly regarded

as open to cure. Can his defect be prevented by measures regulating neuro-somatic balance? Granted sufficiently early help in adjustment of the adverse environment to which he is exposed, can he conceivably be even cured? In other words, is the mental change in mental deficiency organic or functional, fixed and irretrievable or capable of return to the normal if the force applied be sufficiently intense?" (H. P. Newsholme.)

Here is a new angle of thought worthy of full investigation. Are not many intellectually retarded children suffering from some deep emotional disturbance dating from their earliest years? Is it not possible that, as a result of incompetent and faulty handling, the child may fail to develop regular habits and that his failure to grow up—for that is his disability—may be due to an unconscious refusal of will rather than to under-developed brain tissue?

Closely allied, perhaps, with this problem is the question of "educational disabilities." Many children, who otherwise appear to be quite intelligent, have considerable difficulty with arithmetic and allied subjects. This is usually referred to as "number gap," and can be a cause of much anxiety and trouble. Teachers seem to be helpless when confronted with the child to whom sums are a great burden. To treat such a child with scorn and punishment is simply ignorant stupidity; special coaching frequently fails since this is merely treating a symptom of a general neurosis; the solution lies in recognising that the child requires an investigation into his whole attitude towards life. The bad arithmeticians in the school are the possessors of an exaggerated inferiority sense as a result of suppression or, quite frequently, of pampering and spoiling.

It will be seen that there is every need for an increased interest on the part of the school medical officer in co-operating with the teacher and the parent in an attempt to deal with all forms of intellectual retardation. Hitherto, no concerted effort has been made in this connection, and in the light of modern psychological knowledge it is tragic and pitiful to think of all the taunts and physical violence which have been visited upon the so-called dullard—with such meagre results.

The term "child guidance clinic" is now more familiar than it used to be. Several such centres are now in operation in London, and slowly, too slowly perhaps, they are making their appearance in the provinces. To

be quite truthful, the correct name to employ is "parent and teacher guidance clinics," for that is their real purpose. Such conditions as lying, stealing, truancy, sex difficulties, stammering, bed-wetting, educational retardation and so on, are referred to these centres. Underlying all these disturbances are emotional difficulties due to faulty handling by adults; and it is the task of the psychiatrist, the educational psychologist and the social investigator, who form the staff of these clinics, to find out the cause of the child's misbehaviour or maladjustment.

Those who believe that the only way to deal with difficult children is by means of a big stick should visit such a centre. It will open their eyes—and their minds. The relation of this work to juvenile courts and the problem of delinquency will be obvious.

Before leaving the important social endeavour of school medicine, let me quote from an address recently delivered by Dr. Leonhard Seif, of Munich, before an audience of educationists in the University of Birmingham.

"The school, as Alfred Adler has said, is the prolonged arm of the family. A wonderful new task, a new responsibility begins for us! It is not that we have to do nothing but thrust booklearning into the heads of the poor children, to enforce mechanical work; it is that we have to help them to become human beings, equipped to solve the tasks of life. We have to help children to ripen, to become self-dependent and social together so that they may learn to stand on their own feet courageously."

Dr. Seif concluded his address by referring to what seemed to him to be the key to co-operation and re-education everywhere, but especially in the school.

"If you treat an individual as he is, he will stay as he is, but if you treat him as if he were what he ought to be and could be, he will become what he ought to be and could be." (Goethe.)

Parents, school medical officers, teachers and, indeed, all those having authority over others would do well to learn and to apply the great philosophy underlying that statement.

"THE FLIGHT TO ILLNESS."

A discussion on the relation of modern psychology to clinical public health would not be complete without some reference to the expression known as "the flight to illness."

It is common knowledge that headaches, colds and other mild indispositions can be

to act in this way. Your early environment, wrong as it may have been, is a thing of the past. We repeat, you are not obliged to go on in the way you have been doing.

This is one of Adler's great messages of hope, and for the neurotic it is the beginning of a new way of life. Many people can be re-adjusted by a simple explanation of their difficulties, but for great numbers the need for psycho-therapeutic clinics exists. Here the whole story of their life is unveiled in order to determine the reason why they have grown up with a faulty attitude or pattern of life. In the hands of a sympathetic and wise psycho-therapist you will see that with patience and perseverance much can be done to help these mal-adjusted people to lose their abnormal self-interest and to begin to develop a useful communal interest.

It is essential at this stage to say a few words on "the superiority complex" which shows itself in conceited, swollen-headed, bullying, boasting, thrusting and snobbish persons. If these individuals were really superior they would not, like the Player Queen, need "to protest too much." But they are all very conscious of inferiority, an attitude acquired somewhere and somehow in early life, and they use these various methods to escape from their difficulties. "They assume that they are superior when they are not, and this false success compensates them for the state of inferiority which they cannot bear." These types are apt to cause much irritation to others. But do not be deceived or intimidated. Always remember that a really superior person does not have to draw attention to the fact; it is so obvious that no big drum is necessary. A superiority complex is an inferiority complex in disguise.

Although treatment can do much for mal-adjusted children and adults, it is the *preventive* aspect which matters most. Parents in the past may have acted unwisely, but they knew no better, nor had they any means of knowing better. In these days, however, there is no excuse. We have the knowledge now of preventing neuroses in our children, in the home and in the school. Before us lies a great task, and that task is to instruct parents, teachers and others that the training of children is not a haphazard matter of fussing and coddling, or of scolding and beating, but a communal duty of showing them a way of life, of which the foundations are courage, confidence and interest in the increasing welfare and happiness of mankind.

Surely no one can deny the need for this teaching and training, and surely it is not an impossible endeavour. What then is our communal duty as health officers? How can a knowledge of modern psychology help us in the efficient performance of our daily tasks? Let us consider the various sections of the service, and let us examine the relation of this subject to their respective functions.

PSYCHO-THERAPEUTIC CLINICS.

It is now possible for local authorities to establish out-patient clinics for the treatment of cases of impending mental breakdown. Here the patient is seen by a psychiatrist, and inquiries are made by social investigators in the home and elsewhere. In addition, patients may be admitted for observation to mental hospitals.

Hitherto much insanity seems to have been regarded as the irrevocable consequence of bad heredity, but it would be well if all health workers began to realise that environment plays a very important part in the production of psychoses. This is a very hopeful point of view and one which must be explored in every possible direction, for it places insanity in the category of preventable diseases.

It must not be imagined that every person exhibiting signs of mental collapse is a potential psychotic—he is not. But long continued anxiety and conflict may lead to a very crippling neurosis which requires the assistance of these centres. Provided they are staffed by the right sort of people they must inevitably begin to play an important part in health work, although we must not fail to understand that the prevention of neuroses and psychoses lies in early childhood.

Such centres may be described as "Worry Clinics" to which patients may be referred by medical men and others who realise that neurasthenia, so called, requires something more than tonics, a change of air, and a command "to pull yourself together."

MATERNITY AND CHILD WELFARE.

It has been stated that "the principal duty of parents towards their children is to teach them at an early age to have courage." The author of this statement—Dr. D. McAlpine, of the Middlesex Hospital—considers that the physical care of infants and children is secondary to this duty. Indeed, he goes on to state that "most young children are fearless; they become frightened of situations by the remarks and attitude of their parents. If

every anxious parent realised that the child's mental development was of more importance than its physical health, and the part which he or she played in the formation of the child's character, there would be far less unhappiness and many more useful people in the future."

The test of the value of the father and mother to their children is not the so-called love which many of them profess, but their attitude towards those children, an attitude which depends very largely upon their sense of responsibility as vital factors in the training of the child for the great battle of life.

One does not need to be a psychiatrist to be aware of the amazing and incredible stupidity of many parents in handling their children. The worst offender is the adoring mother who, as a result of a love of herself and not of her children, as she fondly imagines, so works on their emotions with perpetual fondling and petting that they become self-centred, unhappy, spoilt, and neurotic individuals. I need not describe the adult stage of these children. The "only child" is a well-known problem to us all, for his chief interest in life is the sense of his unique importance. Much jealousy and difficulty may be caused by the arrival of younger brothers and sisters unless very careful handling is exercised by the parents.

Even yet tyrannical parents exist. They are recognised by the implicit and unquestioning obedience they expect of their children and the visitation of any departure from their desires by severe punishment. These parents, of course, are too ignorant to realise that the child has its own individuality, and although he must conform with certain social usages and obligations, the effect of too severe and too dominating an attitude is fraught with danger to his healthy mental development.

The maternity and child welfare services of this country have an immense opportunity of teaching mothers and others the elements, at all events, of an understanding of the child mind and, what is just as important, a knowledge of their own minds also. The old adage, "the hand that rocks the cradle rules the world" is, when you have grasped its full significance, a great truth, since it is in the earliest years that the foundations of character are laid. It is obvious, however, that the hand in question has not been, and is not so skilful as it might be, and that the inefficiency we now see is due in large part to ignorance of the needs of the developing mind of the

child. The male sex may pride itself on the fact that it holds the administrative reins of modern life, but it has to be recognised that the future of civilisation is fundamentally in the hands of women.

Here I must refer for a moment to the place of the father, for his part in the task of child training is of considerable importance. If any one of you feels disposed to regard the teaching of fathercraft in a spirit of amusement and derision, let him visit the Royal Borough of Kensington. There he will see what can be done in this important aspect of child welfare work if it is tackled seriously and with determination. It is high time we had a few more such endeavours.

But so much for the theory. What of the practice? Public health education, of which we speak so much and do so little, is not simply a matter of the wholesale distribution of leaflets and pretty pictures. He who would teach must first be taught how to teach. School teachers undergo a special training for their duties, and to ask any doctor or nurse to undertake the teaching of parentcraft without adequate preparation is unscientific. I am convinced that the deficiency of collective and organised instruction in the maternity and child welfare centres is due not so much to the difficulties of accommodation, etc., but to the reluctance of the medical and nursing staffs to undertake a task for which they have not had the slightest training.

If we are to teach mental hygiene at our infant welfare centres we must see that the doctors and nurses therein are properly instructed and properly trained in the subject. Some day when the post-graduate training of health officers is more efficiently organised, this subject may receive the attention it deserves. Methods of health education should be taught to public health students and to student health visitors, and evidence of ability should be required at their respective examinations.

Speaking of the health visitor, it is probably true to state that she has one of the most difficult tasks in the public health service, for it is in the homes of the people to which she is admitted as a privilege, and not as a right, where her most valuable work is done. I cannot see how any health visitor lacking psychological training can possibly undertake the competent teaching of hygiene in the homes, as it is there that so many psychological problems are encountered. All day

long she is dealing with people's attitudes towards health or disease, and attitudes are not overcome by an official manner.

"Regarding the public health nurse's equipment to deal with problems of mental health and mental hygiene, I think I may say that the public health nurses have not yet in their hands a satisfactory body of information regarding mental health or mental growth. Neither has the nurse's training prepared her satisfactorily for her educational task. She does not understand the problems involved in adult education, and particularly in this difficult field of adult education regarding principles of mental health. Probably in no other field are so positively ingrained beliefs, prejudices and intolerant attitudes as around the question of behaviour of children and of adults, involving as it does the problem of discipline and obedience, of moral and ethical behaviour, sex interests, etc. The nurse's training has done, I should say, remarkably little to help her to understand and look behind the resistances and defences of the adult individuals whom she is trying to re-educate." (W. T. B. Mitchell.)

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Before leaving the important social endeavour of school medicine, let me quote from an address recently delivered by Dr. Leonhard Seif, of Munich, before an audience of educationists in the University of Birmingham.

"The school, as Alfred Adler has said, is the prolonged arm of the family. A wonderful new task, a new responsibility begins for us! It is not that we have to do nothing but thrust booklearning into the heads of the poor children, to enforce mechanical work; it is that we have to help them to become human beings, equipped to solve the tasks of life. We have to help children to ripen, to become self-dependent and social together so that they may learn to stand on their own feet courageously."

Dr. Seif concluded his address by referring to what seemed to him to be the key to co-operation and re-education everywhere, but especially in the school.

"If you treat an individual *as* he is, he will stay *as* he is, but if you treat him *as if* he were what he ought to be and could be, he will become what he ought to be and could be." (Goethe.)

Parents, school medical officers, teachers and, indeed, *all those having authority over others* would do well to learn and to apply the great philosophy underlying that statement.

"THE FLIGHT TO ILLNESS."

A discussion on the relation of modern psychology to clinical public health would not be complete without some reference to the expression known as "the flight to illness."

It is common knowledge that headaches, colds and other mild indispositions can be

developed in an attempt to avoid or to escape from some difficult situation. The temporary illness provides an excuse for the failure of the individual to face the undesired appointment or the unpleasant duty. Industrial psychology has long since proved that vast numbers of persons enjoying sickness benefit are, in fact, escaping from some anxiety at work. Indeed, it has been estimated that as much as 60 per cent. of the time lost through sickness is due to psycho-neurotic illness of some kind or another.

Health officers wishing to study the problem of the mental or psychological factor in disease should read Dr. H. P. Newsholme's "Health, Disease and Integration." In this volume is to be found material for much reflection and for much newer light on the whole question of mental and physical illness.

It seems that we must begin to ask ourselves whether behind much acute and chronic disease is an emotional factor depending on some maladjustment to life. If this is so, and if many people "fly to illness" to escape from frustration and unhappiness, does it not indicate that proper training and preparation for life in childhood may be a potent factor in the prevention of subsequent disease.

Dr. Vere Pearson recently observed that "we must recognise, and recognise to the full, that the flight to illness is a flight to active pulmonary tuberculosis as often as to any other disease. Indeed, it may be as common a mode of escape from some abhorred situation upsetting the psyche as any other." Tuberculosis workers who have not read "The Magic Mountain," by Thomas Mann, should remedy that omission.

The science of bacteriology has taught us much about the "seed"; but we have yet a great deal more to learn about the "soil." Disease of all kinds is commonly supposed to attack the human organism rendered, by reason of "lowered resistance," vulnerable to the pathogenic agent. Such failure of the bodily defences is not always due to faulty nutrition. The effect of long continued mental strain or anxiety unquestionably plays a considerable part in the overcoming of immunity. In these days enlightened clinicians are not content with ascertaining *how* a person is ill, but are looking more widely in an attempt to find out *why* a person is ill. Illness is just as frequently a purpose as it is an accident; and even accidents sometimes have their purpose.

ADMINISTRATION.

"Administration" is one of the most misunderstood words in the English language. For proof of this statement—look around. While the contribution of the administrative branch of the public health service has been considerable, it is abundantly clear that if preventive medicine is to accomplish the formidable tasks which lie ahead, it must be recognised quite plainly that administration is a difficult and intricate occupation which has to be taught and learned just as thoroughly as any craft.

The qualifications of a public health administrator are many, and they may be summed up in one word—experience. But experience is a wide definition. The medical officer of health is expected to have had dealings with as many aspects of environmental and personal hygiene as possible, and that over a long period. Upon the extent of such experience depends much of his efficiency—it is the foundation or the backbone of his administrative ability. The backbone, however, important as it is, is simply a support; a support for the controlling centre—the brain, or rather the mind. The *determining* factor in the ability and the efficiency of the health administrator is therefore to be found in an investigation of his psychological make-up.

Here again, we come back to the terms "meaning" and "attitude." Whatever experience or academic knowledge the health administrator may have, we must, if we would endeavour to assess his true value, obtain an answer to the following questions:—

"What does preventive medicine mean to this person?" and

"What attitude does he adopt towards his staff?"

An interesting exercise at times and, as you will see, a matter of modern psychology.

Any person aiming at an administrative command is exhibiting what is known as a "will-to-power." There is nothing unusual about this; we all have it in some form. Even the child trying to walk is exhibiting a will-to-power; it is an essential to all progress in the life of the individual. But with the child its efforts to walk, talk, and so on, are really an attempt to join and to co-operate with others of its immediate circle. It is a communal effort, and so we may speak of a communal will-to-power which, if properly developed, will result in an individual whose urge for

position and progress is in order that he may contribute to the general welfare of the community. But if that child has been spoilt—an "only child" for instance—or has been suppressed, or for any reason possesses an undue sense of inferiority, there is a danger that as a result of his self-centred attitude of mind his will-to-power may become *personal* instead of communal.

He does not learn co-operation; he expects others to contribute to him; he does not say in later life: "What can I give or contribute to the world?" but rather "What can the world give to me?" In a word he is ego-centric, selfish. To him his profession or calling is simply a means to an end—his end.

In positions of future responsibility we find that this type tends to develop a policy in which his own personal prestige or welfare is always paramount; and you will find that although he may obtain much power and success, his contribution to the real advancement of communal endeavour is small. He appears to have accepted a position of great responsibility but, like the burden of Shaw's ancient fisherman, it is made very largely of paper. There is no element of greatness here.

In like manner, his staff is regarded as a further means of contributing to him. He does not realise that he is "in the father position," and that he is under an obligation to co-ordinate their efforts, to lead, to inspire and to encourage the little community which has been so unfortunate as to have fallen under his rule. He is usually well versed in the art of discouragement. And have we not seen that in administrations, small or great, only the fool discourages.

Underlying the policies of the tyrannical, the intriguing, and the weak types of administrators is that *inferiority sense* of which we have said so much. The tyrant is always endeavouring to raise his own estimation at the expense of others.

"No human being confident of his own ability and power is under the necessity of exhibiting violent behaviour. This fact must never be overlooked. In paroxysms of rage the whole gamut of inferiority and superiority appears with utter clarity. It is a cheap trick whereby the personal evaluation is raised at the cost of another's misfortune." (Adler.)

Of the intriguing and weak types of administrators we need not say much; but there is one sentiment we can apply to them all, and that is—sympathy. Never forget that the neurotic administrator is not directly responsible for his attitude of mind towards

his work and towards his staff. It is a result of faulty training in his early years.

Consider, now, the administrator so trained that he possesses confidence in himself and a belief in his power and ability. His urge is to contribute, to think and work for the general welfare of the unit which he governs. All his energies are not spent in attempts to bolster up his uncertain self. The members of his staff are regarded as contributors, not to him but to his ideal. He permits no slackness and inefficiency—for then his ideal would suffer—but instead of a department of general unhappiness, dissatisfaction, discouragement, apathy, fear and despair, there is an atmosphere of friendly co-operation and enthusiasm. This is what we mean by efficient administration, and it is what we look for when we are investigating the question of efficiency, for it is based not on personal or private sense, but on *common-sense*. The administrator, then, has much to learn from modern psychology; and those who feel that their way of life is deeply set might remember that, however difficult the endeavour may be, "it is never too late to mend."

It is for the young health officer of to-day to realise that, however well he may qualify himself in the technical sense, he should not omit to pay attention to his "cultural education." By this we mean a knowledge and understanding of (a) himself; (b) other people, and (c) the philosophy of social medicine. This can be done by anyone if he really desires to do so; and it is by these means that the communal interest can be developed without which no man can be considered a good administrator. More than this, although nothing in life can be guaranteed, it would be making the question of greatness at least possible.

The public health service will have the utmost need of great men and women in the future. It is all very well to talk of the creation of large administrative areas and responsibilities; we must have men and women with large and great ideas to administer them.

CONCLUSION.

My aim in this paper has been to point out that we, as health officers, are constantly dealing with problems of human behaviour—in ourselves and in others. It is more than obvious that unless we have some understanding of the teachings of modern psychology we cannot treat and deal with the expect-

tant mother, the woman in labour, the infant, the child, the patient in hospital or at the clinic, as wisely as we should. In the field of administration it should always be borne in mind that all good administrators are good psychologists, whether consciously or unconsciously; and that much administrative inefficiency is due to the lack of psychological understanding.

In these mechanistic times, so-called abstract theories are not, as a rule, readily acceptable, but if I have attracted your attention to the ideas which are perceptibly influencing the minds and thoughts of the greatest thinkers of to-day, and if by so doing you are led to further study and knowledge of what is one of the most outstanding developments of our age—a development which promises much to aid and to help mankind in his struggle and progress along the path towards greater health and more abundant happiness—I shall feel that I have not wasted my time or yours.

Arnold Bennett, but a short time before his death, stated:—

"What is the thing which lies at the root of all the maladies of the social organisation as we know it? The answer clearly is: 'Defects of individual character.'"

THE Third International Paediatric Congress meeting in London on July 20th, 21st and 22nd, will be held in the British Medical Association House, Tavistock Square, W.C.1. Members of any recognised medical society are eligible for membership of the Congress, but they must be nominated by their own National Committee. H.R.H. The Duke of York, accompanied by H.R.H. The Duchess of York, has promised to open the Congress and welcome the members at 10 a.m., on July 20th, in the Great Hall, University College, Gower Street, W.C.1. The full programme is obtainable from the Hon. Secretary, Dr. Leonard Findley, at 61, Harley Street, W.1.

DR. RALPH M. F. PICKEN, Medical Officer of Health of Cardiff, has been appointed Mansel Talbot Professor of Preventive Medicine in the Welsh National School of Medicine, in succession to Professor E. L. Collis, at a salary of £1,500 per annum, and will enter upon his new duties on October 1st, 1933.

"A man says: 'I know I am imperfect, but I was born with a certain character, temperament, disposition, and I cannot alter it to any appreciable extent.' This statement is not true. Individual experience has disproved it and is continually disproving it."

"How can the imperfections of character be got rid of? By the power of thought scientifically applied."

"Call the subject psychology, the science of the mind, the reactions of the conscious and the subconscious, or vice versa. Call it by any name you choose, we ignore it. We ignore its tremendous possibilities for both good and evil."

"If I were capable of being amazed at any peculiarity of human nature, I should be amazed at the present astounding neglect of the subject."

In these days no health officer can consider his "cultural education" complete without a knowledge of the science and art of modern psychology. But it is well to realise that such intellectual equipment requires deep and constant study.

The New Psychology throws much light on many of our great social problems, and it will, in time, play an important and vital part in the practice of preventive medicine, for its immense possibilities are obvious to all who are sufficiently interested to consider and examine the matters at issue.

About that let there be no question or doubt.

THE Board of Education has recently issued a revised edition of the list of certified special schools, recognised institutions for the training of blind and other defective students, and nursery schools in England and Wales. Copies of this useful publication (List 42—1933) may be obtained from H.M. Stationery Office, price 9d. net.

THE Society of Apothecaries of London announce that at the examination held on May 15th, 17th, 18th, 1933, for the Mastery of Midwifery (M.M.S.A.), the following candidates satisfied the Examiners: Helen Margaret Jardine, M.B., B.Ch., Aberdeen; Elizabeth Main Moore, M.B., B.Ch., B.A.O., Belfast; Dorothy May Satur, M.B., B.S., Madras; and Nariman Jehanbakhsh Thanavala, M.D., Bombay, D.G.O.

DR. ETHEL RICHMOND EMSLIE, of the Huddersfield Health Department, has been appointed Assistant Medical Officer of Health for Twickenham, at a salary of £550 rising by annual increments of £25 to £700 per annum.

Ut Ita Dicam.

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

The Society and the Congress at Blackpool.

Though there were one or two notable members of the Society absent from the Congress of the Royal Sanitary Institute, at Blackpool, the result, no doubt, of the ministerial decision to limit the number of delegates to one, there was still a goodly attendance of members of the Service. Many of these, it may be taken, came in order to show their respect for, and to lend support to, Dr. George Buchan, the Treasurer of the Society in his capacity as Chairman of Council of the Royal Sanitary Institute, and to Dr. Pearce, the President of the Society, in his occupancy of the Presidential Chair of the Conference of Medical Officers of Health. Taking it all round, the Congress was wonderfully successful, and though it is possible that there may have been a slightly lessened attendance, it was so small as to be noticeable only because somebody one expected to see and desired to talk to was absent. His functions as Chairman of Council Dr. Buchan discharged, as everyone knew he would, with conspicuous ability and urbanity. In his public appearances and utterances he was always distinguished, his presentation of the President to the Congress, and his induction of Lord Cozens-Hardy to the Chair being particularly dignified. His speech at the dinner also was correct in every respect. While on the dinner and speeches, there are these thoughts in my mind; that whenever members of the Society were called upon to speak on formal occasions—Dr. Fenton at the opening of the Exhibition, for example, and Professor Jameson after dinner—they made an impression favourable not only to themselves, but to the Service as a whole, and to the Society.

Preventive Medicine in the Sections and Conferences.

On what may be called the medical side of the Congress, which always, of course, bulks large on these occasions, there seemed to be a good many administrative, in addition to the more technical matters to discuss. The Preventive Medicine Section, for example, devoted its first day, after a very interesting,

able (of course), and attractive presidential address by Sir Henry Brackenbury, to a consideration of the possibility of providing a general medical service for the nation. Dr. Cox opened this, and there was a paper also by Dr. Picken, and a speech by Sir Francis Fremantle. At the Conference of Representatives, changes in population in relation to local government were discussed, following an extraordinarily effective opening paper by Professor Carr-Saunders, of Liverpool; while the Medical Officers in Conference, under the presidency of Dr. Pearce, whose address was most warmly received, tried to arrive at a decision as to the possibility of decentralisation proving an aid to economy in public health administration, and of the relationship of hospital administration to the public health department. Dr. Stallybrass' paper opening this latter discussion was very greatly appreciated, and it certainly deserved to be. Administration received attention in the Health Visitors' Section, where Captain Elliston, M.P., presided, naturally, very acceptably, the particular subject being Infant Life Protection. In connection with this matter, Mrs. Tate, M.P., made use of all the many opportunities presented to the practised speaker, and Miss Lowe, Senior Health Visitor of Blackburn, gave a number of hints likely to prove of practical value to many of her colleagues recently called upon to perform duties under the infant life protection provisions of the Children Acts.

Psychology, Rheumatism and Food Wrapping.

The second session of the Preventive Medicine Section, the meetings of the Maternity and Child Welfare Section, and of the Hygiene of Food Section, all provided attractions for medical officers of health, and members of the Society were prominent, either as openers or as participants in discussions. The papers at the Preventive Medicine Section on psychology in industry contributed by Professor Pear, of Manchester; Mr. Marquis, of Messrs, Lewis and Co., Liverpool, and Dr. Lockhart, Medical Officer of Boots and Co., were fascinating in the extreme, and the audience of two or three hundred who

attended had not a dull moment. The Maternity and Child Welfare Section, of which Viscountess Erleigh proved a most proper and efficient president, had most successful meetings, and considered such important and practical subjects as the need for and advantage of maternity hospitals or homes; the control of rheumatic infections in childhood, and the establishment and working of orthodontic clinics. The Hygiene of Food Section, which was run in conjunction with the Food Group of the Society of Chemical Industry, and was presided over by Dr. Lampitt, the Chairman of the Group, had an excellent meeting, and on papers provided by, amongst others, Dr. Dart, Medical Officer of Health of Hackney, discussed the pros and cons of the wrapping of food articles, bread and butter, and so on. Much useful information was provided by members of the trade, and there was a very full discussion by representatives of local authorities and their officers. Speaking generally, the Congress from the Service point of view was a really valuable one; some most excellent work was done; useful information was obtained, and, as a result of the contacts, the determination and the strength to go forward in the interest of the public health were renewed.

National Baby Week.

And talking of renewing of strength and determination affords an opportunity of making reference to the fact that National Baby Week will have opened when this appears, and of expressing the hope that as a result of its celebration, and of the work done at the conference held during its course, there may be an enhancement of the efforts made in relation to maternity and child welfare. In the years that have passed since the inauguration of the Week, the National Baby Week Council have become more and more skilled in the making of arrangements for its celebration and for securing of success. New methods have been devised of attracting attention to the objects aimed at, and new ideas have been found for stimulating interest in every quarter. New leaflets, each more attractive and stimulating than those that have gone before, have been produced, and new competitions have been arranged, all of them more interesting and stimulating than any that have been opened before. Amongst the leaflets, reference may be made to those on

Fathers and Fathers' Councils, and Baby Sunday, and to the Shop Window Leaflet, and the "Fragrant Minute." The competitions announced are designed to interest and attract not only mothers, but fathers and school boys and girls as well, the lads being invited to describe six ways in which they can help father, and the lasses six ways of helping mother. Leaflets, competitions, and so on, all are very ingenious, and calculated to help forward the movement: calculated also to keep attention focussed on one of the most important works of a health authority; a work that can only attain its full measure of success if the public are interested and concerned to help.

The Birthday Honours.

The birthday honours list which appeared early last month was a comparatively short one. To some extent, this was due to the fact that the number of names of persons connected with the Service or the Society was so small. As a fact, the only "Fellow" to receive recognition was Surgeon-Vice Admiral Bond, and it is unlikely that it was because of his connection with the Society that the K.C.B. was conferred upon him. Whether this had or had not anything to do with it, heartiest congratulations are offered to him on the honour he has so well earned, and the hope is expressed that he may be long spared to wear it. Other names to which reference may be made are those of Lady Leslie Mackenzie, wife of Sir Leslie Mackenzie, until recently medical member of the Scottish Board of Health, who receives a C.B.E. in recognition of her public services in the interests of women and children in Scotland; Mr. Arthur Thomson, Assistant Secretary, Medical Research Council, to whom is granted a C.B.; Dr. Bagsbawe, of the Bureau of Hygiene and Tropical Diseases, who receives a Knighthood, and Miss Cameron, Superintendent Health Visitor and Inspector of Midwives, Newcastle-upon-Tyne, upon whom is conferred the M.B.E. Meagre though these recognitions of the Service are, they are taken as evidence that value and importance are believed to exist in the work done in relation to public health, and the recipients are asked to accept the very sincere and hearty congratulations and good wishes of all engaged in the work with them.

Dentistry and the Dental Officer in the Public Health Services.

By D. E. MASON, L.D.S., Senior Dental Officer, Nottinghamshire County Council.

In this paper, which takes the reader "back stage" of the school dental clinic, Mr. Mason draws on a wide experience in the dental branch of the school medical service, and directs attention to a number of matters not commonly discussed at Group or Branch meetings.

WHILST school dentistry is only one of the branches of dentistry which may be undertaken by a local authority, it is the branch upon which the greatest proportions of time, effort and money allotted to public dentistry are spent. I propose, therefore, to limit my paper almost exclusively to school dentistry and the school dental officer.

Let me emphasise, right at the commencement, that it is my intention to deal with school dentistry in general and not with the scheme of any one authority in particular, and if, in calling attention to what I consider are defects or incorrect procedures, I appear to be referring to a particular authority, then I ask you to accept my word that the reference is purely a coincidence.

The school dental service made its appearance as a section of the school medical service before the War, and by 1914, such progress had been made that 64 local authorities had some sort of a dental scheme. Progress between 1914 and 1919 was impossible, but since 1919 such strides have been taken that, by the end of 1931, 311 authorities out of a possible 317 were making provision for the dental treatment of some of the children under their care, and use was being made of 765 whole-time or part-time dental officers—the equivalent of 549 whole-time officers. The estimated cost of the scheme in that year was £470,000.

Defects in the present Dental Service.—With growth taking place at such a rapid rate as this it is by no means surprising that, in spite of the frequently repeated recommendations of the Board of Education, many local authorities should try to inaugurate or develop their dental schemes along lines other than those recommended, and the result is that at the present time several of these authorities are in a dentally chaotic state.

It is difficult to compile from the dental

sections of school medical officers' annual reports a reliable summary of the working of this service owing to the diversity of form in which these reports are presented; similarly it is difficult to make deductions from the statistical table IV, group IV, because of the varying standards under which these figures are compiled.

Sufficient information is available, however, to show that there exist wide variations in methods of administration, of inspection and treatment, and even in conception as to the function of this service.

At this stage, attention may be directed to that portion of the Ray Economy Committee Report which deals with school dentistry, but no doubt by now, members are familiar with the contents of this document.

One thing that the reports of medical officers do make clear is that if a mythical north country child who is suffering from dental defects which are not too apparent, were to trek southwards, calling for a dental inspection in the areas of the various local authorities through which he passes, he would be passed as sound by some authorities, and referred for treatment by others; similarly, if he wished to be made dentally sound, he would find that the treatment considered necessary would have many variations.

This brings me to another point of emphasis, namely, that the period of experimental trial has now been in operation quite long enough, and sufficient information has been gained for school dental schemes to be reasonably standardised in regard to the types of cases referred for dental treatment, and also respecting the treatment necessary to make these cases dentally sound.

If such a procedure could be adopted—and I can see no reason why it should not—then it would no longer be possible to say that one authority has a better dental scheme than

another; the only degree of comparison would be that one authority's scheme might be more complete than that of another. This adoption would also tend to stop the craze for "figures" with which some authorities appear to be obsessed.

Without standardisation of inspection and treatment methods, the success of a dental scheme can never be judged solely by figures in statistical tables; and yet I have met administrative officers who proudly boast that since they took office, the numbers of children treated per dental officer per annum have been nearly doubled. That the quality of the work has, in all probability, been impaired thereby does not seem to have occurred to them.

In order to arrive at the standard, I would commend the attention of those interested to the dental sections of the post-war annual reports of Sir George Newman. It seems obvious that, for the purpose of adding to the value of the oft-repeated recommendations in these reports, Sir George has enlisted the use of the best dental brains in the country, and the standards advocated are high and in accordance with modern dentistry. In particular, I would draw attention to the report of 1929, which contains the considered recommendations of an experienced and unprejudiced observer.

Put briefly, I would sum up the desired standard as follows:—

(1) The routine inspection of children under the dental scheme should be carried out with sufficient care to ensure that no child suffering from dental disease, however slight, is passed as dentally sound.

(2) A routine case, after treatment, should be free from dental sepsis; and the permanent teeth should be as free from caries and decalcified tissue as vision and the point of a fine probe will detect.

(3) Any fillings performed should be composed of good class and lasting materials, and should be inserted in cavities which have been carefully prepared to resist the stress of mastication, and extended into sound tissue to prevent, as far as possible, the recurrence of caries adjacent to the filling.

(4) Decayed but saveable temporary teeth should either be filled or treated with silver nitrate.

(5) The teeth of all routine cases should be given a thorough polishing.

Perhaps the last recommendation will cause amusement—but surely if this is the procedure in private practice, why should not a child attending a school dental clinic receive treatment similar to that which he would receive at the hands of a conscientious private practitioner.

After all, school dental officers, in addition

to being dental surgeons, are also part of the education service, and I maintain that it is most definitely part of our duty to carry out the dental education of those parents and children with whom we come in contact. To a large extent their future views on the value of dentistry will depend on what we say and do to them, and, therefore, it is most essential that the school dental officer should work at all times to the highest possible standard.

As a means of securing the smooth adoption of such standardised methods of inspection and treatment, I would repeat two suggestions which I have often heard put forward: first, the appointment of one or more suitably experienced full-time dental surgeons to the staff of the Board of Education; and secondly, the introduction of a post-graduate course in "public dentistry." This course should be a compulsory one for all intending school dental officers, and the policy and training might with advantage be under the administrative control of the medical and dental officers on the Board of Education staff. After graduates had completed the course to the satisfaction of the Board's officers, their names could be registered and they would then be eligible to apply for vacancies in the public health services. By this means both the Board of Education and the local authorities would be assured that the officers appointed were familiar with the aims and objects of the school dental service.

For the time being that is all I intend to say regarding the standardisation of school dentistry. I now propose to deal with various administrative factors which materially affect the efficiency of any dental scheme.

The Dental Fee and its Collection.—The Education Act states that where treatment is given, a fee shall be charged which shall not exceed the cost of treatment. The fee charged for routine dental work varies from nothing in the case of some authorities, to 4s. 6d. in others. The Act also states that where the authority is satisfied that the parent is unable, by reason of circumstances other than his own default, to pay the amount, free treatment should be recommended. This duty of selecting free cases usually falls on the teachers, and it can be taken that it is a job they do not like.

The method of collecting money from fee-payers varies; with some authorities it is done by the teachers; with others by the dental staff, and with others an officer of the

treasurer's or accountant's department does the collecting. Local conditions will, of course, decide which of these methods is the best for any particular authority.

It is unfortunately true that this fee question is very much misunderstood by ill-educated parents, and I have frequently heard mothers say that "you cannot expect really good service for sixpence or a shilling" as the case may be.

Personally, I am in favour of the imposition of a fee—provided, of course, that whole or partial remission is always allowed in genuine cases of poverty; at the same time it should always be borne in mind that the main object of the school dental service is to provide adequate dental treatment for those thousands of school children whose parents, by virtue of their economic circumstances, are unlikely to seek treatment from the private dental practitioner.

The Dental Treatment Clinic.—From what I have seen of specially-built school dental clinics—and I have seen a large number in different parts of England—there is still considerable room for improvement.

The most common fault is that of insufficient light, and this seems to arise from two main causes. First, a large bay window centrally placed is considered to destroy the pleasing elevation of a building, and in its place two small windows are built. Secondly, there is a firm belief that a dental treatment room must always face north. Why a dental surgeon should be expected to carry out his work in a room which is never cheered up by sunshine is beyond my comprehension, and I have noticed that when a school dental officer is given the choice of rooms, he invariably chooses one with a southern aspect.

Presumably for reasons of efficiency it is a growing custom, particularly in county boroughs, to build large and elaborate school clinics in which a varied staff of professional officers can work at one and the same time. As the patients (with the accompanying parents) enter, they are registered in an office, and then shown into a large common waiting room, where they sit for sometimes an hour or longer until their turn for treatment comes. Imagine the position on an afternoon during an epidemic period in winter. A waiting-room crowded with parents and children, many of whom have come to see the school doctor because they are ill. It is quite possible under these circumstances for cases of the

common infectious diseases (measles, influenza, mumps, diphtheria, whooping cough, etc.) to be found amongst children congregated in the waiting-room. The danger is obvious. The discriminating young mother who has taken her child to have a tooth filled is by no means happy when she finds herself in this room, especially if she has been compelled to bring a young baby as well, and she will probably think twice before attending again. I would strongly advocate, therefore, that wherever possible, a separate waiting-room be provided for dental patients.

Expressing a purely personal view, I am of the opinion that there are many vacant private houses of the larger type which could be taken over by local authorities, and, at small expense, converted into ideal full-time dental clinics. A portion of such a house could be sub-let to a caretaker, who would live rent free for keeping the place clean and tidy. Authorities who have not yet provided their dental officers with permanent dental clinics might give consideration to this view.

The Making of Appointments.—One of the most important features of any school dental scheme is the way in which the appointments are made, because whilst this is an administrative point, it nevertheless has a direct effect on the clinical work.

For the central office to make the appointments and summon a full session's quota of children all for 9.30 or 2, regardless of the dental needs of those children, is surely wrong. A crowded waiting-room such as this produces may impress a lay committee, but it is not conducive to the highest standard of dental work, since it is only natural that the dental officer will try to get through the number as quickly as possible. With some authorities the continued use of this procedure has produced a vicious circle; the dental officer has been found to have completed his quota of work before his appointed time, so more and more appointments are made, which, in turn, causes the dental officer to work more and more quickly. Dental clinics run in this way become nothing more than dental out-patient departments, and as such cannot create the impression we desire on the minds of young patients and their parents.

Under normal circumstances the rule should be one child in the chair and one or two in the waiting-room (as in a well-conducted private practice) and the appointments should be made either by, or under the direct super-

vision of, the dental officer who is going to carry out the treatment. In this way the dental officer will be able to summon, at intervals, sufficient children to keep him steadily occupied throughout his accepted session. No child would be kept waiting unnecessarily; the clinic would be quiet and would in no way tend to resemble a busy hospital. As far as possible, only one school should be dealt with at a time, and this school should be completed before proceeding with the next.

The Dental Nurse.—Far too little significance is attached by some authorities to the importance of the dental nurse, who in a well-conducted service should play a very active and useful part.

Each full-time dental officer should have the assistance of at least one full-time dental nurse; and although I admit it is not essential, I strongly advocate that all dental nurses should be in possession of the three years' nursing certificate, purely on the ground that this qualification adds dignity to the service and efficiency to the clinical work.

By working together as one unit, the dental nurse learns to understand the dental officer and in time can anticipate his requirements, thereby adding considerably to the efficiency of the unit.

The duties of the dental nurse include the following:—

(1) She should be the liaison officer between the dental officer and the teachers, and between the dental officer and the parents.

(2) She should see that the children and parents in the waiting-room are reasonably comfortable, and should speak encouragingly to the nervous.

(3) During treatment she should mix fillings and hand the required instruments to the dental officer, and after treatment she should look after the patient and escort him or her to the parent (if present) and explain what has been done and convey any instructions given by the dental officer with regard to mouth washing, etc.

(4) The complete sterilisation of instruments is also the nurse's duty, and another most important part of her work is to see that a child on entering the surgery is able to see no trace of the results of treatment of the last case.

(5) She should also, if required, make out new charts and fill in particulars on forms and registers; keep one eye on the linen cupboard and another on the stores cupboard, and in her spare time she should make out, in consultation with the dental officer, advance appointment lists.

Although dental officers do not realise it—or if they do, they do not admit it—a discreet and tactful dental nurse really runs the dental clinic, and that is why it pays authorities to

exercise great care in the selection of their dental nurses.

One other point, and an important one, is that the dental nurse should, at all times, be responsible for maintaining the human element in the clinic. By calling children by their Christian names, and informing the dental officer of their history, peculiarities, etc., which she has learned from the mother in the waiting-room, the children remain as individual children and do not degenerate into mere cases.

Numbers per Dental Officer.—Reference may be made to the biggest stumbling block in the school dental service—the allocation to a dental officer of many more children than he can possibly make and maintain dentally sound.

It is generally agreed by the most experienced of dental surgeons that, in order to ensure that permanent teeth should not become unsalvageable through extensive decay, the interval between successive inspections (and treatment when necessary) should never be more than twelve months. The importance of this is emphasised not once, but repeatedly, with an almost monotonous regularity, in most of Sir George Newman's annual reports.

Now if the standard of treatment advocated in this paper is adopted, it will be found that, for a few years at any rate, a full-time dental officer will be able to treat not more (probably less) than 2,000 children per annum, but as no authority yet possesses one full-time dental officer for each 2,000 dentally-defective children, then it automatically follows that every dental scheme must have its limitations.

There are four usual forms of limitation and I will consider each in turn:—

(1) The authority can waive the "treatment on an annual basis" and instruct its dental officers to include every child under the scheme. In this way the completion of circuits may take two or even three years, and one may safely say that much of the public money spent on a scheme like this is wasted.

(2) The second method is for the local authority to try to work on an annual basis by requesting the dental officers to do only urgent work for as large a number of children as possible. This method, however, has two serious drawbacks: first, it is conducive to large numbers of extractions and exclusion of fillings; secondly, it tends to induce bad habits in the dental officers, and in any case it fails to fulfil the function of a satisfactory dental service and should, therefore, be discarded.

(3) The third method is for the local authority to limit the children eligible for routine treatment to

certain age-groups, and this is the method most commonly adopted. Unfortunately, this method is not so successful in practice as it is in theory, and no matter how much careful thought has been put into the original planning, the scheme gradually becomes overloaded until the time taken to complete a circuit is considerably in excess of twelve months.

(4) The fourth method is to limit the children eligible under the scheme to certain schools only. This method, however, is unfair inasmuch as children at other schools are not eligible for a service to which their parents are probably contributing through the rates.

(5) There is, however, still another method of which I think use could be made, especially during this period of compulsory standstill; that is, to limit the dental scheme, both in regard to routine inspection and treatment, to those children whose parents express a written wish to be included, and who promise that the children will attend regularly as required. Such a limitation is obviously a fair one, which is more than can be said for some of the other forms of limitation.

In order to operate such a scheme it would be necessary to issue to every parent, through the medium of the head teachers, a card asking: "Do you wish your child to be given regular dental treatment under the authority's dental scheme?" The card should be returned, marked "Yes" or "No" and signed, and the "consents" allocated to the existing dental staff at the rate of not more than 2,500 (?) per officer (this number, of course, would include a percentage of dentally sound children, and would need to vary within slight limits according to local circumstances).

If the number of consents fell short of the total required for allocation on this basis, then a little active propaganda would soon produce the required addition.

No further admission of any child to the dental scheme should be made without a signed parental request in which regular attendance is promised, and even then the admission should only be authorised when there is a definite vacancy.

Vacancies would arise in one of three ways: (a) by children falling out of the scheme; (b) by appointment of additional dental staff; and (c) by a dental officer completing his circuit in less time than anticipated.

Think of the excellent position of the school medical officer who, when asking for an additional dental officer, could say to his committee: "We now employ five full-time dental officers, each of whom has the full number of 2,500 (?) on his 'panel' and is, therefore, fully occupied; but I have here written requests from a further 2,500 (?)

parents who wish their children to be included in the dental scheme, and who promise that their children shall attend regularly for systematic treatment." Few committees could resist such an appeal.

Happy, too, would be the dental officer working under such a scheme, since he would know that the children he deals with would be likely to be regular attenders and, therefore, the time he spends on them would not be wasted.

It must be admitted that there would be certain administrative difficulties to be overcome in order to ensure that the "panels" worked smoothly and on a strictly annual basis, but even in numerically large authorities these difficulties would not be insurmountable.

There remains one class of child to whom I have not yet referred, and that is the child who, by virtue of not being under the dental scheme, develops serious dental conditions which, in the opinion of the inspecting medical officers, should receive treatment. If it is the wish of the authority to provide these children with treatment, then some special arrangement must be made. This casual work may be undertaken either by the routine dental officer, in which case the number of routine cases allocated to him would have to be proportionately decreased; or, alternatively, it may be undertaken by a specially appointed "casualty dental officer," and in a borough I would recommend this latter procedure as being the more desirable.

There still remains much in the school dental service upon which I have not touched, and there are also maternity and child welfare, tuberculosis, venereal diseases, and public assistance dental schemes. These various aspects of public dental work could well form the basis of future papers.

DISCUSSION.

The President (Mr. Grantley Smith), in thanking Mr. Mason for his paper, said it contained a scathing indictment of the administration of school dental treatment. No standard appeared to be laid down to guide those concerned in the work. In the medical curriculum there was a course of lectures on public health which every student had to be signed up for. No instruction concerning dental public health was given in the dental curriculum, and, little, if any, concerning children's dentistry. The Society stood for a period of three years' experience subsequent to qualification before appointment to a public health post, but undoubtedly many young qualified dental men had been appointed without the desired experience. There was also no organised post-graduate

study in public dentistry. That the school service was administered by the Board of Education and local directors of education, rather than by the Ministry of Health and the local medical officers of health, all tended to greater confusion. The President agreed that the days of experiment with the school dental service were over, and that there was a great need for definite and detailed schemes to be available to suit the needs of different types of local administration. He suggested that the specialised knowledge contained in the Group should be utilised to that end.

Mr. J. Fletcher suggested that cases with fillings only (after initial paying acceptances) in following years should be done free to stimulate acceptances for purely conservative work. He strongly advocated the employment of state registered nurses to work with dental surgeons. Any scheme under 10,000 could be considered adequate under present circumstances. Out of 10,000, with the three age-groups 6, 7 and 8, this gave roughly 3,300 offers of treatment and, say, 1,650 acceptances. Thus each child had at least three chances in three consecutive years of coming under the scheme. With the previously treated cases, this ensured that the dentist was working in the most favourable field, i.e., when most acceptances were likely.

Mr. C. Doswell Wallis agreed as to the futility of relying upon statistics. The proportion between the number on the staff and the numbers of children requiring treatment had a very real bearing on the variation in the methods of treatment, and on the

figures noted. One point in regard to fees was apt to be overlooked, namely, that the expenditure on dental treatment was met out of the rates, towards which the parents of elementary school children had contributed, and that only a small nominal fee was asked in acknowledgment of the individual care given every child patient. While advocating a separate dental waiting-room, Mr. Wallis claimed that a fairly crowded room was an advantage, in that the children kept one another cheery and played together, and were less likely to develop "nerves." It was well to encourage parents not to attend the clinic at all. The dental officer and nurse in charge should strive to so gain the confidence and goodwill of patients and parents that the latter would be quite content to allow their children to come along for treatment with the others from school. Parents should not be allowed in the surgery whilst any operations were being carried out. The question of the dental nurse he considered an extremely difficult one. Without doubt, a special dental nurse, with additional appropriate training, was of great assistance to the dental surgeon in the operating room, but the employment of the services of the regular school nurse or district nurse (already well-known to children and parents in other connections) secured in the child and the parent a feeling of greater confidence in both attending the clinic and accepting offers of treatment. Indeed, a parent not infrequently would consent to treatment only on the understanding that "our nurse" would be there to take care of the little one.

THE London School of Hygiene and Tropical Medicine (University of London) announces that the next series of lectures and demonstrations on Tropical Hygiene, which are intended for men and women outside the medical profession proceeding to the Tropics, will be given by Lieut.-Colonel G. E. F. Stammers, O.B.E., M.R.C.S., L.R.C.P., D.P.H., from July 10th to 19th, 1933. The course comprises eight lectures, which will be held from 11 a.m. to 12.30 p.m. These courses of instruction, in addition to providing simple rules for guidance in regard to personal hygiene and preparation for life in the Tropics, will also embrace a short account of some of the more common diseases, with advice in regard to measures of protection and self-treatment. The synopsis and other particulars can be obtained from the Secretary, London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C.1.

THE Royal Institute of Public Health has accepted invitations to hold congresses at Norwich (in 1934) and at Harrogate (in 1935).

THE Twelfth Annual Conference of Cremation Authorities will be held, in conjunction with the Annual Conference of the National Association of Cemetery and Crematoria Superintendents, in London, on July 10th, 11th and 13th, 1933. The opening meeting of the Conference will be held in the council chamber at the Guildhall, when the Lord Mayor will preside. Local authorities owning or contemplating the provision of crematoria, and representatives and members of cremation organisations at home and abroad, are invited to apply to Mr. A. E. Piggott, 37, York Street, Manchester, for copies of the agenda and programme of proceedings.

The death is announced with regret of John Elliott Robinson, M.B., B.S. LOND., M.R.C.S., L.R.C.P. LOND., D.P.H., County Medical Officer of Health of Dorset, which occurred on June 24th, at the age of 59. Dr. Robinson formerly held the post of Medical Officer of Health of Biggleswade Urban and Rural Districts, and was the author of a number of reports on medical and public health subjects.

AN AMERICAN LETTER.

Our Correspondent speaks of the Washington Meeting of the National Advisory Health Council of the National Institute of Health—the Public Health Service and the Economic Situation—and Several Matters of Medical Interest.

The Advisory Council of the National Institute of Health.

The meeting of the National Advisory Health Council of the National Institute of Health, at Washington, to which reference was made in a previous letter, was interesting, but not very encouraging. The depression is still with us, and President Roosevelt, with his advisers, is determined to balance the budget of our country, and save its credit. Unfortunately, public health will suffer, in common with all other departments. Those of us who are interested in health believe that the best economy would be to spend more for the preservation and protection of the people, but politicians, with a few honourable exceptions, cannot see it that way. Indeed, the opinion was expressed at the meeting that "public health is in eclipse." We have, as I have explained, no Ministry of Health, and our Public Health Service occupies that position as far as our structure of government allows. It has been liberally supported ever since its foundation by Republicans and Democrats alike, and we are proud of the body of men who wear its uniform, and of what they have accomplished.

The Position of the Public Health Service.

Last year salaries were cut 8-1/3 per cent. A further cut, bringing the total to 15 per cent., has taken place, and by July 1st, more serious cuts seem certain. Already some four million dollars a year have been taken from the appropriation, and there is little doubt that much larger cuts will be made in the very near future. The salaries of personnel will become smaller, and it is feared that the Surgeon-General will be obliged to drop even commissioned officers. No appointments are being made. As the Public Health Service, under which the National Institute of Health operates, is carrying out researches on many subjects, such as cancer, mouth hygiene, industrial hygiene, leprosy, malaria, milk, nutrition, stream pollution,

heart disease, statistical methods, as well as other matters forced on its attention, as emergencies, such as psittacosis, undulant fever, etc., the situation is far from encouraging. Research will be very seriously impaired. In justice to our President and Director of the budget, as well as to our Congress, it must be pointed out that the money is not on hand to be appropriated, our deficit having reached a staggering amount. There is apparently reliable information that the President intends to consolidate some of the agencies dealing with public health. At present, more than 40 bureaus, boards, departments, commissions, etc., are dipping into the Treasury under the name of health. It can be said of commissions, as of politicians: "Few die and none resign." Our last administration was noted for the appointment of commissions for pretty nearly everything under the sun, and one great economic problem is how to get rid of them. Despite the continued widespread depression, which fortunately shows signs of improvement, the health of the country remains good. The expected malnutrition in children has not materialised to the extent feared, but reports are coming in now which show that some of our fears are being realised. The re-organisation of state boards of health is widespread, and tremendous cuts, running as high as 50 per cent. have occurred in their appropriations. Many excellent officers, as well as technicians, have been thrown out of employment, and in these days, finding new positions, whatever one's qualifications may be, is extremely difficult.

Cancer Discoveries.

A few things of medical interest must be noted. Doubtless the daily papers have carried the report of another discovery of the germ of cancer. The present report gains more credence than usual, since it has come from the National Institute of Health. Under the law, the Director of the Institute is allowed to accept voluntary workers. About a year and a half ago, privileges were extended to

one Dr. T. J. Glover, who is said to be a Canadian, and to have operated some sort of cancer institute in Toronto and Detroit, Michigan, and Dr. J. L. Engle. So many reports became current that Dr. McCoy, the Director, felt that the facts should be made public. Visiting the Institute recently, I had demonstrated to me some 20 guinea-pigs which had been inoculated with pure cultures of the germ isolated from malignant growths by Drs. Glover and Engle. A tumour forms at the site of the inoculation, reaching about the size of a walnut. The animals become emaciated, appear cachectic, and die, though most of them have been chloroformed just before death in order to recover uncontaminated cultures, and to obtain good histologic specimens. The gross appearance of the tumours in all guinea-pigs examined was practically identical. Microscopic sections from one animal have been submitted to several pathologists, and varying opinions have been given. The pathologist of the National Institute of Health is not entirely certain about the character of the tumour. I think it is possible to say that something has been produced unlike anything before described. In other words, we have a tumour-forming organism which is said to be pleomorphic and recoverable from the growth produced, pure cultures being injected in each successive animal. Two of the most outstanding pathologists of the United States, Dr. James Ewing, of the Memorial Hospital of New York, and Dr. Francis Carter Wood, who gives his entire time to the study of cancer, have questioned seriously the significance of the results reported. The attitude of many of us is that when Dr. Ewing and Dr. Wood say it is cancer and produced from the germ, we will accept it. In the meantime, there is very wide scepticism among those who are in a position to judge.

Malaria and Syphilis.

A notable piece of medical news is the new method of utilising the malarial organism for the cure of advanced syphilis. All students of malaria know Dr. Bruce Mayne of the Public Health Service, who has made many notable contributions to malariology. Some two years ago the Public Health Service established a laboratory at Columbia, South Carolina, for the purpose of breeding mosquitoes under the best conditions, infecting them with tertian malaria, and supplying doctors

who desired to produce malaria in their patients. Difficulty was found in shipping the mosquitoes, many dying during the long trips across the country. It was estimated by Dr. Mayne that each patient treated cost about \$1,200. Setting himself to the task of improving the service, as well as lessening expense, he now kills infected mosquitoes at the proper period after feeding and dissects out the salivary gland, which is put in fresh blood. The material so prepared keeps well for a number of days at a temperature of 40-50° F. It has been shipped by aeroplane as far as California in thermos bottles and stood the trip well, being active at the end of the journey. All reports so far are favourable. When we add that the preparation from the salivary gland of one mosquito furnishes material enough for the inoculation of some twelve patients, it will be seen what a tremendous financial saving there is, and the service is claimed to be very much better.

Psittacosis.

The psittacosis studies have led to the inoculation of domestic fowls, since if the fowl is susceptible, the situation is very much graver than has been suspected. Newly-hatched chicks have been inoculated, but so far all experiments have failed, the chicks dying of coccidiosis.

MAZYCK P. RAVENEL, M.D.

The League of Nations Darling Foundation Prize for Malaria Investigation.—Created by the Health Organisation of the League of Nations in honour of the late Dr. Samuel T. Darling, who met his death in 1925, by an accident, while conducting a mission on behalf of the League, this Foundation has for its purpose the periodical award of a prize to the author of an original work on the pathology, etiology and prophylaxis of malaria. It is announced from Geneva that the first award of the Foundation will take place on January 1st, 1934, and the Foundation Committee, on the recommendation of the Malaria Commission of the Health Organisation of the League, has decided to award the prize to Lieut.-Colonel S. P. James, M.D., F.R.S., of the Ministry of Health, London.

DR. J. A. JACKSON, Medical Officer of Health for the Hexham Urban District since 1886, has resigned that appointment.

The Society.

Reports, Proceedings and Announcements.

NOTICES.

ANNUAL SUBSCRIPTIONS.

A number of members have not yet forwarded the annual subscription due on October 1st, 1932. They are asked to do so at once, as the collection of these payments must be completed before the annual audit.

SCHOOL MEDICAL SERVICE GROUP.

A meeting of the Group will be held at the house of the Society, on Monday, July 24th, 1933, at 5.30 p.m., for the purpose of electing officers for the session 1933-34.

L. C. ADAM,
Hon. Secretary.

Embassy Hotel,
Bayswater Hill, W.2.

THE NORTHERN BRANCH.

President: Dr. A. Stuart Hebblethwaite, M.C., M.O.H., Sunderland.
Hon. Secretary: Dr. J. A. Charles, M.O.H., Newcastle-upon-Tyne.

A meeting of this Branch was held at the Medical Institute, 7, Windsor Terrace, Newcastle-upon-Tyne, on May 12th, 1933. Twelve members were present. In the absence of the President and Vice-President, Dr. G. C. M. M'Gonigle was voted to the chair.

It was agreed that the summer meeting of the Branch be held on a Saturday, at Crindon Hall, the exact date being left in the hands of the President and the Hon. Secretary.

The Chairman stated that the Articles of Association of the Society were considered by the Branch on January 8th, 1932, and certain recommendations were forwarded to the Council of the Society. As none of these had been included in the revised Articles, he was of the opinion that the Branch should strongly urge the incorporation of its suggested amendments at the Extraordinary General Meeting of the Society to be held in London on May 19th, 1933.

Article 3.—Sub-heading "Association."

It was agreed, on the motion of Dr. Spinks, duly

seconded, that the previous recommendation of the Branch be re-affirmed, viz.:—

"Present name of the Society be altered so as to make it more representative of the whole Society."

The following alternative titles were suggested:—

- (1) "Medical Officers' Association."
- (2) "Association of Public Health Medical Officers."

Article 17.—Officers of the Association. (Election of President.)

Dr. G. C. M. M'Gonigle moved, Dr. W. H. Dickinson seconded, and it was agreed, that the following recommendation of the Branch be re-affirmed, viz.:—

"Each Branch may nominate a Fellow of the Society for the office of President. A voting paper containing the names of all Fellows nominated shall be sent by the Executive Secretary to all Fellows of the Society, and the Fellow receiving the largest number of votes shall be declared elected as President."

Article 19 (c) and (d).—The Council.

Dr. Charles moved, Dr. Dickinson seconded, and it was agreed, that paragraph (c) should read:—

"Two representative members elected by and from each Group";

and that paragraph (d)—

"Not more than six Fellows of the Association who shall be in active practice,"

be deleted.

THE WEST OF ENGLAND BRANCH.

President: Dr. R. H. Parry, M.O.H., Bristol.
Hon. Secretary: Dr. P. H. Stirk, M.O.H., Exeter.

A meeting of this Branch was held at "Northwoods," Winterborne, near Bristol, on May 26th, 1933, the President occupying the chair. Ten members were present.

The Hon. Secretary presented a report on the two recent Council meetings, but owing to shortness of time, only a few items were read.

Dr. Casson and Dr. Cates opened a discussion on "**The Mental Treatment Act, 1930.**" Dr. Parry and Dr. Dunstan Brewer also spoke, and several questions were asked by other members. At the conclusion the President thanked Dr. Casson and Dr. Cates for opening a discussion for which the Branch was extremely grateful.

The members were afterwards entertained at tea by Dr. Cates.

On the proposition of Dr. Parry, a hearty vote of thanks was passed to Dr. Cates for

his kind hospitality, and for allowing the meeting to be held at Northwoods.

It was decided to hold the next meeting in Exeter towards the end of July.

THE HOME COUNTIES BRANCH.

President: Dr. A. J. Laird, M.O.H., Cambridge.

Hon. Secretary: Dr. R. P. Garrow, M.O.H., Hornsey.

The annual meeting of this Branch was held at Cambridge, on June 2nd, 1933.

Some 20 members were received in the Council Chamber of the Guildhall by Her Worship the Mayor (Mrs. Alderman Keynes), who was accompanied by Alderman Dr. Dalton (Chairman), and Mrs. Councillor Stevenson (Vice-Chairman) of the Health Committee of the Borough. The Mayor delivered a speech of welcome, and the President thanked her on behalf of the Branch.

It was proposed by Dr. G. F. Buchan, seconded by Dr. A. A. Turner, and carried unanimously, that Dr. Thomas Orr be elected President of the Branch for the session 1933-34.

Dr. R. P. Garrow was elected Hon. Secretary, and Dr. Tapper, Hon. Treasurer for the ensuing year.

Drs. Orr, Muir, and Garrow were elected representatives of the Branch on the Council of the Society.

Drs. Brocklehurst and Herington were elected representatives of the Branch on the Kent Branch of the British Medical Association.

Drs. Lorraine, Mayberry and Renwick were elected representatives on the Tuberculosis Group Committee of the Society.

The President entertained the Branch to lunch at Matthew's Café, after which Dr. Robinson and Mr. Fitzgerald conducted parties round the Colleges, returning to Matthew's Café to tea with the President. Dr. Orr, President-elect, proposed a hearty vote of thanks to Dr. Laird for his generous hospitality, and to Dr. Robinson and Mr. Fitzgerald for their interesting tour of the Colleges.

In submitting minutes for confirmation, reference was made to the following meetings of the Branch which had been held earlier in the year:—

February 3rd, 1933.—At the house of the Society, when Dr. E. W. Caryl Thomas read

a paper on "Public Health Problems in a New Area."

April 7th, 1933.—At Papworth Village Settlement, when a tour was made of the workshops, sanatoria, laboratories, etc., under the guidance of the Medical Director (Sir Pendrill Varrier-Jones), who afterwards entertained the visitors at tea in Papworth Hall.

May 5th, 1933.—At the "Ovaltine" Factory of Messrs. A. Wander, Ltd., Kings Langley, where the members were conducted over the various departments, and also visited the egg farm and model dairy.

THE MIDLAND BRANCH.

President: Dr. H. D'Arcy Ellis, M.O.H., Amblecote and Brierley Hill Urban Districts.

Hon. Secretary: Dr. R. H. H. Jolly, M.O.H., Wolverhampton.

Visit to Dried Milk Factories.—On June 8th, 1933, 76 members of the Midland and East Midland Branches visited the "Cow and Gate" factories, at Wincanton, Somerset. The party arrived at noon, and a tour was made of the departments dealing with the cleaning, powdering, and sifting processes.

After luncheon at the White Horse Hotel, the blending, weighing, and packing rooms were visited. The members were also entertained at tea, and at the conclusion, Dr. D'Arcy Ellis proposed a very cordial vote of thanks to the Directors of the firm for the extremely interesting demonstration they had given, and for their abundant hospitality. Dr. Fairer seconded the vote of thanks, and Mr. Taylor and Mr. Bowden replied on behalf of the firm.

Everyone agreed that the visit had been a most interesting one, and that it had afforded a valuable insight into the production of dried milk, and the need for meticulous care and cleanliness in its manufacture.

THE YORKSHIRE BRANCH.

President: Dr. T. N. V. Potts, M.O.H., West Riding of Yorkshire.

Hon. Secretary: Dr. James Mair, M.O.H., Harrogate.

A meeting of this Branch was held in the Education Offices, Leeds, on May 26th, 1933, the President occupying the chair. Nineteen members were present.

It was reported that it had not been possible to arrange for the June meeting to be held in Hull. It was, therefore, decided to hold the meeting in York, on June 29th.

Friday, November 24th, 1933, was fixed as the date of a joint meeting with the Dental Officers' Sub-Group, to hear a paper by Mr. Evelyn Sprawson, M.C., M.R.C.S., L.R.C.P., L.D.S.

It was resolved that the Maternity and Child Welfare Group be asked to nominate a member to serve as non-official representative of the Group on the Branch Council.

The following officers for the session 1933-34 were elected by ballot:—

President.—Dr. Gladys Russell.

Vice-Presidents.—Dr. T. N. V. Potts (*ex-officio*), and Dr. R. L. Thornley. (Dr. J. J. Buchan withdrew his nomination.)

Hon. Secretary and Treasurer.—Dr. J. Mair.

Members of Council.—Drs. H. T. Bates, T. Gibson, W. B. Hill, J. J. Jervis, L. Pickering-Pick, G. H. Pearce, G. C. Roe, J. A. Scott, and E. A. Underwood.

Representatives on the Yorkshire Branch of the British Medical Association.—Drs. J. J. Buchan, G. H. Pearce, T. N. V. Potts, and J. Mair.

Hon. Auditors.—Drs. T. N. V. Potts and R. L. Thornley.

Representative of Veterinary Officers Group (Non-official).—Mr. W. Halstead (nominated by the Group).

Representative of Dental Officers' Group (Non-official).—Mr. J. N. Moxon (nominated by the Group).

In view of the statements made that junior officers have little voice in the work of the Society, it might be worth while pointing out that the President-Elect is a junior medical officer in charge of maternity and child welfare, and that of the 20 nominations received for Council, five were of junior medical officers, all of whom were nominated by chief medical officers.

The discussion of Dr. Roe's paper on "The Mental Deficiency Problem," which was deferred from the last meeting, was then resumed. Dr. Roe opened by giving a brief résumé of his paper, and a very interesting discussion followed, in which most of the members present took part. On the motion of the President, Dr. Roe was again cordially thanked for his interesting contribution.

THE MATERNITY AND CHILD WELFARE GROUP.

President: Dr. Margaret Emslie.

Hon. Secretary: Dr. Isobel Wright, Public Health Department, 121-131, Rosebery Avenue, London, E.C.1.

On May 24th, 1933, members of the Group were guests of the Medical Section of the British Psychological Society, in the house of the Medical Society of London, at a symposium entitled "Gynaecology and Psychological Medicine." Drs. Aleck Bourne, Leonard Philips, and C. P. Blacker read papers, and an interesting discussion followed, in which Drs. Calver and Emslie took part, the latter conveying to the Section the thanks of the Group for the invitation.

On May 26th, 1933, at No. 1, Wimpole Street, a joint meeting was held with the Royal Society of Medicine (Section for the Study of Disease in Children). The subject discussed was "Anemia in Infants and Young Children," and prior to the meeting an instructive series of cases was shown.

Dr. Leonard G. Parsons, as President of the Section, welcomed the Group (which was well represented), and, as a Fellow of the Society of Medical Officers of Health, thanked the Section for their invitation and excellent display of cases.

YORKSHIRE SUB-GROUP.

President: Dr. J. Johnstone Jervis.
Hon. Secretary: Dr. Gladys J. C. Russell, Asst. M.O.H. (M. & C.W.), Leeds.

A meeting of this Sub-Group was held in York Maternity Hospital, Acomb, York, on Saturday afternoon, May 20th, 1933.

Dr. J. Greenwood Wilson (Medical Officer of Health, Dewsbury), in an interesting paper, illustrated by detailed tables and graphs, on "The Importance of Breast Feeding and its Effect upon the Health of the School Child," dealt with an investigation carried out in an industrial area in South-East Lancashire.

At the conclusion of a lively discussion, in which most of those present took part, a vote of thanks to the speaker, proposed by Dr. Pearce, and seconded by Dr. Gall, was carried by acclamation.

The members were afterwards entertained at tea at the Hospital.

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 20th, 1933. Dr. G. Lissant Cox occupied the chair, and 25 members were present.

The following committees were elected:—

Employment.—Drs. J. B. McDougall (convener), D. P. Sutherland, Jane Walker, G. Jessel, Peter Edwards, and C. O. Hawthorne.

Tuberculosis Service.—Drs. G. Lissant Cox (convener), L. S. T. Burrell, W. Brand, S. Vere Pearson, Ernest Ward, F. W. Goodbody, G. T. Hebert, F. J. H. Coutts, F. J. C. Blackmore, and D. A. Powell.

Entertainment.—The officers and Dr. G. T. Hebert.

Institutions.—Drs. F. J. C. Blackmore (convener), Jas. Watt, D. A. Powell, D. P. Sutherland, G. Jessel, F. J. H. Coutts, F. W. Goodbody, J. B. McDougall, Ernest Ward, and Peter Edwards.

Children.—Drs. N. Tattersall (convener), F. J. H. Coutts, L. S. T. Burrell, Esther Carling, W. H. Tytler, and Professor S. Lyle Cummins.

Pneumothorax.—Drs. R. R. Trail (convener), S. Vere Pearson, G. Jessel, W. Brand, D. P. Sutherland, Jas. Watt, C. O. Hawthorne, Peter Edwards, and L. S. T. Burrell.

Drs. Burton Wood and Wingfield were elected members of Council subject to their willingness to serve. It was decided to accept with regret the resignation of Sir Henry Gauvain, and to thank him for his invaluable past services, and for his offer to attend when his opinion was desired on any special subject.

Dr. Jane Walker proposed: "That the name of this Joint Tuberculosis Council be altered to the Central Council for Tuberculosis." After discussion, a committee comprising Drs. G. Lissant Cox (convener), Ernest Ward, L. S. T. Burrell, Jane Walker, and C. O. Hawthorne, was appointed "to advise Council how its work may be made more effective and brought more to the notice of the medical profession."

The Hon. Secretary read correspondence with Sir Pendrill Varrier-Jones anent the proposed enquiry at Papworth, Preston Hall, and Barrowmore Hall. He was directed to thank

those in charge at Preston Hall and Barrowmore Hall for their offer of co-operation, and to draft a letter, subject to the approval of the Chairman and Dr. James Watt, explaining the situation to the Ministry of Health, and asking if they felt able to undertake some such enquiry.

Dr. Lissant Cox's memorandum on the Ray Economy Report was received, and adopted, after discussion, and the Hon. Secretary was asked to bring it to the notice of the Ministry of Health and the Society of Medical Officers of Health.

The Hon. Secretary was also asked to acquaint the Ministry of Health of the value attached by Council to the previously published statistics compiled from the returns received annually as the result of Memorandum 37/T, and to ask if it was possible to recommence this publication.

The note prepared by Professor S. Lyle Cummins on the use of tuberculin in diagnosis was discussed, and the Hon. Secretary was requested to send this to the medical press. Dr. W. H. Tytler expressed the view that the intra-cutaneous and sub-cutaneous reactions were possibly due to different constituent fragments of the tuberculin used, and was asked to prepare a note, for consideration at the next meeting, on "Tuberculin Testing from the Bacteriologists' Point of View." Dr. D. P. Sutherland was also asked for a note on "The Sub-cutaneous Tuberculin Test."

Dr. W. Brand wrote that the course at Brompton Hospital had 32 participants, and was an unqualified success. Arrangements were being made for courses at Cheshire Joint Sanatorium on artificial pneumothorax and allied procedures, and another at Princess Mary's Hospital, Margate, and the Royal Sea Bathing Hospital, on non-pulmonary tuberculosis.

Saturday, November 18th, 1933, at 10 a.m., was the date and time fixed for the next meeting of Council.

DR. MURDOCH MACDONALD, Assistant Medical Officer and Tuberculosis Officer, Greenwich, succeeds Dr. E. G. Annis, Medical Officer of Health of the Borough, who is retiring.

The Literature of Preventive Medicine.

Food and the Principles of Dietetics. By ROBERT HUTCHISON, M.D., F.R.C.P., Physician to the London Hospital and to the Hospital for Sick Children, Great Ormond Street; and V. H. MOTTRAM, M.A., Professor of Physiology, King's College of Household and Social Science, University of London. London: Edward Arnold and Co., 1933. pp. 630. Price 21s. net.

This book was first published in 1900, and has been in existence therefore for 32 years, and until this present edition—the seventh—has been the handiwork of Dr. Robert Hutchison alone. Finding himself in need of a collaborator he turned, almost inevitably, to Professor Mottram, and together they have revised and reset the whole book. Many of the chapters have been re-written, and few have escaped alteration and amendment in order to bring the matter up-to-date, and into consonance with modern views on a subject that is more and more everyday securing the recognition that Hutchison, when he first planned his book, saw that it should be given. Having regard to its authorship and to its age, it is almost impertinent to offer any comment upon the volume. Equally, and for the same reasons, it is quite unnecessary to recommend it to the medical officer of health, or anybody else in search of information and guidance on the subject with which it deals so authoritatively.

The Health of England. By T. W. HILL, M.D. (GLAS.), D.P.H. (CAMB.). London: Jonathan Cape, 1933. pp. 301. Price 6s. net.

Dr. Hill has been an assistant medical officer of health in Willesden, and at present is deputy medical officer of health of West Ham. As a result of the experience gained in these two important positions he has become profoundly dissatisfied with the public health organisation of this country, if not indeed with the scheme of things generally. "The whole structure of Society," he says, "creaks under the weight of old and worn-out ideas, ready to fall. Must we lie among its shattered ruins, or have we something to replace it? We are swept like frail barques on the crest of a mighty tide. Can we control its dynamic forces? Can we build order out of chaos,

hope out of despair, realisation out of futility?" Based upon the same experience is his belief that there is a way out and his determination to build, like the late William Blake, Jerusalem in England's green and pleasant land. His views as to how this is to be done, so far as regards public health, at any rate, are contained in this volume. They meet, it may be noted, with the approval of Sir W. Arbuthnot Lane, but are not to be taken as necessarily shared by the West Ham County Borough Council.

Natural Childbirth. By GRANTLY DICK READ, M.A., M.D. (CAMBRIDGE). London: William Heinemann (Medical Books), Ltd., 1933. pp. 127. Price 7s. 6d. net.

"The perfect labour is the painless labour without anaesthesia, carried out by natural processes from beginning to end, influenced by natural emotions and perfected by the harmony of the mechanism." In these words the author of this book expresses his belief, and in its pages he sets out how the end he aims at may be secured. Dr. Read writes convincingly and well, and the book is interesting and well worth consideration.

Practical Food Inspection. By CHARLES R. A. MARTIN, M.R.S.I., A.M.I.S.E., Senior Sanitary Inspector, Whitstable. In two volumes. Vol II—Fish, Poultry and Other Foods. London: H. K. Lewis and Co., Ltd., 1933. pp. 249, illustrated. Price 10s. 6d. net.

The first volume of Mr. Martin's work, which dealt with the meat of animals killed in slaughterhouses, appeared some months ago, and has already been reviewed. In this present volume matters relating to fish, poultry, game, vegetables and other food articles are considered, and much information of real value to the inspector is given. A criticism offered to the previous volume was to the effect that some part of the author's discussion was possibly a little too scientific, coming from one who had not undergone a complete training in pathology. The ground covered in this volume is rather less specialised, and Mr. Martin, an inspector of experience, is more definitely within his own field and has every opportunity of treating of matters with which he has had to deal, and in regard to which he

can offer advice and guidance. His descriptions are admirably clear, readable and accurate, and without any hesitation whatever the volume is commended to medical officers of health as well as to inspectors, for whom it is intended.

Milk and Dairies Handbook (Hadden's Handbook of the Law relating to Dairies, Cow-sheds, and Milk-shops). By W. H. DUMSDAY, of Gray's Inn, Barrister-at-Law. London: Hadden, Best and Co., Ltd., 1933. pp. 294. Price 15s. net.

The publication of this, the fifth edition of this standard work, is alleged in the preface to be due to the fact that the fourth edition, published in 1927, is out of print. Actually publication is made, it may be believed, because officers concerned in the administration of the law relating to dairies, cow-sheds and milk-shops cannot get on without this most valuable handbook. Since 1927, the legislation concerned with milk and dairies has been affected by the passing of the Statute Law Revision Act, 1927, and the Food and Drugs (Adulteration) Act, 1928, and some reported cases. In the preparation of this new edition the necessary alterations and additions have been made, and opportunity has also been taken of revising the whole work, to which a very cordial welcome is offered.

THE Society for the Study of Inebriety has elected Sir Humphry Rolleston as President for the ensuing year. The next meeting will be held on July 11th, 1933, when Dr. J. D. Rolleston will read a paper entitled "Alcoholism in Mediæval England."

DR. WILLIAM H. PARK, Director of Laboratories for the New York City Department of Health, has been appointed to the Hermann M. Biggs Professorship of Preventive Medicine at New York University and Bellevue Hospital Medical College.

MISS HELEN GWENDOLINE MARY BENNETT, M.B., CH.B. (VICTORIA), D.P.H. (VICTORIA), of Warrington, has been appointed Assistant School Medical Officer and Assistant Medical Officer of Health for the County Borough of Dewsbury.

In the Annual Reports.

NUTRITION AND DISEASE.—Much has been said and written about diseases conveyed by milk, meat and other foods, but I can quite honestly say that I never see them. So sound and wholesome is the food supply in this area that food has practically ceased to be a cause of disease in the positive sense. I do, however, see ample evidence of disease, defective development, and poor physique, due to want of sufficient milk, meat and other natural foods in the diet. The measure adopted for improving this state of affairs is the constant preaching of the gospel of good food by every officer in the health services of the council who comes into personal contact with the mothers and children—medical and dental officers, health visitors and school nurses.—*Dr. R. P. Garrow, Hornsey.*

ONE CAUSE OF OVERCROWDING.—The operation of the Rent Restriction Act has "frozen" many families in the houses which they occupied when they were newly married, and for which they paid a rental of about 5s. 6d. a week. If they do leave because additional bedroom accommodation is needed for their family they have the alternatives of applying for a municipal house at a rental (including rates) of approximately 8s 9d., with a basic charge of one shilling a week for electric light over and above this, or a decontrolled house, devoid of modern accessories, for which a rent of anything from 10s. upwards will be asked. In the days before the war, a workman used to calculate the rent he could afford as being approximately one-sixth of his income or, as he put it, he worked one day a week for his landlord. At the present time—partly owing to the increased cost of materials and labour, and partly because of the better standard of housing that is (quite rightly) demanded—the old ratio of rent to income has been altered.—*Dr. R. H. H. Jolly, Wolverhampton.*

DR. VICTOR ROBERT WALKER, Assistant Medical Officer at the Cheshire Joint Sanatorium, Market Drayton, has been appointed Assistant Medical Officer of Health for Walsall.

DR. M. BIRCHER-BENNER'S address on "The Prevention of Disease by Correct Feeding," delivered at a recent conference of educational associations, may be obtained, post free sevenpence, from the Food Education Society, 29, Gordon Square, London, W.C.1.

SIR BENJAMIN ARTHUR WHITELEGGE, who was Chief Inspector of Factories, 1896-1917, County Medical Officer of the West Riding 1889-1896, and formerly Medical Officer of Health for Nottingham, left £8,354, net personalty £8,228.

PUBLIC HEALTH

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PUBLIC HEALTH, the Official Organ of the Society of Medical Officers of Health, is prepared to receive a certain number of approved advertisements.

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Editorial.

Cancer of the Skin.

CANCER of the skin surface in general presents certain peculiar features, not the least important being that while the frequency with which many organs are affected by cancer approximates only too often to the death-rates for those organs, in the case of the skin cancer this is not so. Also, of the total deaths due to cancer, that involving the skin accounts for a low proportion only—less than 2·5 per cent. in males, and 1·5 per cent. in females; a proportion that has remained almost constant over a long period. That this may be due to the curability of the disease, and to a control dependent upon treatment, is possible. This, however, as Sir George Newman points out in his admirable prefatory note to the report on Cancer of the Skin by Dr. Gretta M. Thomas,* is one of the

* Ministry of Health Reports on Public Health and Medical Subjects, No. 70. H. M. Stationery Office, 1933. Price 2s. net.

reasons why continued investigation of skin cancer, and careful and detailed observation of the disease in man, such as has been made by Dr. Thomas, are worth while.

Other reasons justifying further investigation are to be found in the analogy that exists between human skin cancers, particularly those due to occupational risks, and those that can be produced experimentally in animals, and in the very real possibility that investigations in regard to skin cancer may help to the securing of fuller knowledge of the disease as it affects other organs. The investigations of Dr. Thomas involved an analysis of 503 cases of the skin treated in the General Infirmary at Leeds during the period 1911 to March, 1931. The report based upon this investigation, although perhaps it fails to show that all that was aimed at was attained, adds most usefully to the growing body of information relating to cancer as a whole, and that affecting the skin particularly.

One of the objectives of the inquiry was an attempt to ascertain whether environmental conditions associated with occupations or industry, other than those already recognised, lay open to suspicion. From the report it does not appear that anything definite in this direction was obtained from the analysis of the Leeds figures. In the investigation the analysis was made into three main groups: epithelioma of the lip; epithelioma of the skin (the skin generally, the penis, the scrotum, the vulva, and the anus), and rodent ulcer. In relation to each, attention was given to a number of matters, but especially to etiology and the results of operation. The results in many instances are largely to provide confirmation of observations already made and referred to in reports issued by the Ministry, particularly since the setting up of the Departmental Committee on Cancer, a body whose work has placed this country in a position to speak with the fullest authority on most matters relating to this disease.

A very important aspect of the etiology of skin cancer, on which this report sheds additional light, is that of its supervision upon previously existing non-malignant lesions, Dr. Thomas finding herself in a position to quote many examples. Some interesting information also was elicited with regard to cases supervening upon lupus vulgaris to the effect that there was a tendency for development of cancer to occur at a markedly earlier age in these cases than in those in which there was no preceding affection of this type. Of particular interest are certain of the facts that emerge from the analysis of the figures relating to cancer of the lip. In this connection the contrasts between the sexes is well brought out. Even though the figures are small, it is still shown that the affection of the lips is infinitely more common in males than in females: that the lower lip is much more frequently affected than the upper in both sexes, but in females cancer of the upper lip is relatively more common than it is in men. In the investigation of Dr. Thomas no explanation of this difference emerged, though not unnaturally the necessity occurs for making reference to the increasing use of tobacco, in cigarette form particularly, by women.

The very careful investigation of the after-histories of the patients was one of the features of the research conducted by Dr. Thomas, and this is of special interest since, in the majority of the cases, the treatment given had been purely operative, having been applied before the use of radium became common. That the inquiry

reveals that the number of so-called recurrences after lengthy periods under these circumstances were few, and provides corroboration for other observations as to the unexpected frequency of second primary cancers in the skin, is noteworthy. In respect of rodent ulcer, particular reference is made to the fact that growths involving bone or cartilage do very badly, and that of all cases, whatever the stage of the disease, roughly about one-third recur after operative treatment.

From the report it is clear that Dr. Thomas carried out the investigation with the most meticulous care; and while it is probably a source of gratification to her that it has been included in the Ministry series, it must be recognised that by so including it there has been conferred a real advantage upon all engaged in or concerned for the elucidation of the cancer problem, since the information it provides will be more readily accessible than it might otherwise have been.

The Maternity and Child Welfare Conference.

THE Sixth English-Speaking Conference on Maternity and Child Welfare, which was again arranged by the National Association for the Prevention of Infant Mortality, was held in The Friends House, Euston Road, London, on July 5th, 6th and 7th, 1933. At the opening session, the chair was taken by Sir Arthur Stanley, Chairman of the National Council for Maternity and Child Welfare.

In his presidential address, Sir George Newman laid emphasis on the fact that in the last twenty-one years the infant mortality rate in this country had been halved. Referring to this decline as "a strangely new form of saving life," Sir George said that the effect of the saving of 40,000 lives a year was a substantial contribution to the maintenance of the population, and that though life had been saved in quantity, there still remained the important task of cultivating quality. This would depend not only on the State, but on the physical and moral qualities of the homemaker herself. There was, he said, a great need for continued progress in the instruction of the young woman in the duties of motherhood and in the care of her own health and personal habits.

The subject for discussion, following the presidential address, was "The Scope and Advancement of Ante-Natal Care," opening

papers being read by Dr. Richard Bolt of the Cleveland Child Health Association, the United States official delegate to the conference; Dr. Morris Johns and Mr. Harold Chapple, F.R.C.S. An important point was made by Dr. Bolt in his mention of the limitations of ante-natal care, *viz.*, that it cannot overcome constitutional disorders in the mother and it cannot guarantee interest and intelligence on the part of the prospective mother. His references to the need for education of the prospective mother, and for mothercraft classes which would be available for all young women, seemed to meet with the hearty approval of the delegates.

The afternoon session was organised by the National Council for the Unmarried Mother and her Child, and very stimulating papers were read by Miss Lillian Barker, Governor of the Borstal Institution, Aylesbury; Mr. P. T. Kirkpatrick, Secretary to the Managers of Dr. Barnardo's Home; and Mr. H. E. Norman, Secretary of the National Association of Probation Officers. All three contributions were full of interest and, from the point of view of the lay delegates to the Conference, were probably the most interesting in the whole programme.

Miss Barker referred to the difficulty of the unmarried mother in finding work after her prison sentence had expired, and urged that the child should be kept with the mother whenever possible. In cases where the character of the mother was unsuitable, the necessity for safeguarding the child arose, and then the question of adoption had to be considered.

Mr. Kirkpatrick said that in Dr. Barnardo's Home "they always avoided extracting any figures of the percentages of illegitimate children in their care. It was one thing to disclose the child's origin to the child itself, but quite another thing to noise that origin abroad." In the Home there was practically no problem of the illegitimate child.

In his paper, Mr. Norman dealt mainly with the Children and Young Persons Acts. He referred especially to the duties of the probation officer in the unhappy problem of illegitimacy, and to the vital importance of the definite duties and responsibilities which the Acts imposed.

At the session organised by the Central Council for the Care of Cripples, the subject for discussion was "Team Work in the Discovery of the Cripple." Papers were read

by Dame Georgiana Buller and Mr. A. M. Hendry, F.R.C.S. The former urged from the orthopaedic point of view, that the agencies likely to come in touch with the mother and her child during pre-school years should combine in a common effort to secure for the child prompt and specialised treatment. Whether the facilities be organised by the public authority or by voluntary effort in the first place was, in her opinion, really immaterial. The important point was that they should be available, and their existence generally recognised as a necessary element in the welfare of the community rather than as the concern of a small section only. She felt that not only health visitors but district and maternity nurses should possess an elementary knowledge of orthopaedic conditions and the methods of prevention and treatment.

Mr. Hendry classified the facilities existing to-day under four headings:—

(1) For those up to five years of age—compulsory notification of birth; health visitors; child welfare centres.

(2) For those up to fourteen, or, in some districts, sixteen years of age—school inspections.

(3) For all ages—compulsory notification of tuberculosis; special dispensaries and clinics.

(4) Special orthopaedic hospitals and their associated after-care or outlying clinics, to which cases were referred from the above sources.

Although as a result of the above means an enormous lessening of crippledness had been achieved, there was still room for improvement in the services available. He referred more especially to the inadequate facilities in some areas for the care of the "over-16 non-tubercular patients," and also to the fixing of hard and fast county and borough boundaries as a factor in deciding to which hospital or clinic the case might be referred. This tended to inefficiency, in that it often meant a patient travelling many miles across a county to a clinic, whilst a much nearer one existed just over the boundary line. Mr. Hendry strongly advocated treatment of orthopaedic conditions and traumatic surgery in special departments attached to the larger hospitals. He suggested that these departments, along with small hospitals, might be affiliated to the special central orthopaedic hospitals.

The afternoon of July 6th was devoted to the session organised by the Invalid Children's Aid Association. The opening paper was

read by Miss Nora R. Manson, whose work is so well known. She described the aims and history of the Association, and said that it had had two main results: first that public authorities, in considering developments in the cure and prevention of children's illnesses, had watched what had been done in the past by the Invalid Children's Aid Association, and had been able to take up their work at the point to which the experiments of the Association had carried it; secondly, that when public authorities had made plans for the treatment of the child, and had found themselves in need of a link between themselves and the parents, they had turned to the Association, whose workers had always declared themselves to be the friends of invalid children. The Association managed seven open-air residential schools, and many applications for vacancies were received from the Greater London and provincial educational authorities. Further, the Association had agreements with many of the London borough councils, and others, for the provision of convalescent treatment for children under five years of age, and also co-operated in the arrangements made in the various metropolitan areas for the mutual registration of assistance.

Miss G. A. Bompas, Chairman of a District Sub-Committee of the London Public Assistance Committee, referred to the helpful co-operation between public assistance committees and the Invalid Children's Aid Association. As public assistance in its present form was only three years old, there had been little time for extraneous organisation. It was suggested, however, that the time was now opportune for all who were formulating in their minds the lines of progress in the coming years, to proclaim their belief that in the wise union of public and personal welfare schemes lay the best hope of an efficient service to the community.

The morning session on the last day of the Conference, organised by the National Baby Week Council, was devoted to a consideration of the ways and means of propaganda. Dr. William A. Bullough, Medical Officer of Health for the County of Essex, discussed the possibilities of propaganda in rural areas. He felt that the best health propaganda in the country districts, as well as in the towns, was an efficient and complete health service. In the long run, people took more notice of what was done than of what was said; schools

should be clean and airy, they should have large playgrounds; clinics, welfare premises and dispensaries should be object lessons to the people attending, in respect of orderliness, tidiness, and comfort. He laid stress on the strong influence of the health visitor and the district nurse-midwife, who had the sympathy and goodwill of the country people.

Dr. E. H. T. Nash, Medical Officer of Health for Heston and Isleworth, dealt with publicity and the value of advertisement as a method of propaganda. He had found that the small handbill was of much less value than large and striking posters displayed throughout the district.

Mrs. H. B. Tate, M.P. for West Willesden, and Mrs. Cuthbert King, representing the Indian Red Cross Society, also spoke, the latter describing maternity and child welfare propaganda in the Punjab.

The closing session of the Conference was organised by the National Society of Day Nurseries. The subjects for debate were "The Early Years of Life," and "The Diet of the Child after the Period of Milk Feeding," and excellent opening papers were read by Professor Winifred Cullis, and Dr. Harold Waller.

The arrangements for the whole Conference were, as usual, admirably planned, and the organisers certainly earned the gratitude of the delegates for the efficient manner in which a heavy programme of meetings, visits to institutions, and social functions was carried out.

The Post-Graduate Course of the Maternity and Child Welfare Group.

ON the first two days, July 2nd and 3rd, of this year's Baby Week, the Maternity and Child Welfare Group of the Society held their Annual Post-Graduate Course. During the rest of the week the Sixth English-speaking Conference on Maternity and Child Welfare was held at the Friends' House, Euston Road. Medical practitioners attending the latter, and not yet members of the Society of Medical Officers of Health, were cordially invited to the former. A party of between 70 and 80 resulted, representative of England, Wales, Scotland, Australia, the Indian Medical Service, Hong-Kong, Japan, and the United States of America.

Sessions were held at the Royal National Orthopaedic Hospital, Royal Westminster Ophthalmic Hospital, Queen Charlotte's

Hospital Isolation Block, North Kensington Women's Welfare Centre, and the Mothercraft Training Society, Cromwell House, Highgate. The Group were indeed fortunate in their choice; the staff of each hospital and institution had collected cases and masses of information which must have meant much thought and preparation.

Mr. Trethowan, at the Royal National Orthopaedic Hospital, demonstrated for two hours, cases of all descriptions, from rickets and flat-foot to the most unusual deformities, congenital and otherwise. At the Royal Westminster Ophthalmic Hospital, Mr. Gimblett, formerly ophthalmic surgeon to the East Ham Education Committee and Child Welfare Centres, showed cases of eye disease, and intriguing instruments for the diagnosis and treatment of squint and myopia, concluding with a lecture on myopia, in which he demonstrated the desk he had designed for these cases, and his own most interesting chart of the occurrence of myopia in school children.

Mr. Phillips conducted the Group over Queen Charlotte's Hospital Isolation Block, Hammersmith, which stands in beautiful grounds, enabling full use to be made of fresh air and sunlight. The Block is staffed by four surgeons, each of whom specialises in one or more of the complications of pregnancy and labour; two physicians; a psychiatrist; and a paediatrician. Patients, for whom there is a sliding scale of charges, are admitted from any part of the country. In the research laboratories two series of investigation are being carried on to find the correlation, if any, between the organisms occurring in septic cases—those found in the cervix before labour, and those occurring in the throats of contacts and attendants. The treatment of pyelitis by a ketogenic diet was also explained.

At North Kensington, Dr. Helena Wright gave an excellent demonstration of birth control technique, and explained the organisation of a birth control clinic. The work has been extended in the essential direction of a gynaecological session, which is held weekly, in general accordance with advice given by Sir George Newman in one of his reports.

Miss Liddiard, at the Mothercraft Training Centre, Highgate, took the Group over the Home and the new Princess Elizabeth Hostel, and explained the system of training given to the nurses in the institution. Dr. Jewesbury provided an interesting demonstration of

charts of special cases. Tea in the pleasant garden of Cromwell House brought to a close a most interesting and instructive course.

Hereditary Blindness.

THE primary function of the public health service in general, or of a medical officer of health in particular, is, after all, the prevention of disease, and possibly in the future one of the most fruitful sources of research and consequent action will be among those diseases which may prove hereditary in nature.

An interesting "Report on Hereditary Blindness" * has been recently issued by the Prevention of Blindness Committee of the Union of Counties Associations for the Blind, and its findings and recommendations may be regarded as having a certain practical bearing for medical officers of health, since included in the membership of the Committee are Dr. J. Ferguson, County Medical Officer of Health, Surrey; Dr. G. W. N. Joseph, Medical Officer of Health, Warrington; Dr. J. Tate, County Medical Officer of Health, Middlesex; and Dr. J. C. Bridge, H.M. Senior Medical Inspector of Factories, the last-named serving on the Committee in an advisory capacity.

Although a large number of investigations into hereditary blindness have been made of late years, and a mass of data collected, these data are still obtained from too selected a field, and there is no authentic knowledge concerning the extent to which diseases of genetic origin may occur sporadically, and be apparently devoid of all genetic potentiality. Obviously here is scope for definite research, and the Prevention of Blindness Committee suggest that public health departments may be willing to undertake this.

It will be remembered that the Committee has already published a Report dealing with the Certification of Blindness (1931), and has issued a form of certification that it is recommended should be adopted. (Twenty-six authorities are already using it.)

It is not possible to-day, with the limited evidence available, to make any accurate estimate of the proportion of the total amount of blindness in this country which is due to a particular disease and preventable by regulation in individual cases. This knowledge

* Copies may be obtained from the Secretary to the Committee, at 66, Victoria Street, London, S.W.1.

will, however, be obtainable when a full use of the new form of certification becomes general, as advocated by the Committee. It is hoped, also, that much valuable information will accrue from its use, together with that of a special enquiry into the pedigree of the patient. This information, based as it will be for the first time on a large number of cases of blindness of genetic origin, should permit of definite advice being given to any person who is contemplating marriage, and who wishes to know what is the chance of his or her children becoming blind.

Intermarriage of blind persons is always of doubtful expediency, but the problem of prevention of hereditary blindness will not be solved simply by preventing blind couples from having children. The carrier problem arises here, as hereditary blindness, like other familial diseases, is inherited not only through persons who themselves actually suffer from the complaint, but also through "carriers" of the taint who apparently are themselves entirely immune.

This, then, is the field for future research. What is the risk? To what degree of blood relation is the taint transmitted?

Certain diseases which cause blindness are well established as of an hereditary character, for example, retinitis pigmentosa, and Leber's disease. Other diseases of the sight which are of an hereditary type, but not so severe in their degree, as, for example, albinism, aniridia, coloboma iridis, glioma, are mentioned in the Report, but an interesting fact emerges that although there is an hereditary tendency to myopia in the children of myopics, yet it cannot be said to be proved that there is a greater risk of actual blindness in the children of myopic parents than in the children of emmetypes.

What is the view of the eugenicist in the prevention of disease? Broadly speaking, it is that every tendency to the production of unfit offspring should be eliminated, and therefore no marriage of persons should be permitted if either partner is suffering from, or may be a carrier of, preventable (hereditarily speaking) eye disease. This is a counsel of perfection, no doubt, but the Committee, being as it is, a Committee on the Prevention of Blindness, and not on that of eye disease, do not feel they can subscribe to so great a generalisation. The conclusions, however, reached by them were as follows:—

(a) Complete statistics based on all persons

suffering from these diseases, and not merely selected cases, are absolutely essential if a true perspective is to be secured.

(b) The data required in (a) may be best obtained by the use of the form of certification recommended by the Committee, together with the accurate compilation of a pedigree of the patient.

In conclusion, it may be urged that all persons suffering from actual disease, or being themselves potential carriers of hereditary blindness, should not marry, or rather should abstain from parenthood unless or until they have consulted a competent ophthalmologist who, with the assistance of a pedigree, will advise on the question of parenthood.

The Committee may be heartily congratulated on the initiation of a piece of statistical research which should do much to alleviate the problem of blindness as far as the communal responsibility is concerned, and that should be of great value to medical officers and others interested in the prevention of blindness.

There is a feeling, however, that research of this character, important and absolutely essential though it may be, is rather negativistic in its effect. At its best it will result in less blind persons being born. How much better would it be if, out of this research, would come the knowledge of how the hereditary taint could be eradicated, and a blind or potentially blind person be enabled to beget, with certainty, sighted offspring.

The Tuberculosis Conference.

THE nineteenth annual conference of the National Association for the Prevention of Tuberculosis was held in the Lecture Theatre of the Engineers' Institute, Cardiff, on July 13th, 14th, and 15th, 1933, under the Presidency of Sir Robert Philip, M.D., LL.D., F.R.C.P., Chairman of Council of the Association.

Following a civic welcome to the delegates by the Lord Mayor of Cardiff, addresses on the History and Organisation of the King Edward VII Welsh National Memorial Association were given by Lord Davies of Llandinam, Professor Lyle Cummins (The David Davies Professor of Tuberculosis in the University of Wales), and Dr. D. A. Powell (Principal Medical Officer, Welsh National Memorial Association).

The subject for discussion was "The Part

Played in the Production of Tuberculosis by (i) Infection; (ii) Environmental Conditions," and this occupied practically the whole of the first two days of the Conference.

The President, referring to (i) Infection, summed up the position as follows: "Without the infecting agent—the tubercle bacillus—there is no tuberculosis: there can be no tuberculosis. From the moment the bacillus enters the system—human or animal—the possibility of the disease is established." Referring to the part played by environmental influences, Sir Robert Philip said that the consequences of infection were determined by variations in the soil on which the bacillus had been implanted, and those in turn were largely influenced by environmental conditions. That environmental influence was complex, and varied much in character and degree. The ultimate effect of tuberculosis as a crippling or fatal disease was determined less by the essential factor, namely, the tubercle bacillus, than by conditions of a more general kind, many of which were governable by intelligent action on the part of the individual or the community. Dependent as tuberculosis was primarily and essentially on the tubercle bacillus, the resultant picture was influenced supremely by conditions—very ordinary conditions—attaching to our social system and affecting human life at every turn.

Dr. Ralph M. F. Picken (Medical Officer of Health, Cardiff) said he believed it was fair to conclude by analogy with the epidemiology of the other air-borne infections, and from the observed facts as to the occurrence of tuberculosis itself, that the essential cause of tuberculosis, *i.e.*, infection by the tubercle bacillus, could not be eradicated by administrative measures, or public education, or medical skill, in a community among whom the disease had become endemic. He was glad to see that Dr. Bradbury's recent enquiries on Tyne-side had led him to lay emphasis upon overcrowding as the main environmental factor, and in this connection he stressed the importance of the association of tuberculosis and poverty.

Dr. G. C. M. M'Gonigle (Medical Officer of Health, Stockton-on-Tees), in a paper of great interest to the Conference, uttered a warning against indiscriminate re-housing of families living in poverty. He had found that increase in rents of new houses diminished expenditure on food. The death-rate had risen among a transferred population in

Stockton. He stated that if good environmental conditions were obtained only at the expense of a reduction of food purchasing power far below the safety line, such advantages as accrued from good housing would be more than outweighed by nutritional depreciation, and, as a consequence, could not but have an adverse effect upon tuberculosis.

Dr. L. S. T. Burrell (Physician, Royal Free and Brompton Hospitals) stated that, in his opinion, the majority of cases of so-called adult tuberculosis were the result of an endogenous spread from some previous lesion, but that quite a considerable number were due to re-infection, and he regarded it as dangerous to expose anyone of whatsoever age to a massive infection.

Dr. R. J. Peters (Senior Assistant Medical Officer for Tuberculosis, Glasgow) said that the incidence of tuberculosis among the occupants of small houses was much greater than among persons more favourably situated, and the difference in fatality was very much more so. The factors responsible, he said, were principally those associated with poverty generally, and a lower standard of life. The specific influence of overcrowding was much less evident than would be expected.

Dr. W. G. Savage (County Medical Officer of Health, Somerset) confined his remarks to tuberculous infections by the bovine tubercle bacillus—essentially a problem of infection from milk. Tuberculosis among cattle was most prevalent as age advanced. The cow was subjected to gross a-physiological conditions due to the play of economic considerations, for example, over-milking and too many calves. Faulty environmental conditions under which many cows were kept was an important factor. Cowsheds were often dark and badly ventilated, and infection might be markedly promoted when the animals faced head to head with no partitions between. Again, infection from dung, one of the commonest means of carrying tuberculous infection, was facilitated in many ways. The continued prevalence of sources of infection was another factor. Even the most resistant animal tended to succumb to continued infection.

The annual meeting of the National Association for the Prevention of Tuberculosis was held during the Conference, and among the social functions was a civic reception and dance in the City Hall, on the invitation of the Lord Mayor and Corporation of Cardiff.

Infant Feeding and its Relation to the Health of the School Child.

By J. GREENWOOD WILSON, M.D., M.R.C.P., D.P.H.,
Medical Officer of Health, Dewsbury.

This investigation, although it relates to a limited area and a comparatively small number of cases, elicited a considerable amount of useful information and permitted Dr. Greenwood Wilson to draw conclusions that will be found interesting to consider. The paper was read at a meeting of the Yorkshire Sub-Group of the Maternity and Child Welfare Group at York on May 20th, 1933.

THIS investigation was undertaken, while I was working in an industrial area of South-East Lancashire, in an attempt to show:—

(1) The proportion of infants in the area who were breast fed during the years 1929 and 1930.

(2) Whether the proportion was less in those years than formerly.

(3) The causes of early weaning and to what extent they are preventable.

(4) To what extent the health of the school child is influenced by the method of feeding (artificial or breast) in infancy.

The figures for parts (1) and (3) of the investigation were obtained from the case record cards of the infants who attended two child welfare centres in South-East Lancashire during the years 1929 and 1930. Notes were taken only from those cards which had a reasonably complete record of the infant's progress from birth to the time of weaning. The total number of cards from which notes were taken was 407; 210 males and 197 females. Results are shown in Table I.

The figures for parts (2), (3) and (4) were taken from notes of statements by mothers of children brought to the minor ailments clinic, or marked down for treatment at visits to schools within the period September, 1930, to February, 1931, inclusive. The mother of each child was asked what illnesses the child had had, at what age in infancy it was weaned, and the reason for doing so (if the weaning was early). When she had made her statement her memory was assisted by leading questions. Next, a full examination was made of each child, and a record made of its general condition together with any local defect found. On going through the records afterwards it was found that the data so obtained could be grouped under the following heads, which are set out in Table VI:—(a) General condition good; (b) general condition fair; (c) condition delicate; (d) diseased tonsils and adenoids; (e) rachitic deformities; (f) organic heart disease. The

group "delicate" follows the definition of the Board of Education, and includes pre- or latent tuberculosis, malnutrition, debility, anæmia, etc. The group "fair" includes all border-line cases whose general condition was far from "good," yet they were not bad enough to label "delicate." They were in a state of sub- rather than mal-nutrition. Altogether 315 school children between the ages of five and fourteen (inclusive) were examined, and their histories recorded in respect of infant feeding, age of weaning, cause of early weaning, and past illnesses. There were 167 boys and 148 girls, and slightly more than half of the total (165) were between the ages of eight and fourteen years. The figures obtained from the histories of these children with regard to ages of weaning, and causes thereof, may be compared with those obtained from the welfare centre cards.

PART I.—The proportion of infants in the area breast fed during the years 1929 and 1930.

It will be observed that only 24 per cent. males and 22 per cent. females were fed to nine months, and that 50 per cent. or more of both sexes had been weaned by the end of the third month. Yet all authorities on infant feeding are agreed that the majority of mothers are capable of breast feeding: Sir F. Truby King¹ puts the figure as high as 95 per cent. It may be objected that the mothers who come to the welfare centres only come because they are in difficulties over breast feeding, and want to get advice on artificial feeding, and, still more, to purchase the dried milks supplied at the centres; whilst those mothers who stay away may be assumed to be feeding their babies on the breast successfully. In a word, it may be contended that an investigation into methods of infant feeding not confined to the section of the population attending welfare centres, but extended to the entire population of the district, would give results showing a higher percentage of infants breast fed at all ages. Confirmation of this argument is suggested by Table III, the

TABLE I.

The following figures were obtained from the welfare centre cards.

Of the 210 male infants:—

Per cent.	
10	were artificially fed from birth.
90	were breast fed for one week.
86.2	" " two weeks.
78	" " three weeks.
72.9	" " four weeks.
64.7	" " six weeks.
59.5	" " two months.
51.4	" " two and a half months.
49.5	" " three months.
41.4	" " three and a half months.
40	" " four months.
36.6	" " four and a half months.
36.6	" " five months.
32.8	" " five and a half months.
32.8	" " six months.
30	" " six and a half months.
29.5	" " seven months.
26.6	" " seven and a half months.
26.2	" " eight months.
24.76	" " eight and a half months.
24.2	" " nine months.
13.3	" " nine and a half months.
12.8	" " ten months.
9	" " ten and a half months.
8.57	" " eleven months.
4.2	" " twelve months.
.95	" " thirteen and a half months.
.95	" " fourteen months.
.4	" " sixteen months.

Of the 197 female infants:—

Per cent.	
12.2	were artificially fed from birth.
87.8	were breast fed for one week.
81.7	" " two weeks.
71.1	" " three weeks.
66.5	" " four weeks.
60.4	" " six weeks.
53.2	" " two months.
47.2	" " two and a half months.
44.6	" " three months.
39.6	" " three and a half months.
38.6	" " four months.
35.0	" " four and a half months.
32.99	" " five months.
29.44	" " five and a half months.
28.93	" " six months.
28.43	" " six and a half months.
27.41	" " seven months.
26.39	" " seven and a half months.
25.88	" " eight months.
24.87	" " eight and a half months.
22.84	" " nine months.
15.73	" " nine and a half months.
14.72	" " ten months.
11.16	" " ten and a half months.
9.13	" " eleven months.
6.09	" " eleven and a half months.
4.56	" " twelve months.
2.03	" " thirteen months.
.5	" " fifteen months.

figures of which were obtained from histories taken at random in the district, irrespective of whether the infants had attended welfare centres or not. This does show a higher percentage of breast fed infants in both sexes, which also might be accounted for by the fact that many of them were reared at a time when the industrial depression was not so severe as it is now, and the standard of living was correspondingly higher, favouring better nourishment amongst the mothers.

Further light is shed on the problem by a comparison, in Table II, of both sets of

Lancashire figures with statistics drawn in the United States of America, by Manning², of 1,000 cases in private practice, and by Mitchell³, of 1,819 cases in the hospital class.

It will be observed that there is a fairly close resemblance between the statistics drawn by Manning (U.S.A.) from his 1,000 private cases, and those drawn from the Lancashire welfare cases on the one hand; whilst, on the other hand, there is not a marked difference between the figures representing the other Lancashire cases and those compiled by Mitchell (U.S.A.) from his 1,819 cases of the hospital class.

TABLE II.

	Breast fed. Not at all.	One week.	Three months.	Six months.	Nine months.	One year.	Eighteen months.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Welfare centre cases (both sexes)	11.1	88.9	47.0	30.8	23.5	4.35	—
Other Lancashire cases (both sexes)	17.0	79.5	63.5	54.5	50.5	28.5	5.0
Manning (U.S.A.).							
Private cases (both sexes)	8.1	91.9	64.0	41.0	26.0	11.8	1.6
Mitchell (U.S.A.).							
Hospital cases (both sexes)	20.0	80.0	55.0	42.0	34.0	27.0	9.0

These resemblances suggest that the analysis of the welfare centre records does not present an unjustifiably pessimistic picture of the state of affairs with regard to breast feeding amongst modern infants, and further, that the failure to reach ideal standards in this respect is neither recent nor a phenomenon peculiar to South-East Lancashire.

The figures also indicate that poverty is not in itself a bar to successful breast feeding, because after the first three months the per-

centages of "hospital class" mothers who continue breast feeding are higher than those of the private cases.

PART II.—Whether the proportion of infants breast fed in 1929 and 1930 is less than formerly.

The figures taken from the histories of the 315 school children show that in the districts of South-East Lancashire under consideration, the proportion is less than it was five to fourteen years ago. The figures are shown in Table III.

TABLE III.

Of the 167 school boys :—		Of the 148 school girls :—	
Per cent.		Per cent.	
21	were not breast fed at all.	13	were not breast fed at all.
78	were breast fed for one week.	81	were breast fed for one week.
76	" " two weeks.	79	" " two weeks.
69	" " three weeks.	75	" " three weeks.
67	" " four weeks.	71	" " five weeks.
65	" " six weeks.	69	" " two months.
64	" " two months.	67	" " three months.
60	" " three months.	63	" " four months.
55	" " four months.	62	" " five months.
51	" " five months.	61	" " six months.
48	" " six months.	60	" " nine months.
43	" " seven months.	42	" " ten months.
41	" " nine months.	34	" " eleven months.
31	" " ten months.	30	" " twelve months.
23	" " eleven months.	12	" " thirteen months.
21	" " twelve months.	11	" " fourteen months.
7.8	" " thirteen months.	9	" " fifteen months.
7.0	" " fourteen months.	6	" " sixteen months.
4.0	" " fifteen months.	5	" " seventeen months.
2.9	" " sixteen months.	5	" " eighteen months.

PART III.—The causes of early weaning and to what extent they are preventable.

The causes of early weaning in the welfare centre cases are classified under headings and groups in Table IV. Space does not permit a reproduction of all the figures but a detailed analysis of these gives the "group percentages" shown in the table.

The large Group "J" (34 per cent. of all causes of early weaning) represents an unfortunate gap in the information available. Here no reason is noted on the card, because either the mother had not been in to see the medical officer between the time of weaning and the time of collecting the statistics, or the reason given was considered too inadequate to be recorded. The vagueness of the statements made in these cases suggests that in most of them early weaning might have been avoided had the mother so desired.

In Group "H" (22 per cent.) most of the first three causes ("infant not satisfied," "no

milk" and "milk left") could be placed in the same category of "reason too indefinite to record." A large proportion of these is preventable. It may be that in some mothers, *e.g.* those who were exhausted by a difficult labour, the milk supply really did fail to appear or continue, but more often the mother's statement was noted down without comment because it was too long after the event to diagnose the real reason. Unfortunately, the average mother ignores all causes for a baby's crying except hunger, and promptly weans her baby as soon as it becomes fretful or gets colic, acting on the assumption that "it is not satisfied"; whereas the trouble is most likely to be overfeeding, which could have been regulated by timely advice at the welfare centre. Nos. 4 and 5 ("long interval since previous pregnancy" and "elderly primipara") need no special comment. In them long disuse of the lactating function has led to its atrophy.

In Group "G" (6 per cent.) bad management

TABLE IV.

Reasons for Bottle Feeding.	Totals of various causes for early weaning. Group percentages (approx.)
A.—Ill-health associated with pregnancy or parturition—	
1. Toxæmias of pregnancy	5
2. Eclampsia	1
3. Difficult labour	7
4. Post-partum hæmorrhage	6
5. Puerperal mania	1
6. Puerperal fever	4
7. Puerperal hæmorrhage	1
8. Phlegmasia alba dolens ("white leg")	1
9. Albuminuria	6
10. Tired multipara	4
11. Mother to continue radium treatment for cancer of cervix	1
B.—Ill-health not directly associated with pregnancy or parturition—	
1. Influenza and pleurisy just before confinement	1
2. Encephalitis lethargica five weeks before confinement	1
3. Tuberculous spine	1
4. Heart disease	1
5. Rheumatic fever two years before	1
6. Chronic colitis	13
7. Delicate—"not strong enough" for breast feeding	1
8. Diabetes mellitus	1
9. Quinsy	1
10. Pneumonia	1
11. Jaundice	2
12. Influenza	4
13. Gastro-enteritis	
C.—Ill-health of infants—	
1. Pyloric stenosis	1
2. Too weak to suckle	5
3. Nasal obstruction—preventing suckling	3
4. Congenital heart disease	1
5. Cavertous nævus of lip—weaned on admission to hospital for operation	1
6. Whooping cough and measles	1
D.—Diseases of Breast—	
1. Cancer	1
2. Retracted nipples	9
3. Mastitis	1
4. Breast abscess	11
E.—Economic causes—	
1. Mother went to work as soon as strong enough	8
2. Mother insufficiently nourished—poverty	5
F.—Worry—	
1. Over operation for "tongue-tie" at two days old	1
2. Unjustifiably, that infant not getting enough	4
3. About other child, who is mentally defective	1
G.—Bad management—	
1. Overfeeding	2
2. Irregular feeding	4
3. Infantile dyspepsia	4
4. Careless mother	4
5. Interference from grandmother and neighbours	3
H.—Other reasons—	
1. Infants "not satisfied"	11
2. "No milk"	11
3. "Milk went"	35
4. Long interval since previous pregnancy	8
5. Elderly primipara	1
J.—No reason noted	
Total	
	104
	306

34 per cent.

22 per cent.

6 per cent.

4 per cent.

9 per cent.

12 per cent.

7 per cent.

and overfeeding lead to "infantile dyspepsia." The mother concludes that her milk disagrees and the infant is weaned. "Irregular feeding" either operates in the same way, or the irregular stimulus to the breast leads to a failure of lactation. The "careless mother" combines neglect of personal hygiene with overfeeding, or irregular feeding, or both; and so the infant gets diarrhoea, and is weaned, or her milk supply fails. Alternatively, she may wean the child deliberately because she cannot be "bothered" with breast feeding. "Interference from grandmother or neighbours" leads the mother to think that her milk supply is insufficient or unsuitable. She may, even against her better judgment, be made to wean her child because her adviser (grandmother or neighbour) has reared a family of her own. The belief that a woman who has reared a family of her own is therefore qualified to give expert advice on all matters pertaining to infant welfare is widely held by the general public, and is one of the chief obstacles in the way of their education in infant management.

In Group "F," "worry" (2 per cent.), depends largely on the temperament of the individual. When it concerns matters other than the weaning of the infant, e.g. about other children in the family, or about financial difficulties, little can be done. Unnecessary worry over the infant's progress, induced by interference from ignorant advisers, has been discussed under the previous heading. When the mother is of the worrying type, it is difficult to help. In one case, weaned after four months, both nurse and doctor waged a losing battle all the way through to keep the infant at the breast, on which it was making excellent progress. At four months the mother had her way, and weaned the infant, but she stayed away from the welfare centre for some months afterwards.

Group "E" ("economic causes" 4 per cent.) is difficult to remedy. A mother cannot be made to give up her work to stay at home and feed her baby. Often she is the only breadwinner in the family. It is cheaper for her to work and buy artificial food for her infant than to stay at home and feed it. Only exceptionally strong women are able both to go out to work and to feed their babies as well. The other economic cause of failure to breast feed is ill-nourishment through poverty. In these cases, early weaning is probably the better policy to pursue in the interests both of mother and child. Matters are often further complicated by the worry of striving to make both ends meet.

Group "D"—"Diseases of the breast" (7 per cent.). With the exception of cancer, the diseases mentioned indicate a failure of ante-natal care. Either the mother was too busy (e.g. managing a large family and unemployed husband) or too careless to carry out the necessary regimen; or for both of these reasons, plus ignorance, she failed to obtain ante-natal advice. Many women do not book either doctor or midwife till the last minute. The county nurses help when they become aware of cases in their districts, but their advice is not sought very frequently. The number of mothers who come voluntarily to the clinic for advice is negligible.

Group "C"—Ill-health of the infant (4 per cent.) as a cause of bottle feeding is mostly unavoidable, but those who were too weak to suckle might have been born stronger if the mothers had received ante-natal care, which might have improved their health during pregnancy and prevented the difficult confinements that are often responsible for the birth of weak babies. Of those weaned for nasal obstruction, one was subsequently admitted to hospital for removal of adenoids. The other two had chronic nasal catarrh and "snuffles."

Group "B" (9 per cent.). These are all unavoidable causes of weaning except, perhaps, those classified under "delicate." Some of the "delicate" mothers may have been persuaded by themselves or their friends and relatives that they were not strong enough to breast feed their infants.

Group "A" (12 per cent.). When discussing the prevention of breast diseases the need for more ante-natal supervision was emphasised and some of the reasons for its lack were mentioned. The whole question of ante-natal care is discussed so fully in the reports of the Maternal Mortality Committee that there is no need to elaborate here, but it is evident that Group "A" represents a mass of pre and post-partum morbidity which might have been prevented.

A table similar to Table IV was prepared to show the causes assigned by the mothers of the school children for failure of breast feeding. The causes and their classification are so similar to those given in Table IV that there is no need to reproduce them, but one point deserves special mention. Of the school children under consideration, 159 were born towards the end of the Great War, yet only two of their mothers attributed failure of breast feeding to war rationing.

In a further Table (V) both sets of figures

TABLE V.

	Welfare centre cases (Table IV).		School children.	
	Unavoidable. (Percentages)	Preventable. (Percentages)	Unavoidable. (Percentages)	Preventable. (Percentages)
Group "A"— Pre- or post-partum morbidity	6	6	8	7
Group "B"— Ill-health not directly associated with pregnancy or parturition	7	2	18	?
Group "C"— Ill-health of infant	3	1	2	1
Group "D"— Diseases of the breast	1	6	None	4
Group "E"— Economic causes	4	None	11	None
Group "F"— Worry	2	None	None	3
Group "G"— Bad management	None	6	None	2
Group "H"— Other reasons	16	6	4	20
Group "J"— No reason noted	17	17	10	10
Totals ..	56	44	53	47

(welfare centre cases and school children) have been analysed from the view-point of prevention. For example, if it be admitted that in Table IV, Group D ("Diseases of the breast") all the causes of failure to breast feed except cancer are preventable, it may be said that 6 per cent. of the total causes of failure to breast feed listed in Table IV are preventable. Those causes of failure not considered preventable are classed as "unavoidable."

Table V shows that in both series of cases (welfare centre and school children) nearly half (44 to 47 per cent.) the failures to breast feed for the full period were preventable.

Dr. H. W. Pooler⁴, Maternity and Child Welfare Medical Officer to the Derbyshire County Council, who analysed one hundred cases of failure to continue breast-feeding up to the end of the first month, concludes that eighty (i.e., 80 per cent.) were preventable.

Before leaving the subject of early weaning and its prevention, mention must be made of the influence of the welfare centre in this respect. The difficulty is that the majority of the mothers do not give the workers at the centre the opportunity to advise them soon enough. Of the 407 welfare centre babies under consideration, only 40 per cent. had been brought to the centre by the time they were four

weeks old. Of the remaining 60 per cent., who were brought at subsequent ages up to seven months, 54 per cent. had been already weaned before their first visit to the centre. Many of the mothers who join late admit frankly that they have come because they have heard from a neighbour that dried milk can be obtained cheaply from the centre. Unfortunately, enthusiasm to learn mothercraft is not yet as widespread as could be desired.

PART IV.—To what extent the health of the school child is influenced by the method of feeding (artificial or breast) in infancy.

The method of obtaining the statistics for this part of the investigation is explained at the beginning of the article. They are set out in Table VI. In it the past medical histories and "present condition" of 315 school children are correlated with the histories of their feeding in infancy. For example, of those weaned at six months of age, 60 per cent. were in good general condition when they reached school age, and 40 per cent. were delicate. It has been explained already that the meaning attached to the word "delicate" is the definition of the Board of Education, namely, a condition of "pre- or latent tuberculosis, malnutrition, debility, anæmia, etc." The group "fair" includes all border-line cases, whose general condition was

Ut Ita Dicam.

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

Pronouncements on Pasteurisation.

It is only seldom, too seldom perhaps, that the Society as a whole makes pronouncements upon particular matters affecting health, or issues statements for the guidance of the people in this regard or in respect of preventive medicine. In general, this is left to voluntary organisations, the official body representing health officers, more or less indirectly granting blessing through the Central Council for Health Education. Because of the rarity of official pronouncements, particular importance attaches to the Memorandum on the Reduction of Disease amongst Milch Cattle and the Improvement of the Milk Supply, submitted to the Committee on Cattle Diseases of the Economic Advisory Council. To the preparation of this statement a great amount of time and an infinity of care was devoted by the Council of the Society as a whole, and by individuals and groups of members specially interested and experienced in milk questions and problems. It may be taken, therefore, that the views expressed are authoritative, may even be regarded as those of the Society of Medical Officers of Health. Those relating to pasteurisation in particular may be accepted as such, and from all appearances there are many who need the lead that the pronouncement must give. Even to-day, with pasteurisation receiving wider and wider acceptance from those whose opinion is best worth having, judging from examination papers, for example, ideas with regard to the process that were current before the procedure had been tested and proved and improved are still being imparted. Nor is it in the classroom only that antiquated views are spread. Others besides myself, probably, have found astonishment at the bias displayed against pasteurisation on the part of speakers, veterinary and others, at meetings, and it seems not unlikely that if the views set out in the Society's Memorandum had been available earlier, the story told at Manchester might have had a rather happier ending.

Abortion and Vaccination.

The discussion on abortion at the British Medical Association meeting was both interesting and illuminating. Perhaps it was because it took place in Dublin, where the very

atmosphere must have frozen at such talk, that the reception of the suggestion was so unfavourable. It cannot be denied, however, that there was much in what the advocates for full consideration of the position had to say. In certain circles, abortion is one of the most important and commonly practised of all the birth control methods and, no less than any of the others, calls for investigation in order that a suitable system of supervision and control may be worked out.

Vaccination—Voluntary or Compulsory.

Even more important from our immediate point of view was the discussion on compulsory vaccination. If this showed anything at all, it revealed that there were still large numbers of people in this country who think the time not ripe for interfering with the law. In the discussions in our own Society the impression sought to be given by certain speakers is that it is the fact that there is compulsion involved that puts the people against vaccination. And these (curiously enough) and others are prepared also to show that compulsion is a farce; that, in fact, in this country there is no such thing as "compulsory vaccination." So far as this goes, of course, everything depends upon the meaning attached to "compulsory" or "compulsion." If it is taken that there is no compulsion unless persons who fail to comply immediately with the requirement are brought before the courts and under the full force of the law then, of course, vaccination in a completely compulsory form does not exist.

When is Compulsion not Compulsion?

The same thing, however, could be said of many of the requirements applicable to individuals under various of the Acts, etc., the health service is engaged in operating. The great majority of those who comply with these requirements do so because of the "shalls" and "musts" in the law; recognising, in fact the existence of "compulsion." In the case of vaccination, though the proportion of those who bow to compulsion may possibly be smaller, it is the "shalls" and the "musts" that do it. The years have shown in the majority of the districts that, in order to ensure compliance with legal health require-

ments, it is only exceptionally that it is necessary to go to the courts to show people that these requirements are compulsory. This may have been because the conditions were less difficult. Largely, however, it is due to the fact that those engaged in operating the provisions have refused to be too easily discouraged and dismayed. In a great many cases, no doubt, the results they sought might have been obtained even in the absence of compulsion. Few of them would admit, I imagine, that they could have done just as well if there had not been recognition on the part of the people that the law actually required attention to the particular matter. In regard to vaccination, there has been too much despairing; too much of an inclination to cry aloud that all is lost. Personally, I am very glad that the resolution of the Council of the British Medical Association has been amended. I have always thought that too much was made of the idea that it was because there was compulsion that your sturdy independent Briton refused to accept vaccination. That a large body of medical practitioners, who are in a better position to judge with regard to this than anybody else, agree, is shown by the unwillingness to accept the resolution in favour of abandonment of "compulsory" in favour of "voluntary" vaccination.

Dr. Jenner, Cuckoos and Cowpox.

All this talk of vaccination affords me an opportunity of referring to two books recently issued, though one of them only has reference to vaccination. The books referred to are: "The Life of Edward Jenner" by Dr. Drewitt,* and "Diphtheria Immunisation: Propaganda and Counter-Propaganda" by Dr. Greenwood Wilson.† Of Dr. Drewitt's book, actually it is unnecessary to say very much, because it is already well known and extremely popular, this being the second edition. As might be expected, coming from an author with the leanings of Dr. Drewitt, so delightfully revealed in his "Romance of the Apothecaries' Garden," it is almost more of Jenner as a naturalist and a dabbler in poetry, than as the discoverer of vaccination, that the book speaks. There is enough, however, to show how he came to his discovery and the difficulties he had to face and overcome, and

*London: Longmans, Green & Co., 1933. Price 6s. net.
†Post free from Joseph Ward & Co., Printers, Church Street, Dewsbury. Price 2s. 6d.

all charmingly and attractively written. Also there are references to the writings of Creighton, who was responsible for a most virulent attack upon Jenner and his discoveries, not only in relation to vaccination, but what (it seems) was almost worse, in regard to the habits of the cuckoo.

Trouble in Dewsbury.

This reference to attacks brings me to Dr. Greenwood Wilson's book on Diphtheria Immunisation. Consisting mainly of matter produced by Dr. Wilson to meet the attacks of opponents to his scheme for carrying out diphtheria immunisation amongst the children in Dewsbury, it shows Dr. Wilson to be possessed of a very pretty wit, and capable of giving as well as meeting and receiving shrewd knocks. These various writings, as they come from both sides, are extremely interesting. The book, however, contains also a useful note on diphtheria immunisation as practised in Dewsbury, and an impressive preface by Dr. Graham Forbes. In addition, it reveals that Dr. Wilson has a talent for controversy, and the knack of producing propaganda and getting it across. Altogether a stimulating publication.

P.

THE Medical Research Council have appointed Professor Edward Mellanby, M.D., F.R.C.P., F.R.S., to be their Secretary in succession to the late Sir Walter Morley Fletcher. Dr. Mellanby, who has been Professor of Pharmacology in the University of Sheffield since 1920, is at present a Member of the Council. He will not assume full duty as Secretary until January, 1934. The Secretary of the Medical Research Council is *ex officio* Secretary of the Committee of Privy Council for Medical Research.

SIR HILTON YOUNG, the Minister of Health, has appointed Dame Janet M. Campbell, D.B.E., M.D., M.S., and Miss F. Barrie Lambert, C.B.E., M.B., B.S., D.P.H., to be additional members of the Departmental Committee which he set up at the beginning of last month to consider and report on the questions of the capital cost of construction and the annual cost of maintenance of various classes of public buildings provided by local authorities.

The Reduction of Disease amongst Milch Cattle and the Improvement of the Milk Supply

MEMORANDUM SUBMITTED BY THE SOCIETY OF MEDICAL OFFICERS OF HEALTH
TO THE COMMITTEE ON CATTLE DISEASES OF THE ECONOMIC ADVISORY COUNCIL,
1933.

1. Disease in the milch cow is not generally a disease which has begun with lactation, and, for the reduction of disease, measures require to be taken as early as possible in the life history of the animals.

2. While it is correct to say that at least 99 per cent. of calves are born free from disease, the liability of healthy calves to disease soon after birth is great, because of the faulty feeding and general sanitary conditions to which they are subjected, and from their association with other diseased animals.

3. If disease among bovines is to be reduced, it is necessary that the healthy calves should be segregated from other stock and reared under good hygienic conditions. It is not sufficient to rear from animals entirely free from infection, and it is even more necessary that the healthy should be reared under such good conditions that they retain their good health.

4. While the increased interest and goodwill of those engaged in the industry, and the greater opportunities for education now afforded, will in time have a marked effect on the reduction of disease among bovines, it is unlikely that from these alone a satisfactory standard of health among bovines will be secured. Some system of supervision and inspection should be inaugurated to ensure this.

5. There is no legislation in England affecting the hygienic conditions of all bovines. Such legislation and orders that exist affect only milk-producing animals (*e.g.*, Milk and Dairies Acts and Orders) or certain diseases in animals (under the Diseases of Animals Acts and Orders, *e.g.*, Anthrax Order) or certain stages only of disease (*e.g.*, Tuberculosis Order).

6. The administration of such measures that exist is faulty, both centrally and locally. Centrally, there are two government departments concerning themselves with different aspects of the same subject, while locally there are still many large authorities who have failed to make good arrangements for carrying out what powers they possess.

CONTAGIOUS ABORTION.

7. This disease is prevalent, and is the most serious bovine disease, from the economic standpoint, in this country, because of the loss of calves and milk and its frequent sequel in sterility. A system of periodic veterinary inspection, with further research into the incidence of the disease, may in time assist in discovering methods for its control and reduction.

TUBERCULOSIS.

8. The clinical diagnosis of this disease in bovines is not generally easy, and if this be relied upon solely, many cases are likely to be missed for considerable periods. The reaction to the tuberculin test is much more reliable, but even this test must be taken with certain safeguards. Statistics, however, show that with this test the number of positive reactors amongst bovines markedly increases with age, so that among cows which have had three calves, as many as 40 per cent. will give positive reactions. Slaughterhouse statistics among calves, on the other hand, show only 0.28 per cent. presenting tubercular lesions.

9. The Tuberculosis Order, 1925, only deals with certain forms of tuberculosis among bovines, namely, tuberculosis of the udder, tuberculous emaciation or chronic cough with definite clinical signs of tuberculosis. These conditions have to be notified by the owner in all cases, and the obligation extends to suspected cases of tuberculosis of the udder and tuberculous emaciation, the owner being required to detain and isolate the animal. These conditions have also to be notified by veterinary surgeons meeting with them in their practice. The Order provides for the examination by a veterinary inspector, in notified cases, or wherever the local authority has reasonable ground for supposing that such cases exist, and goes on to provide for, if necessary, compulsory slaughter and compensation to the owner. The Order was described by the Ministry of Agriculture and Fisheries in a circular letter, issued in July, 1925, as representing "at the present time the

most that is practicable in the direction of securing the reduction of bovine tuberculosis."

10. On the whole, notification under the Order has not been a success, because owners of affected animals cannot be shown to be aware or suspicious of the particular conditions requiring notification, and veterinary surgeons are not called in by the owners in a very large number of cases. Many local authorities have contented themselves simply with dealing only with notified cases through part-time veterinary inspectors, and the value of the Order is very small in such areas.

11. Where the local authority has had a veterinary staff sufficient to carry out routine inspections at reasonable intervals, the Order has contributed considerably to a reduction of the mass of infection of tuberculosis amongst bovines, and its value in this respect is in direct ratio to the energy of the local authority in putting into force their powers. Much of the usefulness of the Order is lost by the extreme variations found in its administration. The Order itself ought to be strengthened (a) so as to throw the onus of the proof of the want of reasonable grounds of suspicion in established cases, upon the owner of the animal; (b) so as to provide for regular veterinary inspection of bovine herds; (c) so as to provide for the application of the tuberculin test where the veterinary officer has reasonable cause for suspecting a case of tuberculosis in a bovine; and (d) so as to provide a central authority with power to insist upon an active administration by the local authority of its provisions.

12. The improvement of the milk supply of the country is dependent upon the health of bovines, their dietary, care, and general good husbandry, and the methods of milk production, dairying and distribution. None of these factors can be neglected, but the terms of reference seem to indicate that the Committee has regard chiefly to the first mentioned. The possibility of raising the standard of health among bovines, so that all milk produced should be free from disease communicable to man, is remote but, nevertheless, much more might be done towards this end.

13. The ideal and, in fact, the only really successful way of reducing the incidence of tuberculosis in cattle is a scheme which, by the use of the tuberculin test, reacting animals and all sources of infection are eliminated. To be effective the scheme must be operated by experienced veterinary officers; the indiscriminate use of tuberculin must be prevented, and proper

steps must be taken in regard to the disposal of reactors. Such a scheme, if carried out all over the country, would be not only difficult but extremely costly. In fact, as it would have to be, of necessity, accompanied by some measure of compensation to the owners of cattle disposed of, it is questionable if a comprehensive scheme could be embarked upon at the present juncture, when this country is involved in a financial crisis, the ultimate outcome of which is at present so uncertain.

14. Bearing in mind the possible adoption of such a complete scheme in the future, we wish to recommend the following, which can be put into operation at once without an expenditure which would be considered disproportionate to the immediate results.

(a) The clinical examination of all milch cattle by whole-time experienced veterinary officers, at regular intervals, in conjunction with the periodic bacteriological examination of the milk for the tubercle bacillus. These veterinary officers would, in the course of their duties, give advice to farmers on the preservation of the health of the animals in all respects, and would encourage the production of clean milk. If the work in connection with the Diseases of Animals Acts were placed under the supervision of one veterinary officer in each area, co-ordination of the work amongst bovine animals would be facilitated and duplication would be avoided. Clinical examination alone cannot be relied upon to detect affected animals, but repeated veterinary inspection and repeated sampling of milk are of demonstrable value. The results improve with the increase in the frequency of the inspection, especially when it is associated with routine sampling combined with the investigation and elimination of sources of infection. Veterinary opinion is apparently agreed, however, that clinical examination by itself will not suffice to afford sufficient protection against bovine tuberculosis. It would appear, therefore, that a comprehensive system based on clinical examination alone might be built up without effecting the primary object aimed at, namely, the progressive eradication of tuberculosis.

(b) Free skilled advice and free tuberculin-testing of animals should be provided when the farmers are willing to carry out all the required steps to free their herds from tuberculosis.

(c) A beginning should be made in developing compulsory "accredited" areas, perhaps on a county basis, in which all the

bovine animals in them would be freed from tuberculosis. This might involve a form of compensation to the farmers, but if developed in a few areas at a time the cost would not be prohibitive.

15. These steps enumerated, which are considered practicable at the present time, would not for many years to come bring about a supply of milk which can be accepted as satisfactory. Milk in the past has frequently acted as a vehicle conveying disease to man, and it still continues to do so. Such diseases are numerous and include tuberculosis, undulant fever, and epidemic sore throat.

16. A practicable means of making milk safe for human consumption under present conditions is pasteurisation. Pasteurisation, if done efficiently and under automatic control and strict supervision, can be relied upon to render milk free from infection, and this has led to a demand, from certain quarters, for compulsory pasteurisation before sale. Pasteurisation properly carried out is not known to lessen, in any marked degree, the nutritional properties of the milk, and it therefore seems to present a practical solution of the problem of freeing milk from infection. Medical officers of health are agreed that powers should be given to local authorities to require, if they see fit, such pasteurisation of milk before sale in their area. The conditions of the milk supply, and distribution in different areas of the country, vary widely, and it is clear that, in some areas, this measure is called for as the only practical step that can be taken in the meantime to protect the public from bovine tuberculosis in milk. But it may be stated quite fairly, on the other hand, that medical officers of health do not regard pasteurisation as a substitute for clean milk production, and would greatly deplore any relaxation of effort in this direction.

17. While pasteurisation does not materially affect the nutritional qualities of milk, reheating or repasteurisation is held to reduce its nutritional value. Pasteurisation of milk is, therefore, a process which can only be advocated with due regard to certain safeguards, of which the following are the more important:—

(a) It must be done efficiently, automatically controlled and under strict supervision.

(b) Reheating or re-pasteurisation must not be permitted.

(c) It must not be taken to be a substitute for any other efforts in the improvement of the milk supply.

18. As a substitute for pasteurisation, home boiling of milk has been recommended by the medical profession for many years. This can be done efficiently, so far as the destruction of pathogenic germs is concerned, but it is more likely to destroy the nutritional value of milk than pasteurisation. Milk that has undergone any form of heat treatment ought not to be sold to the public without being carefully marked as to the kind of treatment it has undergone, so that the users of milk are in a position to know whether or not they should heat or boil it in their homes.

ADMINISTRATIVE CONTROL OF THE MILK SUPPLY.

19. The production of milk is, to a considerable extent, under the control of local authorities by the operation of the Milk and Dairies (Consolidation) Act, 1915, the Milk and Dairies (Amendment) Act, 1922, and the Orders made thereunder, namely, the Milk and Dairies Order, 1926, and the Milk (Special Designations) Order, 1923.

20. The local authority under the Milk and Dairies Order, 1926, is the sanitary authority, except in Part IV of this Order, which deals with the health and inspection of cattle for which county councils, county borough councils and, in some instances, the councils of non-county boroughs, are the authorities. This, in certain cases, is a most unfortunate division of responsibility. In the case of small county districts, the work done is, more often than not, far from efficient, while there are still many county councils which have failed to make satisfactory arrangements for the inspection of the cattle. Even in county areas, where authorities have made satisfactory arrangements to carry out their functions, the dual supervision tends to be resented by the milk producers.

21. Milk producers and dairymen are made subject to registration under the Order of 1922. Retailers of milk may be removed from the register by the operation of Section 2 of the Amendment Act of 1922, but there is no such power with respect to milk producers who are not retailers. Some such power is required, as dealers in newly-calved milk cows, and persons at auction sales for milk cows and the like, have been registered as cowkeepers, and have carried on this business under improper conditions, selling the milk produced to retailers. Further, under the existing legislation and orders, all matters relating to the housing and sanitation of

dairy cattle is a responsibility of the occupier of the premises. While this is quite proper in many cases, in others it is so eminently unfair to an occupier who is not the owner, that necessary structural alterations for the hygienic housing of dairy animals cannot be secured.

22. The Milk (Special Designations) Order, 1923, should be remodelled in order to simplify the grades and to encourage owners to take advantage of its provisions. The terms applied to the grades should be self-explanatory and fees for licences should be abolished. If

veterinary assistance were provided, as suggested in 14 (b) above, the production of milk from tuberculin-tested stock would be further encouraged.

23. We strongly favour the continuance of educational efforts to produce a cleaner milk, and with a view to encouraging the increased production of clean milk we consider that those concerned in the production, etc., of milk which does not come up to a certain standard (that suggested being Grade A) should be penalised.

AN AMERICAN LETTER.

Our Correspondent speaks of the Annual Meeting of the American Medical Association—President Roosevelt and Public Health—Camps for the Unemployed—A Resolution of the National Advisory Health Council on Reduced Appropriations—The New Headquarters of the Public Health Service—The U.S. Army Medical Library—and Birth Control.

The Medical Association Meeting.

The annual meeting of the American Medical Association has just ended at Milwaukee. The programme was a long one, occupying some 135 pages, and the scientific exhibit excellent and large, covering pretty nearly every matter which can be taught by visual methods. The Association has a combined section on Preventive and Industrial Medicine and Public Health, and this year there was a symposium of five papers on silicosis, which has been the subject of much concern to our life insurance companies, as well as the medical profession, for several years. The business sessions of the Association were very interesting, and several discussions are worth mentioning.

The Costs of Medical Care.

It is fair to presume that practically everyone there had in mind the report on the costs of medical care, to which I have already alluded, and of which a very brief synopsis has been given to you. In the issue of the *British Medical Journal*, for March 18th, 1933, nearly two pages were given to a rather caustic editorial, which criticised both the majority and minority reports, accusing them of "vagueness" and "inconsistency," and as exhibiting "an absence of clear thinking and a quite unnecessary timidity." This was done with an expression of due modesty, and the writer said, correctly, that opinions from outside the United States should be offered with diffidence and reserve, owing to

the differences in conditions. The editorial on the matter by the Journal of the American Medical Association (December 3rd, 1932) was condemned as being "unwarrantably antagonistic and unhelpful," an opinion with which the members who signed the majority report will undoubtedly agree, but which, I believe, finds little echo among the profession in general in this country.

Majority and Minority Reports.

At the recent meeting, the matter was taken up by the House of Delegates. That body commended the action of the Medical Society of the District of Columbia in going to considerable pains to inform its members of the medical and social implications of the minority report, so that they would be better able to support its principles and recommendations, and recommend their plan to the favourable consideration of other constituent associations; then passed a resolution endorsing wholly the minority report, and declaring it to be representative in principle of the collective opinion of the medical profession of this country. As far as the majority report was concerned, the House of Delegates adopted the report of a committee which expressed the opinion that its recommendations were inimical to the best interests of all concerned and, if made compulsory, malingering would be encouraged, a vast political machine with all of its attending evils would be created, state medicine would eventually follow, and the profession in general would be reduced

to the status of government employees, with entire abolition of the present relation between physicians and patients. In May, the Congress of Physicians and Surgeons met in Washington, D.C., and its President, Dr. Harvey Cushing, made some very apt comments on the doctor, which were generally believed to be meant as a hit at the majority report. I quote only one sentence from the Journal of the American Medical Association (May 20th, 1933): "He's already done a great deal, not only for the poor but for the man of modest means as well, and it is offensive to be told by a board of lay people that he's neglecting them." Cushing called attention to another point which has been observed by many with apprehension: "... and since science is now everywhere in the saddle and chief emphasis is laid upon it, the pre-medical sciences have first say, and we tend more and more to carry great institutions of research as appendages to our schools, now manned in increasing numbers by teachers who have had no medical training, far less actual experience with the handling of patients."

Public Health and the Presidential Programme.

When my last letter was written, Congress was in session and President Roosevelt was putting through his numerous plans for industrial rehabilitation and conquest of the depression under which we have been labouring in common with other countries. The most striking features of the President's programme, from the public health standpoint, have been his plans for aiding farmers, reforestation of our denuded lands, and other public works embodied in the industrial recovery act. One bill carried more than 3½ billion dollars. Camps to which only unemployed are admitted have been established in various parts of the country already, and recruiting stations are active. They are under the direction of line officers of the Army, and the sanitation is in charge of the Medical Corps of the Army, with the possible exception of the malarial problem, on which our Public Health Service has been consulted. Communicable diseases in the camps will be reported to the local and state health officers who will co-operate in handling them, and reports will be forwarded weekly both to the Surgeon-General of the Army and the Public Health Service. While only a comparatively small number of the unemployed will find employment under these schemes, the results

are expected to be far-reaching. There can be no question that the feeling in our country is much better than it was—better than is accounted for by actual trade revival, though that is evident also.

The National Advisory Health Council.

In spite of recent happenings, the hope is entertained that attempts will be made to continue important work in the field of public health, and to spare research and rural hygiene at any rate. Some ground for these hopes is provided by what occurred at the recent meeting of the National Advisory Health Council, where the following resolution was adopted:—"That the National Advisory Health Council, having been informed of reduction of appropriations to be available for the purposes of the U.S. Public Health Service made necessary by the exigencies of the economic and financial situation of the nation, and finding its members in sympathy with the intent of the President and the Congress in demanding even such serious limitations of expenditures as this implies, nevertheless finds itself compelled, in the interest of the public health, to urge upon the Secretary of the Treasury, and upon the Surgeon-General, to use such discretionary power as may be assured to them within the contemplated reduced appropriation and sums allotted to the U.S. Public Health Service, to maintain with the least possible reduction the trained personnel engaged in research in preventive medicine. The hope of the National Advisory Health Council is further expressed that the general budgetary items for the support of the U.S. Public Health Service may be so adjusted in meeting the reduction of appropriations that the reduction in the items allotted for field investigations and rural hygiene may not exceed the general average of 25 per cent., effective for the appropriation for the U.S. Public Health Service as a whole. The National Advisory Health Council wishes to record its conviction that present and future economies in Federal expenditure, and in the cost of living to the people of the nation, can be better assured by prosecuting, as at present conceived and already partially carried out, projects of research by experimental methods into the causes of disease, their treatment and prevention, than by spending an equal sum for any other purpose under the jurisdiction of the U.S. Public Health Service. The Council further wishes to record its opinion that the interests of economy in

Federal administration, and the objects of efficiency in the service of preventive medicine, will be better assured by a transfer of the Division of Vital Statistics of the Bureau of the Census to the Division of Sanitary Reports and Statistics of the U.S. Public Health Service than by allowing the continuance of the present separation of what is to all intents and purposes a single function of the Federal Government." What effect this resolution will have remains to be seen. We cannot believe that the Secretary of the Treasury, who has charge of our public health work, is either indifferent or blind to the situation. As President Cleveland said in regard to another situation, "It is not a theory, but a condition which confronts us."

New Home of the Public Health Service.

Contrasted with this rather gloomy outlook is the fact that our Public Health Service has just moved into sumptuous quarters in a new building. The money for this was appropriated during times of plenty, and was saved for the Service by quick work. The Public Health Service, which was then called the Marine Hospital Service, was established on July 16th, 1798, and from that time until 1870, its affairs were conducted by the clerk in the Treasury Department. The Service was founded largely to serve the purpose of foreign trade and quarantine. In 1870 the Bureau of the Public Health Service was organised, but its location remained in the Treasury Building until 1876. After several moves, during the World War, when the burden of medical care of men and women in service was placed upon it, it became necessary to expand, and the larger division was transferred to one of the temporary buildings erected during the War, the Surgeon-General spending about half of his time at the old location, and the remainder in the temporary quarters. His headquarters were still in the Butler Building, but this was finally demolished to make way for the House Office Annexe. Although the new building, which was especially constructed with a view to the necessities, is not entirely finished, the officers have moved into it. The new laboratory buildings for the National Institute of Health are progressing rapidly. It seems particularly unfortunate that at this time there should be a check in the excellent work which is being done. The private grants given at the time the National Institute of Health was founded have expired, and no good angel has so far come forward with others.

The Army Medical Library.

This country rejoices in what is said to be the largest medical library in the world, although the collection was begun only in 1818. It has been called "America's greatest contribution to medicine." About 1865, an anatomical-pathological museum was begun by the Army, and grew rapidly. During the World War the collection increased by three times, and it is now considered one of the finest to be found anywhere. Unfortunately, both the library and the museum are housed in an antiquated, non-fireproof building, not large enough for its purposes, even if it were safe. An appropriation of \$3,300,000,000 has been made to erect public buildings and to complete other constructions, as well as to provide labour for the unemployed. The American Medical Association is urging that \$2,000,000 dollars be set aside for the Army medical library and museum, the site of which has been available for something like 14 years, and that work be commenced upon this very urgent project.

The Study of Birth Control.

Unfortunately, as many feel, birth control is being pushed by certain interests. I think I am correct in stating that the opinion among those who have studied the question is that there is a good deal worthy of commendation in the general idea, but that so far, no one has proposed any method which is practicable and safe. Some of the appliances offered for sale are execrable. Many feel that the medical profession should take the matter in hand, as there is great danger that the teaching and practice will get into the hands of quacks and scoundrels. A resolution for the creation of a committee for the study of birth control was introduced into the House of Delegates of the American Medical Association and sent to the reference committee on hygiene and public health, which, after careful consideration, recommended that it be adopted. It was, however, tabled by a motion of 66 to 46, which apparently represents fairly well how the matter is regarded in this country.

MAZYCK P. RAVENEL, M.D.

RESULTS of the recent final examination of the Chartered Society of Massage show that a remarkable 100 per cent. record of success has been maintained by the National Institute's School for Blind Masseurs. Since the school was opened by H.M. The King in 1915, more than 200 blind men and women have been trained, and every one has qualified.

The Society.

Reports, Proceedings and Announcements.

THE SCOTTISH BRANCH.

President: Dr. A. S. M. Macgregor, O.R.E., Medical Officer of Health, Glasgow.

Hon. Secretary: Dr. W. G. Clark, Senior Deputy Medical Officer, Glasgow.

At the annual meeting of this Branch, held on June 24th, 1933, the following office bearers were elected for the ensuing year:—

President.—Dr. A. S. M. Macgregor.

Vice-Presidents.—Dr. A. K. Chalmers and Dr. T. Adam.

Honorary Secretary and Treasurer.—Dr. W. G. Clark.

Members of Council.—Drs. C. A. Bignold, G. Arbuckle Brown, G. G. Buchanan, W. L. Burgess, C. C. Finlator, John Guy, Richard Hamilton, G. V. T. McMichael, A. McWhan, B. R. Nisbet, J. Hume Patterson, Harry Rae, John Ritchie, T. Lauder Thomson, G. Pratt Yule, and N. Wattie.

Representative on Council of the Society.—Dr. A. S. M. Macgregor.

The Hon. Secretary intimated that during the year three meetings of the Branch were held, and six meetings of the Council.

The first meeting of the Branch was held at the Hannah Dairy Research Institute, Auchencruive, Ayrshire, when the members had a most interesting day studying the work of the Institute. At the other meetings, the subjects discussed were: (1) The Compulsory Pasteurisation of the Milk-Supply, introduced by Drs. Bignold and J. Hume Patterson; and (2) The General Aspects and Administrative Control of Chronic Enteric Carriers, a paper being read by Dr. Ritchie. Both subjects proved of great interest, and raised considerable discussion. As a result of the second paper, the Branch remitted to the Council to approach the Department of Health on the points raised.

During the year the Council had under consideration certain important questions, including the Public Health (Infectious Disease) Regulations, 1932, and various points put forward by the Council were included in the Regulations as finally issued. Steps were also taken to have the problem of the exclusion of children from school after infectious disease studied, with a view to attaining some uniformity throughout Scotland, and it

is hoped to have a model form drafted in a short time. During the session a memorandum was prepared for the Committee on Cattle Diseases of the Economic Advisory Council, and the President and Hon. Secretary attended in London on May 8th, to give evidence on behalf of the Branch.

During the year Dr. Chalmers was re-appointed to the Scottish Council of the Queen's Institute of District Nursing for three years to December 31st, 1935, and the Department of Health appointed Dr. Chalmers one of the members to the General Nursing Council for Scotland for a period of five years from December 7th, 1932.

The Hon. Treasurer intimated that the amount to the credit of the Branch at the beginning of the year was £28 4s. 11½d., and that the Branch grant for the current year was £11 15s.—94 members at 2s. 6d. per member. The expenditure during the year amounted to £30 3s. 9d., including the sum of £17 16s. 5d. in connection with the expenses of the President and Hon. Secretary in attending the meeting of the Committee on Cattle Diseases, on May 8th, 1933. The Society, on being approached, gave a grant of £10 to the Branch in respect of travelling expenses. There remained in hand 1s. 1d. in stamps. The balance in hand at the date of the meeting was £19 17s. 3½d.

THE YORKSHIRE BRANCH.

President: Dr. T. N. V. Potts, M.O.H., West Riding of Yorkshire.

Hon. Secretary: Dr. James Mair, M.O.H., Harrogate.

The annual meeting of this Branch was held at the Fever Hospital, York, on June 29th, 1933, the President occupying the chair. Thirteen members were present.

Drs. T. N. V. Potts and J. Mair were elected Representatives of the Branch on the Council of the Society for the session 1933-34.

Drs. Tattersall and Vallow were elected Representatives of the Branch on the Tuberculosis Group Committee.

The Hon. Treasurer presented his annual statement of accounts, which had been duly audited. This was approved and accepted.

The question of recruitment of the Society was considered. It was felt that greater efforts should be made to bring the advantages of membership to the notice of the junior members of the service, and that it would be an attraction to junior officers if their annual subscription were reduced for a limited number of years after they became eligible to join the Society. It was resolved:—

(a) That the Council of the Society be recommended to instruct the Executive Secretary to send to all persons taking the Diploma of Public Health, or equivalent qualification, a letter inviting them to join the Society and pointing out the advantages of membership.

(b) That the Council of the Society be recommended to consider the advisability of reducing the annual subscription of those members who are elected within a limited number of years—say five—of their becoming eligible for election, such reduced subscription to remain in operation for the same term.

The Hon. Secretary was instructed to forward these resolutions to the Council of the Society for consideration.

After an inspection of the Hospital under the guidance of Dr. McNaught, tea was provided by the City of York Corporation.

A vote of thanks to all who had contributed to the success of the meeting was heartily accorded on the proposition of the President.

THE EAST MIDLAND BRANCH.

President: Dr. Cyril Banks, M.O.H., Nottingham.

Hon. Secretary: Dr. J. A. Stirling, M.O.H., Chesterfield.

The annual meeting of this Branch was held at Bulwell Hall Sanatorium, Nottingham, on July 13th, 1933, the President occupying the chair. Seventeen members were present.

The annual report of the Hon. Secretary and Treasurer was read and adopted, and the Hon. Secretary was thanked for his services during the session.

The following office-bearers were elected for the session 1933-34:—

President.—Dr. W. M. Ash, County Medical Officer of Health, Derbyshire.

President-elect.—Dr. J. A. Fairer, County Medical Officer of Health, Leicestershire.

Vice-President.—Dr. C. Banks, Medical Officer of Health, Nottingham.

Hon. Secretary, Treasurer, and Representative on Council of Society.—Dr. J. A. Stirling, Medical Officer of Health, Chesterfield.

Branch Council.—Drs. Barker, Buchanan, Campbell, Ferguson, Millard, Morrison, Newth, Stevens, Stott, and Tibbits. Co-opted dental member: Mr. V. C. Carrington.

Councillor Lee, Chairman of the Nottingham City Health Committee, had very kindly made arrangements for the social side of the meeting, which included an inspection of the Sanatorium, games of bowls, and last, but not least, a golf match between teams representing the Branch and the Nottingham City Corporation. The match proved very interesting, the Corporation winning by five matches to three.

The sincere thanks of the Branch were accorded to the Nottingham City Corporation, and especially to Councillor Lee, for the very excellent arrangements made and the kind hospitality provided.

THE MIDLAND BRANCH.

President: Dr. H. D'Arcy Ellis, M.O.H., Amblecote and Brierley Hill Urban Districts.

Hon. Secretary: Dr. R. H. H. Jolly, M.O.H., Wolverhampton.

The annual meeting of this Branch was held at Stourbridge, on June 29th, 1933. The President and 26 members were present.

Apologies for absence were received from the President of the Society (Dr. G. H. Pearce), who sent a telegram conveying his hearty greetings to Dr. and Mrs. Ellis, and from 16 members.

Officers and Council for the session 1933-34 were elected as follows:—

President.—Dr. G. N. Anderson.

President-Elect.—Dr. J. A. M. Clark.

Vice-Presidents.—Sir Arthur Newsholme, K.C.B., Sir John Robertson, C.M.G., O.B.E., Dr. E. H. Snell, Dr. H. D'Arcy Ellis, J.P., and Dr. Wyndham Parker, M.C.

Members of Council.—Drs. P. S. Blaker, A. Auden, W. D. Carruthers, B. C. Haller, A. Massey, H. Gibbons Ward, and A. Hamilton Wood.

Hon. Treasurer.—Dr. E. H. Snell.

Hon. Secretary.—Dr. R. H. H. Jolly.

Hon. Auditor.—Dr. W. M. Clendinnen.

Representatives on the Council of the Society.—Drs. H. Gibbons Ward and R. H. H. Jolly.

The following were re-nominated as representatives of the Midland Branch on the Tuberculosis Group Committee: Drs. Cyriax, Dixon, Elliott, and Gordon Smith.

It was unanimously resolved that a cordial vote of thanks be sent to Messrs. Cow and Gate, Ltd., for the admirable arrangements made by them for the comfort of visitors from the Midland Branch, who were conducted over their factory at Wincanton, on June 8th.

At the conclusion of the meeting, members and their wives paid a short visit to the glass works, for which Stourbridge is famous, and saw the actual processes of glass blowing, glass cutting, and glass polishing. Some really marvellous specimens of the glass craftsman's art displayed in the showrooms evoked great admiration and possibly a certain amount of covetousness.

Tea was served in a marquee in the President's garden to the accompaniment of sweet strains of music from a concealed orchestra. Afterwards, a clock-golf competition took place, for which prizes were presented by Dr. and Mrs. Ellis. The lady's prize was won by Mrs. Snell, and there was keen competition for the gentleman's prize. Dr. Anderson and Dr. Jolly each returned a score of 20, and a replay again resulted in a tie. At this stage of the proceedings one of the spectators very kindly offered to present an additional prize, fearing that the two competitors might become exhausted if the contest was carried on any further. A most enjoyable afternoon—thanks to the admirable arrangements made by the President and to the excellent weather conditions.

THE SOUTHERN BRANCH.

President: Dr. H. C. Maurice Williams, M.O.H., Southampton.

Hon. Secretary: Dr. H. D. Kelf, Asst. M.O.H., Hants. County Council.

A meeting of this Branch was held at Trafalgar House, Winchester, on June 2nd, 1933. In the absence of the President, Dr. H. Leslie Cronk was voted to the chair. Fourteen members were present.

Letters were read (a) from the Welsh Branch with reference to the nomination of Dr. Wilshaw for the Presidency of the Society; (b) from the Executive Secretary, stating that the nominations of Drs. C. Conyers, Morrell, and W. F. T. McMath, were received too late for the May meeting, and that the next election is due in October.

A discussion on Ministry of Health Memorandum 170/Med.—**The Production of Artificial Immunity against Diphtheria**, was opened

by Dr. H. Leslie Cronk, with special reference to suitable schemes for rural and urban districts.

Dr. Chesney (Poole) outlined the scheme which had been in operation in his area for some years, quoting figures, and showing useful leaflets. Dr. D. V. Payne (Alton) explained the methods he intended to employ in the matter.

Most of the members joined in the discussion, and a vote of thanks was passed to Dr. Cronk for the trouble he had taken in preparing a paper on the subject.

The annual meeting of the Branch was held at 1, East Park Terrace, Southampton, on July 7th, 1933, the President occupying the chair. Twelve members were present.

The following officers for the session 1933-34 were elected unanimously:—

President.—Dr. Henry D. Kelf.

Hon. Treasurer.—Dr. H. Leslie Cronk (re-elected.)

Hon. Secretary.—Dr. A. B. Williamson.

Representative on the Council of the Society.—Dr. R. H. Wilshaw (re-elected).

Executive Committee.—Drs. W. J. Hart, Percy Moxey, and H. Gordon Smith.

Representatives on Tuberculosis Group Committee.—Dr. W. J. Hart and Dr. Percy Moxey (re-elected).

In a paper on "**The Historical Survey of Venereal Diseases**," Dr. D. J. Campbell outlined the history of syphilis and gonorrhoea as separate diseases, and dealt fully with the laboratory detection of the specific micro-organisms, and the definite advance in the treatment of syphilis from the early days of mercury to the present of arsenical and bismuth preparations. He also alluded to ante-natal treatment of syphilitic mothers, the routine Wassermann test at ante-natal clinics, the treatment of G.P.I., and propaganda generally. Defaulters at venereal disease clinics, following up, and, in the absence of compulsory notification, finding the immediate source of infection, were other points referred to.

Discussion followed, and a vote of thanks was accorded Dr. Campbell for his extremely interesting paper.

After tea, several members visited the new Crematorium recently established by the County Borough of Southampton.

THE WELSH BRANCH.

President: Dr. E. Lewys-Lloyd, County M.O.H., Merionethshire.

Hon. Secretary: Dr. D. J. Thomas, Deputy M.O.H., Rhondda.

A meeting of this Branch was held at the Institute of Preventive Medicine, Cardiff, on May 5th, 1933, the President occupying the chair. Twenty members were present.

Dr. E. Colston Williams (County Medical Officer of Health, Glamorganshire), opening a discussion on "**The Ray Economy Report and Circular 1311 of the Minister of Health**," held that the full implications of the Report were not grasped by the public mind at the time of publication. The Report was now being followed by repercussions which involved the services administered by local authorities. It had also to be borne in mind that there were limitations to the expenditure which could be incurred by central and local government bodies, especially when so many avenues of expenditure were open, some of which, though non-medical in character, affected the welfare of the community. Experience showed that economies could be effected in the provision and administration of infectious diseases hospitals, and the attitude adopted by many authorities in regard to the isolation and detention of persons suffering from scarlet fever required consideration. The suggestion that payment should be claimed for treatment in the venereal disease clinics of local authorities would cause an invidious distinction amongst the persons treated in such clinics. Greater care was required in the administration of public assistance work in many areas. Provided equality of sacrifice was imposed, the contemplated reductions in salaries would not be unreasonable, but relative injustice weighed more in one's attitude towards that method of economising. It was difficult to suggest how the public health services could be limited; each service developed new needs, but under present financial circumstances it seemed to be necessary to concentrate on the most essential and useful of those services.

Dr. R. M. F. Picken (Medical Officer of Health, Cardiff) said that the method adopted by the Committee for the purpose of obtaining the information necessary for the Report was criticised, and the production of the Report in such a short time detracted from its value, whilst there was lack of evidence obtained from representatives of local authorities or public bodies. The reference to the sana-

torium treatment of tuberculous cases as being expensive, did not agree with ascertained facts, when compared with the cost of treatment of such cases in hospitals. The criticism of the school medical service in the Report was premature, because though the service had been in existence for about 25 years, it had really been developed only since the War. The treatment of mental defectives could not be curtailed from the public health standpoint, as a large proportion of health problems involved that stratum of the community which possessed a low mental capacity. Moreover, institutional education was now proving more effective and remunerative. In regard to the proposed reduction of salaries and wages, it was doubtful if this was a sound policy, and if the tendency for inflation supervened, the restoration of salaries to previous levels would be of little advantage.

Dr. H. W. Catto (Medical Officer of Health, Newport) suggested it would be of great value to overhaul occasionally many of the procedures in public health administration. There were many matters which required thorough consideration, such as the value and methods of routine disinfection after release of persons suffering from infectious diseases.

The discussion was continued by Drs. T. Evans (Swansea), W. A. Murphy (Ogmore and Garw), and W. F. W. Betenson (Breconshire).

The President, in summarising the discussion, emphasised that the Ray Committee's attitude towards mental deficiency should be condemned, as the latter's influence in rural communities was most harmful, and, furthermore, no limitations of public health work should be contemplated in rural areas, where the service is already minimal in character.

A vote of thanks was accorded to the opening speakers on the proposal of Dr. D. A. Powell, and Dr. Colston Williams, in responding, thanked the members for the interest taken in the subject.

The summer meeting of the Branch was held at the Gwalia Hotel, Llandrindod Wells, on June 29th, 1933. The President occupied the chair, and 18 members and visitors were present.

The President referred to the loss sustained by the Branch and the public health service by the death of Dr. A. Duncan, Medical Officer of Health for Merthyr Tydfil, and a past President of the Branch. A vote of

sympathy with the relatives of the late Dr. Duncan was passed in the usual manner.

The President extended the hearty congratulations of the Branch to Dr. Picken, on his appointment to the Mansel Talbot Professorship of Preventive Medicine in the Welsh National School of Medicine, Cardiff. In support of the President's remarks, Dr. T. Evans (Swansea) assured Dr. Picken that he would have the willing co-operation and support of all public health officers in Wales.

Dr. John Watterson Miller was elected as President of the Branch for the session 1933-34. The remaining officers and representatives of the Branch were re-elected, with the exception that the retiring President was elected a member of the Branch Council, and the re-election of Dr. Howard-Jones as a member of the Branch Council was deferred.

Dr. J. W. Miller (County Medical Officer of Health, Radnorshire) read a paper on "**The Incidence and Prevention of Rheumatic Diseases.**" A comprehensive review of the statistics published in various reports issued by the Ministry of Health in the last decade, and in the recent report of the British Medical Association, was given, and copies of a useful table indicating the incidence of various rheumatic infections in the community were distributed and fully explained. The prevalence of such diseases amongst different classes of the community was also discussed, and it was emphasised that the incidence was greater amongst those persons engaged in outdoor occupations. Miners were noted as being especially liable to suffer from fibrositis. The rôle of infection in the causation of these diseases was mentioned, and reference was made to the isolation by American bacteriologists of streptococci from the blood of patients suffering from rheumatoid arthritis. In the prevention of the disease, the elimination of septic foci, such as dental caries and tonsillar sepsis, the eradication of dampness from dwellings and the provision of pithead and works baths, were advocated.

Dr. R. Ackerley (President of the Llandrindod Wells Medical Society) subsequently discussed "**Rheumatic Conditions and their Spa Treatment.**" He remarked that the peaks in the age curves indicating the prevalence of rheumatic fever, closely followed the ages at which the primary and secondary dentitions occurred. In practice he had found

that a gingivitis on the lingual side of the lower gum was almost invariably a forerunner of dental caries. Such lesions should not be regarded as slight in nature, but due importance should be attached to the necessity of obtaining and applying appropriate treatment. The consumption of hot food was also regarded as causing a devitalising influence on the gums, thus favouring the onset of dental sepsis and the development of other foci of infection in the pharynx. In the spa treatment of those affections the main principles followed depended on rest and the elimination of toxins from the body through the bowels and kidneys, whilst the educational effect of a course of treatment at a spa was also of the utmost importance.

In the discussion which followed, Dr. Murray (Llandrindod Wells) regretted that no grants were made available for the spa treatment of persons suffering from various forms of arthritis, and claimed that spas were more remunerative than sanatoria, in that the rheumatic patients were restored to their previous earning capacities.

Dr. Worthington (Llandrindod Wells) also expressed the opinion that rheumatic conditions were infective in origin.

Dr. Picken, in proposing a vote of thanks to the opening speakers, challenged the statement that sanatoria were unremunerative.

Under the guidance of Drs. Murray and Worthington the members were afterwards conducted over the hydropathic establishment attached to the Pump House Hotel, wherein apparatus for the application of radiant heat, infra-red rays, faradism, diathermy, ionisation, peat-packs, plombières treatment, etc., were installed.

The Highland Moors Convalescent Home for Boys, established by the Welsh National Memorial Association, was also visited, and after partaking of tea at the kind invitation of the Matron, a very instructive tour under the guidance of Drs. D. A. Powell and N. T. K. Jordan was made. The institution provides residential accommodation for 60 boys suffering from pre-tubercular or early tubercular conditions, and the visit to the dining-rooms, dormitories, schoolrooms and rest and exercise rooms demonstrated fully the elaborate provisions which have been made for the welfare of the children in the Home.

THE MATERNITY AND CHILD WELFARE GROUP.

President: Dr. Margaret Emslie.

Hon. Secretary: Dr. Isobel Wright, Public Health Department, 121-131, Rosebery Avenue, London, E.C.1.

The annual summer Post-graduate Course was held on Monday and Tuesday, July 3rd and 4th, 1933. It was open to all medical practitioners attending the English-Speaking Conference on Maternity and Child Welfare. A total of between 70 and 80 attended, and the following excellent programme was carried out:—

Monday, July 3rd, 1933.

10.30 a.m. Royal National Orthopaedic Hospital, 234, Great Portland Street, W.1. Demonstration by Mr. W. H. Trethowan, F.R.C.S.

2 p.m. Royal Westminster Ophthalmic Hospital, Broad Street, W.C.2. Demonstration by Mr. C. L. Gimblett, F.R.C.S. Tea at the invitation of the Hospital.

Tuesday, July 4th, 1933.

11 a.m. Queen Charlotte's Hospital Isolation Block, Ravenscourt Square, W.6. Demonstration by Mr. L. Phillips, F.R.C.S.

12 noon. Demonstration of laboratory work.

3 p.m. (A). North Kensington Women's Welfare Centre, 12, Telford Road, Ladbroke Grove, W.10.

Demonstration of Contraceptive Technique by Dr. Helena Wright.

or (B). Mothercraft Training Society, Cromwell House, Highgate Hill, N.6.

Inspection of the Home and the new Princess Elizabeth of York Hostel. Demonstration of cases by Dr. R. C. Jewesbury. Tea at the invitation of the Society.

The annual general meeting of the Group was held at the house of the Society, on July 4th, 1933. The presidential address on "War in the Family" will be published in PUBLIC HEALTH shortly. Dr. Margaret Emslie, who has done such excellent work for the Group, in the successive posts of honorary secretary, honorary advisory secretary, vice-president, and president, is to be congratulated on a very successful year.

The annual meeting, owing to a very full agenda, was resumed on July 5th, 1933. The annual report and that of the Group Representative on the Council of the Society were read.

The following officers and committee were appointed for the session 1933-34:—

President.—Dr. Thomas Y. Finlay.

Past-President.—Dr. Margaret Emslie.

Vice-Presidents.—Drs. G. C. M. M'Gonigle, Agnes Bernfeld, and Hazel Chodak Gregory.

Representative on the Council of the Society.—Dr. Ethel Cassie.

Representative on the Inter-Group Committee.—Dr. Agnes Nicoll.

Representative on the Metropolitan Branch.—Dr. Muriel Radford.

Hon. Secretary.—Dr. C. Isobel Wright.

Hon. Assistant Secretary.—Dr. Muriel Radford.

Committee.—Drs. Marjorie Back, Jessie Balsillie, Margaret Bergin, Georgie Brodie, Ethel Cassie, Stella Churchill, Elizabeth Critchley, Helen Dent, Margaret Scott Dickson, Mary Howie, Rose Hudson, Marguerite G. Hughes, Doris Jolly, Edith Morris Jones, Evelyn McGregor, Hilda Menzies, Janet M. Morton, Louise McIlroy, Elwin Nash, Agnes Nicoll, Maitland Radford, Virginia Saunders-Jacobs, Helen Standing, James Stephen, and Ruby Thomson.

THE FEVER HOSPITAL MEDICAL SERVICE GROUP.

President: Dr. E. W. Goodall, O.B.E., formerly Med. Supt., North-Western and Eastern Hospitals, Metropolitan Asylums Board.

Hon. Secretary: Dr. Alexander Joe, D.S.C., North-Western Hospital, London County Council.

On June 30th, 1933, the annual meeting of this Group was held at the house of the Society. The President was in the chair, and 22 members were present. Two overseas visitors (Dr. F. V. Scholes, of the Fairfield Fever Hospital, Melbourne, and Dr. Wicht, of the Cape Town Fever Hospital) were also present, and were welcomed by the President. Nominations of officers and Council of the Group for the session 1933-34 having been received, the following were elected:—

President.—Dr. H. S. Banks.

Vice-Presidents.—Drs. E. W. Goodall, Sage Sutherland, E. H. R. Harries, and F. H. Thomson.

Hon. Secretary, Editor, and Member of the Council of the Society.—Dr. A. Joe.

Members of the Council.—Drs. Topping, Gunn, Cubley, Anderson, Egerton Williams, MacGarrity, Swyer, Blake, Reid, and Maule Horne.

Representative of Group on Council of Metropolitan Branch of the Society.—Dr. E. H. R. Harries.

Dr. Benn, of Birmingham City Hospitals, delivered a paper on "**Circulatory Failure in Diphtheria.**" He had investigated this condition chiefly from the standpoint of carbohydrate metabolism and its correction by the administration of glucose and insulin. An interesting discussion followed, every speaker congratulating Dr. Benn on his work. The latter, having replied to various points arising in the course of the discussion, was accorded a hearty vote of thanks on the motion of the President.

THE COUNTY DISTRICT GROUP.

President: Dr. G. H. Dupont, M.O.H., Twickenham.
Hon. Secretary: Dr. C. E. E. Herington, M.O.H., Erith.

The annual meeting of this Group was held at Blackpool, on June 21st, 1933, the President occupying the chair. Twenty-one members were present.

The following officers were elected for the session 1933-34:—

Dr. JOHN A. FERRELL has been made President, and Dr. Haven Emerson President-elect, of the American Public Health Association.

Mr. P. STOCKS, M.D., D.P.H., has been appointed as Medical Statistical Officer in the General Register Office.

Dr. ARCHIBALD FERGUSON, Tuberculosis Officer for Stepney, has been promoted to be Medical Officer of Health for that borough on the retirement of Dr. Julia M. Browne.

In the University of London the title of Professor of Medical Entomology has been conferred on Dr. P. A. Buxton, of the London School of Hygiene and Tropical Medicine.

The University of Edinburgh have conferred the degree of LL.D. *honoris causa* on Sir Alexander Houston in recognition of his distinguished research work in connection with London water supplies.

President.—Dr. F. C. Linton.

Vice-President.—Dr. A. F. Adamson.

Hon. Secretary; Representative on the Council of the Society, and on the Metropolitan Branch Council.—Dr. C. Herington.

Executive Committee.—Drs. Dupont, Brocklehurst, Buchan (G. F.), McDonald (J. F.), Tapper, Stirling, Caryl Thomas and Nash.

The following were elected as Hon. Secretaries of the Sub-Groups:—

East Midland.—Dr. Barker, Ilkeston.

Midland.—Dr. Horsburgh, Nuneaton.

Northern.—Dr. McGonigle, Stockton-on-Tees.

North-Western (West Lancs.).—Dr. Marsden, West. Lancs.

Welsh.—Dr. Pritchard, Aberdare.

West of England.—(Referred to Branch).

Yorkshire.—(Referred to Branch).

Eastern.—(Referred to Branch).

It was proposed by Dr. Stirling that at the next annual general meeting a paper should be read to the Group. This was carried, and Dr. Stirling kindly undertook to prepare a paper for the annual meeting in 1934.

The proceedings terminated with a hearty vote of thanks to the Chairman.

Mr. STANLEY H. BADOCK, LL.D., J.P., Pro-Chancellor and Treasurer of the University of Bristol, has accepted the office of President of the next Congress of the Royal Sanitary Institute, which is to be held at Bristol, from July 9th to 14th, 1934.

THE London School of Hygiene and Tropical Medicine (University of London) announces that courses of study will open at the School on Monday, October 2nd, 1933, in connection with the Diploma in Tropical Medicine and Hygiene (Eng.); the Diploma in Bacteriology (University of London); and the Diploma in Public Health (University of London). Other special (advanced) courses are arranged. In the Public Health course one place will be allotted, without fees, after open competition, in September, the successful candidate being awarded the Fishmongers' Company Studentship. All enquiries should be addressed to the Secretary, London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, London, W.C.1.

The Literature of Preventive Medicine.

Medical Entomology. By ROBERT MATHESON, PH.D., Professor of Entomology, New York State College of Agriculture, Cornell University. London: Baillière, Tindall and Cox, 1933. pp. 489. Price 23s.

The author of this book, though not himself medically qualified, has set out to provide a text-book for physicians, entomologists, public health workers and students, as well as laymen, showing the relationship of anthrropods to human diseases. He has done his work well, and has succeeded in producing a most attractive volume, interesting to read, accurate and well informed. The matter is well arranged and illustrated, and there is a good and up-to-date bibliography. Not being medical, Dr. Matheson has avoided discussions on questions relating to treatment, but in regard to prevention the detail given is very clear and full. The book is certain to be liked and found useful by those for whom it is intended.

An Introduction to the Computation of Statistics.

By SHEPHERD DAWSON, M.A., D.SC. University of London Press, Ltd., 1933. pp. 192; 42 diagrams. Price 10s. 6d. net.

In the biological sciences, where it is not so easy as in the physical sciences to vary the conditions under which experiments are made, the evaluation of the sum-total of the observations becomes a matter of considerable importance, and the variations have often to be regarded as properties of the material under investigation. Hence the importance of a knowledge of statistical methods, which are, in fact, just methods of extracting the meaning from a set of measurements, and indicating the probability of the correctness of the inferences that have been drawn from them.

In this book, Dr. Dawson aims at setting out briefly the actual processes of computing the more useful statistics, and in order to assist the student in obtaining a fuller understanding of the methods described, he has added a list of exercises to each chapter. There is a good bibliography and a number of suggestions as to books to read which should be found helpful.

Modern Birth Control Methods. By GEORGE RYLEY SCOTT, F.P.H.S. (ENG.), F.Z.S., Fellow of the Royal Anthropological Institute. London: John Bale, Sons and Danielsson, Ltd., 1933. pp. 209. Price 7s. 6d. net.

Birth control is one of those subjects upon which members of the medical profession appear to be unwilling to speak or write. Fortunately, there are plenty of non-medicals ready to step into the breach, so that market street corners of a Saturday are never without their attractions and bookshelves need never be bare.

The author of this volume appears to be without medical qualification, though it must be confessed that he does not seem to feel the want of it. The object of his book, for which he claims there is a definite need, is to review calmly and without prejudice the known methods of avoiding conception, to present the whole contraceptive armamentarium in cold array, to set out the advantages and disadvantages of each method, and to leave to the individual the final selection of the one most applicable to her or his taste and circumstances.

In the appendices he provides a list of places at which birth control appliances may be obtained, and he offers also an amount of interesting information on methods of facilitating conception.

Sir Arbuthnot Lane contributes a foreword.

Behind the Cancer Scourge. By PERCIVAL G. MASTERS, M.A. (CANTAB.). London: Lincoln Williams, 1933. pp. 126. Price 2s. 6d. net.

"Statistics show," says the author of this book, "that cancer incidence varies according to the type of feeding; cancer becomes less with less sophisticated feeding, and finally nil when we get to natural food." These things he attempts to demonstrate, and at the same time advocates the common-sense in cookery which leads away from cancer according to all known physiological and pathological facts.

Sir Arbuthnot Lane provides a foreword.

In the Annual Reports.

VACCINATION.—Present-day experience shows that the most urgent need for vaccination and re-vaccination occurs when a smallpox case arises. Then, vigorous insistence on vaccination and the highest standard of efficiency in following up contacts will usually limit the outbreak, and in our experience it is limited in direct ratio to efficient control by the public health staff and the response of the population to measures of control. At such a time a higher standard of efficiency would be attained if the vaccination staff were actually within the public health department working directly under the medical officer of health. This staff could, with far greater usefulness, be also employed in preventing other more dangerous diseases.—*Dr. T. Peirson, Plymouth.*

PASTEURISATION AND THE TUBERCLE BACILLUS.—No milk is sold in the town as pasteurised. This is, perhaps, not a great loss, as it is doubtful whether any process of pasteurisation so far suggested for milk will kill the tubercle bacillus. The official standard for pasteurised milk does not forbid the presence of *b. coli*, which is more easily killed by heat than the tubercle bacillus, and *b. coli* is, in fact, often found in pasteurised milk; this alone seems conclusive. The other serious objection to pasteurisation is that, under commercial conditions, it is difficult, if not impossible, to carry out the process, to the official standard, with accuracy. So much is this realised that when a bacteriologist finds tubercle in a pasteurised milk the official explanation always is that the process must have broken down. The objections as to vitamins, food value, cream line, etc., are unimportant compared to the above, and can all be answered more or less satisfactorily. Curiously enough, the supporters of pasteurisation dwell on these latter points, but are far from ready to discuss the former. The best way for the housewife to make sure that her milk is safe from the risk of tubercle is for her to boil it as recommended by Dr. Ernest Ward. If she is able to obtain Grade A (T.T.) let her use it fresh and unboiled; the risk is negligible.—*Dr. J. T. Macnab, Stafford.*

MALNUTRITION.—We are able to state that, as yet, there is little evidence that malnutrition exists to any extent. We have examined many school children referred to us who looked thin and pale—they were in most instances children who were convalescent from an attack of the prevailing epidemic diseases, mumps and influenza, but these children rarely showed evidence of malnutrition. Some came from bad stock whose basic constitution was poor, and who present a greater social problem than that of underfeeding. There were others who looked delicate and who were described as being like "hot-house plants," children with poor appetites, poorly nourished bodies, and a highly strung sensitive nervous system. These latter are the children of over-anxious parents who tend to fuss and coddle them too much. They are, as a rule, subject to no restraint, and are improperly fed, being given too much carbohydrate in the form of sugars, pastries, or bon-bons, too much soft food and insufficient protein. They are, if anything, over-clothed and are seldom allowed to have a bedroom to

themselves, and rarely allowed to have the bedroom window open at night. One striking case was that of a boy of twelve years who shared the same bed (he would not sleep by himself) as an elderly female relative with whom he lived, and who was quickly turning him into an introspective neurotic wreck. This type of child suffers as much from improper handling as from improper feeding, and only when a more normal attitude on the part of the parents is secured will these children have the opportunity to grow up as healthy, normal and sane individuals. The problem to-day is no new one; it is one, not so much of insufficient food but rather of improper food. Bread, tinned foods, condensed or sterilised milk bulk too largely in the dietary of many households. It is not that the facilities for obtaining and cooking the right food are always absent; very often it is lack of knowledge, prejudice and an unwillingness to change that are the barriers.—*Dr. James A. M. Clark, Walsall.*

MILK IN CARTONS.—The council during the year considered the question of the registration of a large number of grocers and general retailers (including a butcher) as retail purveyors of milk, who applied for registration for the sale of undesignated milk in sealed cartons. The legal position is that registration is registration of the person purveying the milk and not of the premises, and that the regulation regarding premises on which or from which milk is retailed does not apply to premises on which milk is sold in sealed containers in the same condition in which it was received from the wholesalers. This raised the question as to whether a council could refuse registration owing to unsuitable premises, because there were no regulations of the Ministry governing premises for the sale of milk in sealed receptacles. The only clause in which it would appear possible to act under is Section 32 of the Milk and Dairies Order, 1926, which states that all persons engaged in the conveyance or distribution of milk must take all reasonable means to protect the milk from excessive heat and dirt, etc. It was on this clause that the Ilford Council considered that cold storage was a reasonable condition that could be made before registration could be granted. The applicants, however, disputed whether this was, in fact, a condition precedent to granting registration. The only other reason for which a Council could refuse registration of a purveyor of milk is because, by some act or default, he is likely to endanger public health, and the applicants disputed whether the failure to provide cold storage could be construed as such a default. In view of this, the chairman of the public health committee, the town clerk and myself interviewed the Ministry of Health, and following the interview we received a letter stating: "The Minister, has, however, no power to make regulations specifying the nature of the acts or defaults rendering a purveyor of milk liable under Section 2 of the Milk and Dairies (Amendment) Act, 1922, to refusal or revocation of registration. The matter has been noted, but it does not appear to the Minister that he would be justified in making any general requirement for the provision of cold storage." In view of the decision of the Minister, the council decided to register these purveyors of milk.—*Dr. A. H. G. Burton, Ilford.*

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Editorial.

Ministry of Health Report, 1932-33.

DEALING as usual with public health, housing and town planning, local government, and local finance, administration of the Poor Law, national health insurance and contributory pensions, and devoting a special section to the Welsh Board of Health, a prefatory note to legislation and appendices to special notes and tabular statements, the Ministry of Health report for 1932, the fourteenth of the series, seems to be rather more voluminous than some of its predecessors. This is probably because the year saw a great deal of important business done, and questions relating to housing call for, and have received, special mention. That speed in relation to the clearance of slums is required is stressed, and by way of encouragement, it is noted that at the end of the year,

84 out of 121 schemes had been either wholly completed or definitely brought to a standstill in an incomplete state by reason of the decisions in the courts. In relation to new houses, it is stated that the number completed in the year 1932-33 was 200,496. The average cost of all non-parlour houses during the year under review, it is interesting to record, was £301, as compared with £332 in the previous year, while on the matter of finance, it may be mentioned that the amount of Exchequer grant contributions paid in respect of housing during the year ended March 31st, 1933, was £13,349,758. This brings the total expenditure on subsidised housing since 1919 to approximately £651,000,000, a sum rather larger, it may be supposed, than has been expended by any other nation on such provision. In the section on public health, under the heading "General Health Questions," there is reference to the progress made in

*Cmd. 4372. H.M. Stationery Office. Price 5s. net.

connection with the British Post-Graduate Hospital and Medical School, the appointment of Sir Austen Chamberlain as Governor of the School and Chairman of the governing body. Discussion of sanitary administration occupies a considerable amount of space, the reasons against distributing water throughout the country in a network of mains from which water could be drawn at any point being set out in full, and public cleansing receiving rather more than its usual considerable amount of reference, stress being laid on the tremendous and wonderful advantages to be derived from "costing." So far as more medical matters are concerned, there is much valuable information given in regard to the work done in connection with various of the schemes devised for the prevention and control of particular diseases. Under the tuberculosis schemes of local authorities, it is recorded that at December 31st, 1932, the number of tuberculosis dispensaries approved by the Minister was 462, and there were in all 21,275 beds available for the treatment of cases. Discussing methods of treatment of the condition, reference is made to that of M. Spahlinger, and to the fact that the Ministry of Agriculture and Fisheries has under consideration arrangements for an experimental trial of the bovine vaccine on animals. Analysing various returns from local authorities, the report reveals amongst other matters that the number of cases, pulmonary and non-pulmonary, notified during the year was 62,078, the deaths due to the pulmonary form being 27,627, and from the non-pulmonary 6,031. The corresponding mortality figures in 1921 were 33,505 and 9,173. In regard to venereal disease, comparison is made between 1932 and 1920 to show that there has been a reduction of 48.03 per cent. in the cases of syphilis, and of 24.89 per cent. in the total cases of venereal disease. The number of approved treatment centres open on April 1st, 1933, was 177, as compared with 178 at the corresponding date in 1932. When the report of Sir George Newman, as Chief Medical Officer, appears later, opportunity will be taken to discuss such matters as the prevalence of infectious disease, maternity and child welfare, etc. In the meantime, there may be mentioned as noteworthy features in the case of the infectious diseases, a continued high incidence of mortality from cerebro-spinal fever (2,136 cases and 1,213 deaths), a further reduction

in the number of cases of and deaths from diphtheria, a large increase in the incidence of and mortality from acute poliomyelitis and acute poliomyelitis, and a continued decline in the incidence of smallpox. Reference is made to the Derby Dale and Malton outbreaks of enteric fever, and to the fact that several cases of leprosy came to the notice of the Ministry during the year, and necessitated the issue of reassuring statements to certain perturbed authorities, who came forward with the invariable demand for compulsory notification. As to vaccination, it is shown that in 1931, 631,093 births were registered, and that 246,088 of the children, or 39.0 per cent. were successfully vaccinated. It is also stated that the majority of authorities appear to be in favour of the replacement of the compulsory provisions of the Vaccination Acts by "provisions for the free vaccination, with government lymph and under the control of the local authorities, of persons presenting themselves or of children presented by their parents for vaccination or re-vaccination." The replies of representative bodies (amongst them presumably the British Medical Association, which objects to the abandonment of the compulsory provisions) are now under consideration. An interesting note on the Port Sanitary Regulations, 1933, is included in this section also. Substantial developments in connection with maternity and child welfare services are noted, the number of local authorities carrying out schemes being 388 at April, 1933. The maternal mortality rate for 1932 is put at 4.06 per 1,000 live births, and anxiety is again expressed because of the maintenance of the rate at approximately the same level over a number of years. The number of candidates for the certificate of the Central Midwives Board continues to increase. Grants amounting to £22,810 were paid during the year ended March 31st, 1933, to training institutions in respect of 805 pupils. The infantile mortality rate was 64.6 in 1932. With regard to variations year by year in the rate, it is claimed that these "tend to reflect less the direct influence of maternity and child welfare work than the influence of climatic and related factors." In spite of the economic difficulties it is interesting to note that the number of health visitors employed by local authorities has increased to 2,708 from 2,680 in 1931. Of visits paid by these officers, 4,088,100 were to children between the ages of one and five. Amongst information with

regard to training and examination for the health visitor's certificate mention is made of the fact that the certificate issued by the Royal Sanitary Association for Scotland, under certain circumstances, is accepted as a qualification for appointment in England and Wales. As regards other officers, it is noted that 65 new appointments of medical officers of health and 148 of sanitary inspectors were made. The total of the former is now 1,165, of whom 396 are full time. Throughout the volume, in various of the sections, there is very much that calls for mention, more particularly in that relating to inspection and supervision of food and national health insurance. In connection with the former, it may be sufficient to note that the numbers of licences for graded milks of all classes were somewhat larger at March 31st, 1933, than in either of the two previous years. "In several instances," according to the report, "there appeared to be a failure on the part of the practising veterinary surgeon to appreciate the criteria of the (tuberculin) test," the scrutiny of reports received in respect of herds licensed for the production of certified and Grade A (Tuberculin Tested) milk having raised doubts as to whether the results have been correctly interpreted. The necessity for condemnation of carcasses on account of caseous lymphadenitis continues to diminish, but it is considered wise to maintain the arrangements whereby imported severed pieces of mutton and lambs are subjected to a 100 per cent. examination. For purposes of analysis, the number of samples of food and drugs taken was considerably in excess of that for the previous year, reaching 137,810. Of these, 7,019, or 5.1 per cent., were reported against. The percentage in the two previous years was 4.6 and 4.8 respectively. Commenting upon the practice adopted by certain authorities and blessed by the Committee on Local Expenditure of leaving the examination of milk samples, except in special cases, to sampling officers, the report emphasises the fact that the adoption of the practice involves the risk that some of the less common forms of adulteration may escape detection. The number of infringements of the Public Health (Preservatives in Food) Regulations, 1925-27 reported was 549, a decrease of twelve as compared with the previous year. The milk samples analysed numbered 72,940. The number returned as adulterated was 5,307, or 7.3 per cent., as against 6.6 per cent. and 6.4 per cent. in 1930

and 1931. A fine of £50 was imposed on the vendor in a case in which twelve samples were found to contain added water, ranging in amount from 17.8 per cent. to 24.6 per cent. Some of the most interesting adulterations were discovered in the case of miscellaneous articles, "Honey and Butter Rock" revealing itself as devoid of honey, and wine of "Port Type" consisting of water, sugar, tartaric acid and colouring matter. In respect of the medical benefit, it may be mentioned that the number of insured persons entitled to this was approximately 15,100,000. The cost of medical benefit was something over £8,443,000, of which the insurance doctors received some £6,055,000. The report, which claims to deal not with routine matters, but only with the more important business transacted by the Ministry, constitutes a wonderful record that deserves and undoubtedly will receive full and careful study in many quarters and many countries beyond the borders of the area to which it relates.

Healthy London School Children.

OF the several reports for which Sir Frederick Menzies is responsible as County Medical Officer of Health for London, none can have afforded him greater gratification than that made in his capacity as school medical officer. As a result of the full investigations made, he is able to announce that the general improvement which had taken place in the past 25 years during which medical inspection has been in operation, has continued, and new records have been achieved. Though a curious increase in scabies is noted, personal hygiene in particular, it is claimed, has made noteworthy advance and the nutritional state of the child while in attendance at school, in spite of economic conditions, was shown to have been maintained. Nowhere, in fact, was there sign of falling off. Although minor conditions of departure from health remain common, yet the grosser manifestations of disease, it is revealed, are becoming more and more rare. The progress during school life is towards healthier conditions. It is particularly noteworthy and interesting that in London the "leaver" child is the healthiest of all the groups, both in boys and girls, save for a failure to maintain dental improvement, and the continued slight increase of spinal curvature in the older girls,

possibly because at the end of elementary school life they are growing faster than the boys. The work of the school medical service, in the words of Sir Frederick Menzies, may be regarded with satisfaction, but not with complacency. The mountain of physical defect, which the young organisation faced at the beginning of the present century, has been attacked with success, and the physical condition of the school children is very greatly improved even beyond expectation. Naturally, of course, as elsewhere, there is still much to be done. In common with others, Sir Frederick believes that, in spite of economic conditions, the children on the whole, have not been allowed to suffer; as a matter of fact, he adds, "had it not been for the heavy additional burdens imposed by the war and the succeeding economic crisis, progress would have been more rapid, and the condition of the children at the present time would have been nearer that ideal state which it is the ambition and aim of the school medical service to achieve." The hope he expresses will be shared that it will not be found necessary to curtail in any essential feature this fundamental work, the aim of which is to secure such a foundation of health for the industrial population on leaving school as will stand the nation in good stead in the long struggle that lies ahead in the economic sphere. Also there will be shared the regret expressed that fewer special reports than usual, for reasons of economy, are included in the volume. Of those included, that on special classes for myopes, which are shown to have done excellent work, may be noted. In the general body of the report the details given with regard to the operation of the scheme for the control of rheumatism show that unabated progress continues to be made. Although the prevalence of diphtheria has been diminishing during the last two years, the scheme for immunisation against diphtheria, in residential schools particularly, was considerably extended. In schools of this class also the effects of changes in dietary made in the early part of the year were very closely observed, and reports show that both superintendents and medical officers are favourably impressed. Cases of enuresis, a condition which proves a serious source of trouble in such establishments, it is noted, have been treated with ephedrine hydrochloride with "encouraging results" in certain of the schools under the control of the council. Not unnaturally where

a school population so large and so varied as that dealt with in the metropolis is involved an enormous amount of vastly interesting material becomes available for discussion and reference by the person concerned in constructing the report. This of Sir Frederick Menzies is particularly noteworthy in this regard, the care and judgment shown in the analysis and selection of information provided, revealing the extensiveness of the medical work done in the schools and providing explanation of the excellence of the results obtained in this part of the wide field covered by the health department of the London County Council.

"Damaged Lives."

THE new sound film, bearing this title, is perhaps the most ambitious attempt yet made to present a lesson on the avoidance of disease, in this case venereal disease, through the commercial cinema to the general cinema-going public. Inspired by the Canadian Social Hygiene Council, it has been produced with a Hollywood "cast," and with the technical resources of Hollywood, and the result is a fast-moving dramatic film which should grip the attention of audiences on its own merits. The story is of a young married couple who, through one lapse by the man, suffer some of the consequences, mainly psychological in this instance, of venereal infection; but the clinic section of the film introduces some glimpses of the advanced physical results of neglect. At the close of the film story, Sir Basil Blackett, President of the British Social Hygiene Council, who are sponsoring the film in this country, and Dr. Gordon Bates, Director-General of the Canadian Council, speak from the screen on the medical aspects, the latter illustrating his lecture by diagrams.

The film is being first shown at the Coliseum, London, to separate adult audiences of men and women (with mixed showings for married couples at the week-ends). It has already been approved by the London, Middlesex and Surrey County Councils' Joint Committee for adult exhibition, and has gained the approval of medical authorities in Canada and this country.

Speaking in introduction of "Damaged Lives," Sir Basil Blackett stressed the purely economic aspects of the problem involved, and urged that a larger proportion of expenditure should be devoted to prevention,

especially by means of health education. This film is certainly an excellent demonstration of the influence to be wielded on public opinion by visual education.

The Intradermal Tuberculin Test.

THOSE who have observed tuberculosis abroad, as well as those interested in the progress of the work in this country, have had the impression for some time that the Mantoux intradermal diagnostic test should be used more widely in tuberculosis dispensaries and sanatoria. It is welcome news, therefore, that the Joint Tuberculosis Council is turning attention to the matter, and published elsewhere in this issue is an article by Professor Lyle Cummins based on a memorandum prepared by him at the request of the Joint Council.

In applying this test, the first difficulty is to secure properly standardised tuberculin, and the next is that it must be used within fourteen days of preparation, the expense of which makes those in charge hesitate to apply it where the number of patients is small.

A positive reaction under one year is a definite indication of disease, and under three also if suggestive symptoms are present; but in later life, when positive results in good health are common, a negative may still be most helpful.

Apart from its application in individual medicine the test has been extremely useful in epidemiological enquiries, and was tried out to an extent that few tests have attained when in Africa some 100,000 native mine workers and controls were tested.

There seems little doubt that Mantoux testing should be the routine in all large institutions, and it has been already adopted by some progressive authorities.

Obituary.

ARTHUR W. J. MACFADDEN, C.B., M.B., C.M. (EDIN.), D.P.H. (CAMB.).

THE Society of Medical Officers of Health records with great regret the death of Dr. MacFadden, formerly Senior Medical Officer, Ministry of Health, which occurred on August 16th, at his home in Hampstead.

Born in 1869, he was educated at Lurgan College, North Ireland, and graduated in medicine at the University of Edinburgh in 1893. After a period in general practice, he

served as a civil surgeon in the South African War for nearly two years. In 1903, he was appointed Medical Officer of Health for Edmonton, having previously acted as Assistant Medical Officer at Brighton. In 1906 he joined the Local Government Board as Inspector of Foods, and some few years later was promoted to be Chief Inspector of Foods, in which capacity he undertook, on behalf of the War Office, the supervision of the whole of the food supplies required for the Army. For his outstanding services in this connection, he was created a C.B.

After the War, on the formation of the Ministry of Health, Dr. MacFadden was appointed Senior Medical Officer in charge of the Food Department, and it was under his guidance that most of the modern legislation dealing with the hygienic control of milk and the purity of food came into effect. A hard and conscientious worker, he readily accepted co-operation from every quarter, and established cordial relations, not only with members of the Public Health Service, but with the bodies representing the great food-producing industries. With his colleagues he worked in perfect harmony, and his loss will long be deplored by them, and by a wide circle of friends within the Society of Medical Officers of Health, of which he was a Fellow.

Dr. MacFadden married, in 1905, Alice Bristow, daughter of the late Venerable John Spence, D.D., Archdeacon of Connor, and had four sons and two daughters.

ARTHUR HAWLEY, M.B., B.CH.(BIRM.)

The sudden and unexpected death, on August 23rd, of Dr. A. Hawley, of Coventry, is also recorded with regret. He had been the part-time Venereal Diseases Officer of that City in connection with the Coventry and Warwickshire Hospital since 1917; of that Hospital he was an Honorary Consulting Surgeon. He was also Police Surgeon to the City. As a Fellow of the Society of Medical Officers of Health he had been a regular attendant at its various functions for some years past. At one time a member of the Coventry City Council, he identified himself with many local organisations and interests, and his death is mourned not only by his colleagues in the medical profession, but by numerous friends engaged in the public life of the City.

War in the Family.

By MARGARET EMSLIE, M.B., CH.B. ABERD.

Presidential addresses to the Maternity and Child Welfare Group usually carry striking titles, and using the words "There is no truce in that war" as her text, Dr. Emslie makes out of it not only her title, but an opportunity of a discussion of the very difficult problem of the "toddler" in the family as in the maternity and child welfare scheme.

I HAD intended saying something very briefly about toddlers' examinations and, in particular, the slightly different adjustment that is required to tackle the toddler's consultation as compared with the infant's, because of its new and weightier psychological bias, when someone unwittingly presented me with a text. "This text," said he, "is the text I have chosen for a not-to-be-repeated occasion when I shall have the opportunity of addressing a multitude through my brother's voice and of saying exactly what I think. The text of all those I can think of that inspires me most is this: 'There is no truce in that war.' " To him it was a high-sounding phrase full of opportunities for fine interpretation and exposition. To me it came as a sudden edict that summed up all that I should have liked to say—in repetition, not in original demonstration alas—of the peculiar position of the toddler in our midst. But phrases of such surpassing quality and authority are apt to stick, and I started to play with it as a phrase and with the thoughts it engendered. And out of this grew a much bigger picture of struggle, of sterner, unrelenting struggle, that seemed to me to want clearer definition for us, and to permeate almost the whole of our work in maternity and child welfare. So, toying with a phrase and finding it reveal unexpected truth, one arrived at a conception that embraced, indeed, all of one's original idea—War in the Family, somewhat in the Adlerian strain—but that had in it much deeper and graver issues for us as maternity and child welfare workers. It would seem as if the onus were on us because we are nearer to reality—to the heart of things—placed so by circumstance—than some of our fellow workers. And so I make no apology for a somewhat wide (if necessarily fragmentary) consideration of what I take to be the trend of maternity and child-welfare work in the social fabric to-day.

You will gather that I am not altogether enamoured of my picture. There may be something to be said for strife. Some would

have it that life is apt to flow in a meaner channel without it—without the struggle imposed by difficult, external conditions, the intensity derived from the restlessness and dissatisfactions of man himself. They would say that for those to whom life presents fewer problems—of position, finance, health or emotional reactivity—both the arduous and the achievement are apt to be less. That may be so for persons, even small children. But it is not a valid argument when applied to a service—intended for the people, paid for by the people, expressly destined, if well-devised and administered, to relieve the people of some of their burdens—or to individuals within such a service, bound by its limitations, tied by its rules, but not shut off from the prickings of their own conscience and intelligence that may quarrel with some of the actions (or inaction) imposed on them. It is then that conflict may become wasteful and unprofitable and that it may strike aspects that are actually destructive and mean. To arrive at a conception of what one is doing, one has to try and see the whole picture and pick out what is of consequence and what may win through.

The idea of war, then, in our work, and of a moving battle, strikes me on all hands. The theme is large and one cannot approach it save tentatively, and very uncertainly, in one or two directions and on one or two planes. But it is because I think that some—I will not say many—of us take part in it desultorily and blindly, sometimes disconsolately, not knowing how the tide of battle floweth, hitting only what is near, not thinking beyond the next hill-top, maintaining no proper liaison with the forces alongside; in general, attempting no ultimate responsibility for the work we are doing, because they, *i.e.*, we, are doing our duty "as God gave it us to do," and as the high lights on infantile mortality thirty years ago defined it—it is because of some of these things, in which I am aware that one is swamped like the rest and that we are very much limited in our powers, that I would like to infuse some consciousness of upheaval and

battle into our midst; some ambition to see the new peaks that may be thrusting through from the chaos, to which we may aspire in future, and some deeper sense of responsibility for the task we have in hand. I can only ask you to forgive these reflections by a survey of actual facts relating to the work as at present conceived and carried on.

We call our work maternity and child welfare. In it we claim to look after the mother and the child up to school age. In doing so, we cannot divorce ourselves from our duty to the mother—to take one aspect—ante-natally, intra-natally and post-natally, *i.e.*, in respect of her own physical health; her health as the mother of the infant, dependent on her directly or indirectly as the provider of mental and physical needs; her situation as the mother also of the toddler, at another stage and in another plane of existence, with different, but real, mental and physical needs, focussed largely still on the mother and on her powers to satisfy them; then as the mother of the school child—more developed and less pressing as a home problem, but requiring to be fed, clad, produced and kept clean to order; the mother as the cook, bottle-washer, and home needlewoman; the mother as the dispenser of the family means, requiring to dispose each penny profitably; the mother as the wife, required to sustain the breadwinner and see that he suffers no loss, by comparison, from lack of wifely care; the mother as the fertile life-giver, potent with her fruitfulness, and curbed often by her feeling of dangerous fruitfulness; the mother with her own inner life, her ego existence that goes on whether we care for it or not, that requires to be fed and sustained by thought, leisure, affection and reflection to enable her to continue her beneficent duty towards her family and her dependent circle. That is the mother we think of, and we cannot divide her up, dispose of her, command or cosset her in one direction and think that we can leave her *in statu quo* in another. Think now, if, in some demands made on the mother on our behalf in the name of obstetrics, the infant, the school child, "feeding the family," attending to special treatments, living a "pure" life under impossible housing conditions, we have not sometimes been seeing things upside down, aggravating a difficult and exacting position, misleading the ignorant and unwary, exposing ignorance in ourselves, asking the impossible, nullifying our own sometimes intelligent

efforts, and omitting to do what would be really helpful and constructive in the whole life that the mother has to work out for herself, in relation to her husband and her children, with or without, not by virtue of, the kind offices we are empowered to bestow.

The quarrel between our ideas and our loyalties is already obvious. Consider what we have to allow:—

1. The claims of the mother, not always in material matters such as milk and food supplies, reconcilable with the proper needs of her children.

2. The claims of her children materially, not confined to suitable nourishment. Some of them—such as clothes and shoes—very expensive.

3. The claims that her children, in their different stages of development and in the mental plane, make upon her, and the insistence we must place on these claims and the time it takes for us to give due attention to them in consultation.

4. The amount of pressure we can bring to bear upon her to work harder, cook better, spend more economically, and learn more about health and hygiene.

5. The value we must place on her fertility and on her capacities as a mother (*i.e.*, her quality as a national asset) as compared with her family's economic prospects and the claims she may make on the national services.

6. Her own value and solvency as a physical and economic unit *versus* her claims to a selfish individual life—*e.g.*, in the right to indulge in more children or the avoidance of functions which she could well fulfil—all matters which enter into questions of maternity and child welfare.

Consider these juxtaposed to:—

7. The future we can see for her, and save for her, even in the matter of health, at the end of all these tasks.

8. Our duty, as servants of the public, to see that we do our work with zeal, utilise the public services advantageously (including ourselves), and spend not one penny that can be saved, or spent more profitably, in humane grants or generous allowances to those whom no amount of medical skill and material help or special education will save from causing further drains on the community; that is, prevent the spending of public money in directions in which the help given is not productive or conservative. One has only to mention this matter to summon up pictures of

cases in which extravagant help has been given without, I am afraid, any corresponding results to weigh against the time, trouble and expense it has cost. Live crocks are not necessarily happy or creative creatures.

9. Our duty as members of a special medical service, accepted by highest authority as the crux of preventive medicine, the focus on which energies shall be first (most economically and effectively) directed, with widening reactions on all branches of education and treatment, and as such to the community, that we should lead as to the relative values to be placed on different procedures, the proved or unproved benefits of certain provisions, the wastefulness of others, the needs that have become thrown up, as it were, in the interaction of certain factors and that must be made room for in future plannings; the time that is required on the large scale for certain advantages to accrue from our work, and on the small scale for us to get down to our work and carry it out without leaving it half done, the greater part unsaid; providing, in fact, purely a superficial structure of defence. Of instances in which I personally believe we work aimlessly, fruitlessly and expensively through failure to direct the public, it would be easy to give details. Think only for the moment of the overcrowding prevailing at certain centres, the scrappy advice, the non-existent supervision, the pride almost with which certain people point to the pressure at which they work. A number of years' experience of marking medical case records for the national mothercraft competitions has sufficed to convince me of what this means. Or, alternatively, of the lack of co-ordination that allows such differing standards.

10. Our duty to our own profession, and in particular to our colleagues of the public health service, to make known what has become apparent to us through our wide and intimate contact with the family, to use and dissect our clinical material, to point out the real nature of our social problems and the stumbling blocks that stand in the way of further advance; to insist on the claims of individuals, or rather of the individual, in the morass of social legislation that at present seems to engulf us and him; to state the case for a more just distribution of the resources to which we have access, and on which we can call; and, finally, to state our own claims for further opportunities and recognition of this specialist branch of

clinical medicine on which so much dovetails and depends.

Such, it appears to me, is the situation, elaborated a little in regard to the mother, that occurs in each case with which we are brought into contact in our centres, and in which we are called on to give advice. I would like to emphasise that this interplay of one claim with another, one reaction *versus* another, subjective and objective, and the difficulties of doing real justice, must necessarily enter into *all* our considerations—to include children and parents—unless we are prepared to deal with statistics and with theory only, and not to treat with real people. The difficulties may appear so great as not to be surmountable or, alternatively, to be universal (in social work), but that we evade them and add to them in some respects in our child welfare efforts, I will endeavour to point out, or at least strive to show some problems that require solution. This will be done, not so much in regard to the mother, on whom the public gaze is now more or less set, but the child who, so far, has not been touched by the infant welfare service—or practically not so—and whose needs are far more extensive, not less urgent, and require much more in the way of organisation than those of the infant. I mean the toddler of whom I have already spoken, aged from one or two years to five years, according to how you look at him; and before embarking on any generalisations as to his needs, may I first quote some figures as to how they are at the present moment covered by the infant welfare service. These are certain statistics taken from various typical localities in the country—some urban and some rural, of which records happen to be available to me at the moment:—

Birmingham (Annual Report of the Medical Officer of Health, 1931). A city looked on as one of the most outstanding areas in this country in the development of its maternity and child welfare services. The total attendances of children under one year (during 1931) at infant welfare centres in Birmingham was 106,013. The total attendances of children of from one to five years was 66,006. Therefore the children under one year almost doubled in their total attendances the children in the four years from one to five. The city, however, possesses a scheme for special medical inspection of toddlers at stated intervals, and the total number

of inspections last year was 5,584. Now that works out at 12 per cent. of all the children in Birmingham aged from one to five years, judging roughly from the total births for the same period. Twelve per cent. of these children have received special inspections under this scheme in a highly organised borough like Birmingham under the ægis of the welfare centres. Sixty-eight per cent. of the new births attend the centres. Observe the difference.

Glasgow (Annual Report, 1931). The total number of children under one year attending infant welfare centres in Glasgow (during 1931) was 9,455. The total number of children of from one to five years attending in 1931 was 2,653. That is to say, three and a half times as many children attended under one year as from the whole age-period one to five years, although there are practically as many children in each year from one to five years as there are under one year. The total births in Glasgow in the four years up to 1930 amounted to 90,000. Out of that total, 2,653 surviving toddlers attended—less than 3 per cent. of the total births, compared with Birmingham's 12 per cent.

Liverpool (1928 Report). The total notifications of births from 1924 to 1927 amounted to 78,793. The total number of children attending welfare centres in 1928 from the ages of one to five years was 737. That is less than 1 per cent.

Edinburgh (1931 Report). In Edinburgh, where Dr. Finlay has a scheme dividing his maternity and child welfare work into preventive and curative clinics, the total number of children attending preventive clinics in 1931 under one year of age was 2,037. The total number of children attending these clinics from the ages of one to five years inclusive was 774—that is, one-third of the previous number for the first year. In Edinburgh, the total notifications of births from 1927 to 1930 was 29,652, of whom 774 children attended infant welfare centres—that is to say, 2½ per cent.

Now these are cities where the infant welfare services are highly organised; where there are no great distances to cover; where the health visiting service is adequate—and yet as compared with 56 per cent. of all the babies born in this country that go to infant welfare centres at least once in their first year of life (*cf.* Sir George Newman's Report, 1931), only 2 to

3 per cent. of the whole are found to go between the ages of one to five years.

Now take **Lancashire** (Annual Report, 1931). The total attendances of children in the county up to *two* years of age in that year was 12,645. The total attendances from two to five years was 4,366. The total attendances for the whole age-period, two to five, is only one-third of the attendances of children under two. The number of older children attending was 1,077, which works out at about four attendances per case. That is higher than the average possible in the case of most of the figures quoted, of attendances of children during the age-period two to five.

To take next a purely agricultural county—**Norfolk**, which has 700 parishes. (Annual Report, 1931). From birth to one year, during 1931, the total attendances at welfare centres in Norfolk was 3,234. The total attendances of children from one to five years was 4,446. But the total attendance of children in the age-period one to five years for 1931 amounts to only 2 per cent. of the total births in the corresponding period, counting each attendance as a separate child. This is probably more than generous.

I apologise if by any chance these figures are not representative, or in any way unfairly presented, but, as explained, they were taken at hazard from the reports available at the time of writing. They should, at least, give some idea of the relevant facts.

Now just a few words about the cost of the public health service and our maternity and child welfare service. The total expenditure on maternity and child welfare in 1928 was £1,585,972. I cannot take the figures for later than that year because, since the Local Government Act, it has become impossible to identify the expenditure on each section of the public health service. In 1926 the expenditure was less (£1,308,487), while the school medical service cost £3,200,000—more than double the whole of the maternity and child welfare services, which include, of course, maternity hospitals, convalescent homes, day nurseries, as well as the routine inspections by health visitors from birth to five years. The school medical service, costing double what we are allowed, although it covers the age period five to 14 years, includes only *three* routine inspections per child in that time apart from dental inspections and treatment. The cost of the total public health services, including sanitation, housing and town

planning, cemeteries, etc., was £44,000,000 in the same year (1926). That is to say, our service—maternity and child welfare—accounted for one-thirtieth part of the total expenditure on public health by local authorities, including grant. The annual cost of sickness to the nation, as compared with preventive work, assessed by Sir Francis Fremantle, in a paper published in 1926, was £244,000,000. The loss to industry from absence of operatives he assessed at an additional £9,000,000. Compare this £253,000,000 with our miserable million and a half.

To return to maternity and child welfare, out of the total cost of £1,585,972 in 1928, which I have mentioned, the Ministry grant amounted to £983,031. But, of that grant, £331,562 was represented by the cost of milk and foods. That is to say, although we may claim that one-and-a-half million pounds was expended in one year on the whole maternity and child welfare service as compared with £44,000,000 on public health as a whole, one-third of that amount was in sheer relief. How much is represented by the care of the toddler in the total maternity and child welfare cost? It is impossible to say, but removing the amount of the annual expenditure on milk in 1928, a total which would be double the £331,562 quoted (in the period of the 50 per cent. grant) we get a balance of £922,000. So that to take an *outside* figure we might claim that for educative work among women and children say £950,000 was available. But only 2 to 3 per cent. of toddlers seem to attend clinics, as compared with 56 per cent. of children under one year and 34 per cent. of pregnant women. Suppose that ante-natal and post-natal clinics account for one-third of the expenditure, the remainder is about £633,000 for the maternity and child welfare service as applied to the infants and toddlers. The toddlers' total attendances approximate to one-third of the total infants, which means that, allowing costs in that proportion, we spend about £158,000 a year on toddlers, or approximately 1s. 3d. each. This includes the cost of upkeep of 105 day nurseries (*i.e.*, the balance not provided by mothers' fees) and the appropriate fraction of the cost of upkeep of 69 convalescent homes and 28 homes for mothers and babies. (Sir George Newman's Report.) What is actually spent on the real and true *preventive* care and medical inspection of toddlers? That one can only guess.

The distortion seems more and more apparent when we recognise the sums spent annually on the care of consumptives, lunatics, mental defectives, blind persons, cripples, venereal disease patients, and others with equal claims on the State in regard to health—amounts with which I will not tantalise you—and on pensions. For looking after a total of 2,600,000 children aged between one and five years, we have, at any rate, £158,000 a year. At the age of five, when these children appear at the threshold of school life, Sir George Newman says they appear as "damaged goods."

Now what care does the toddler call for in our public health organisation? What are his experiences, his needs, the risks he runs, his contribution to the communal life of which he must become a part? How does he fit in with other people?

Take his needs first. Physically he needs food, warmth, covering and shelter, air, light, room to move, care in sickness, protection against unnecessary illnesses. How are these provided in the present state of things? How does he work out in regard to them?

Diet is the thing that bulks large in the infant consultation. It receives less attention, and I think should receive less attention, in proportion, in the older child, because his needs are more manifold and various, and it would be a pity to labour one thing at the expense of another. But does this subject receive sufficient attention; is it gone into in sufficient detail; are the provisions made in the form of relief adequate for the needs of the child once he has been promoted to the classic honours of toddlerdom—gravy and potatoes, porridge, green vegetables and fruit?

Let us say that he requires in gross total something from 1,200 to 2,000 calories a day in his toddling years, of which a fixed amount must be represented by the most expensive type of food, protein. Some children take more. His protein needs at the rate of 2,000 gross calories will be something like 66 grms. a day (Plimmer) of which 20 grms. must be animal protein, derived from milk, eggs, meat, etc. If the toddler receives a pint of milk a day, a balance of 1,600 gross calories remains to be supplied, while his animal protein needs have practically been met. But if there are three or four young children in a family, each of which can *not* receive a pint of milk a day, how are their basic

requirements, their protein ration, necessary for health, to be supplied? Does the usual diet, without a good deal of investigation and instruction on our part, supply it? Where does meat come in, and the amounts the mother should supply for her family? What about cooking? (These points are not readily dismissed; they tend to make the consultation lengthy.) And if the family is a poor one, the man out of work, the child (if it is lucky) receiving a packet of dried milk a week (equal to 5½ pints—330 calories daily), and perhaps a teaspoonful of cod-liver oil and malt three times a day (90 calories—Hutchison), how are the rest of the calories supplied then, and the protein ration? Where does meat bulk then beside the cheap foods the mother buys—bread, cereals, potatoes, and tinned skimmed milk? And what about the oranges that we lay so much stress on? Does she know what their caloric equivalent is, say compared with sweets, the uses of sweets, and the true value and uses of the different vitamins? Does she know the real importance of green vegetables and fruit? What our allowances to her, in fact, represent (in food value)? If she does not know these things, can she hope to feed her family adequately, and can we pretend that we have dealt adequately by the nutrition of the toddler on which his strength, growth, vitality and resistance to infection depend? And if, if the proof is wanting that the requirements of diet can be met on a small income or on unemployment relief (without genius on the mother's part), or that our allowances are conceived so as to cover in the best possible way the gaps in that diet, can we sit by, after hammering where we can at individual teaching, and wait for the education that will bring a move in these matters?

Let us look again at our precious (by which I mean expensive) cod-liver oil and malt. Let us look at the anæmia and rickets that, in spite of it, mark the returns of toddlers' examinations in this country. In Woolwich in 1931, 26.5 per cent. of toddlers were marked as anæmic, 27 per cent. as rachitic, 28 per cent. as under-nourished, on the evidence available clinically. A report published by H.M. Stationery Office in 1930 (Drummond and Pilditch) showed that "a considerable proportion of the cod-liver oil sold in this country is of relatively low medicinal value (largely because the pharmaceutical trade has a preference for the pale oils, mainly of Norwegian

origin.) . . . In some cases the oils are sold with a guarantee of vitamin activity that is virtually worthless. . . . Of the oils from the important cod areas studied, those from Newfoundland are found to be of richest vitamin potency. . . . Oils from Scotland are found to be intermediate in value between the rich Newfoundland oil and the much poorer oils of Norwegian origin." How many of us know the origin of the oil we give? How much of the expenditure on "foods" in maternity and child welfare each year (*cf.* previous figures) is represented by medicinal substances with a "guarantee" that is "virtually worthless"? How much insincerity do we ourselves stand for in the matter of the prescription of foods if these have not been satisfactorily assayed, and we know (as we may) that in general qualities, *e.g.*, caloric value, they show no advantage, bulk for bulk, cost for cost, against those the mother could provide in her ordinary marketing, for instance, in the buying of sugar (as against malt), or of an ordinary commercial flour preparation (as against a "patent" one). Looked at in the light of family marketing, and the attentions properly claimed by one individual child, this matter of the generalised prescription of foods, by which I mean accessory "foods" (looked on by the mother as medicines) is sometimes a very serious question.

Then let us linger one moment at the problem of milk. Look at our complete apathy, our neglect to form a considered opinion and drive home what we consider to be the essential factors in a matter that concerns us much more closely in our work than any other section of the public health service. For is not sound milk an important factor in maternity and child welfare? Yet we neglect even to talk about it as a body, we give chaotic advice as to what shall be done with milk in the home, and are content to let the dried milk firms and the dairies step over our traces and anticipate our wants in the matter of a suitable milk supply and suitable foods for infants. I cannot feel that we have acquitted ourselves as a corporate body of opinion so long as (a) dirty milk is sold freely in England for children; (b) by some strange inversion of attitude a great city is allowed, with the aid of government grant, to provide only Grade A (tuberculin tested) milk for its centres, for all purposes (in the case of the toddler for cooking puddings), and to *expect* and *compel* its mothers on unemployment

benefit and relief to pay for it for their families at a considerable price.

With these suggestions of gaps in our assembled armour I will leave the question of diet.

Now the whole gamut of other things—clothing (boots and shoes, the genesis of deformities), heating (electric fires and cooking, and possible means of keeping a house dry and warm in some of the new building areas), air and light and room to move (overcrowding and lack of garden), sleep (living in lodgings), illness (hospitals and convalescence), protection against infection (the immunising clinic)—that occur in the life of the toddler. We shall find something to say about all of these, and they will interest us also from the point of view of public opinion. What a large factor all of these general things are in making for the comfort of the individual. What an enormous range the toddler's consultation has, economically speaking, in preventive medicine, if we are to save on other things. What a large gap we are leaving now, with our present miserable provision, in spite of Sir George Newman's indictment of the "damaged goods" that reach school.

The toddler, however, is not only a physical figure. If anything, it is his mind that grows most notably and entrancingly in the years two to five, and it is in this aspect of his growth that we have to stand by, watch and act if we are to secure for him a sane and happy progress in the phases that follow. It is only by studying the toddler at close quarters, and our social life in particular, that one can have any idea of the many factors that combine to impede that growth nowadays—the evidences of disturbance, the ignorance and scepticism of parents and others that his small actions have any sense or reason in relation to his future progress. Here we have to adopt almost a militant attitude, or, at any rate, maintain a watching brief to secure the toddler's welfare. Yet how many would freely admit that happiness, creativeness and efficiency are not so much a matter of native talent as of a spirit of confidence and enterprise attained in early youth, and how many would fear just that influx of nervousness and hesitation in the national character, that lowering of executive power that would arise from the growing up of a generation maltreated and ill-adjusted through misunderstanding during the years of its early pro-

gress and so never attuned to life and work.

What are the reactions that we have to fear, and what are the relations through which the toddler attains most of his experiences in the period under review?

There is, first of all, his relation to his mother, less close but not less vital, much more subtly poised and dynamic in its character than in the static phase of infancy, played on by the child and capable of infinite misdirection by those unaware of its potentialities for good or ill. This we can never afford to forget. Then there is his relation to the other children, of which Adler has drawn so graphic and unforgettable a picture. The difficulties of the first-born, of whom so much is expected, to whom so much encouragement is apt to be given; of the second who finds it so difficult to catch up; of the toddler replaced by the new baby; of the slow and stupid child who lags behind, or the physically defective aware of his deficiencies; the baby who stays the "young" one in the older family—all of these are "situations" that we must notice and apprehend in our ordinary consultations if we are to reach towards a "whole" picture of the child's welfare and allow him, without alarming and exaggerating, to reach the full and free development that will prevent by anticipation the neuroses of later life. Then there is his relation to his father—much too complicated to enter into here, because much less tangible—but always a more forward element in the only child family of which we have greater and greater proportions every day. And his relation to others outside, and in particular to other children. His opportunities for play and companionship, for learning things from and with contemporaries of his own age; his preparation at this early stage for his irruption into the communal life in which he must willy nilly play a part, for the contacts with the brute elements of the herd. What is the sum total of the toddler's needs in these directions, and how do we meet them bearing in mind always the factors of family regulation, closer social distinctions, higher social standards, lack of housing, the fear of unemployment, the spread of education, and all the new elements we know to-day?

Is there a problem about the mental, or psychical, development of toddlers? Ask the head teachers who have known infants' classes now and ten years ago. In Woolwich, in a district where I personally have done routine

investigations, I found the incidence of definite nervous symptoms in toddlers—backwardness, bad habits, tempers, misery, stammer—as high as 47 per cent. Some of the infants' headmistresses would have placed it higher. The standard is probably exacting, but the interesting thing is that amongst only children and "big interval" children (children born at an interval more than four years from the last child) it was found to be double that in the ordinary case, and in the case of children torn from normal family surroundings (foster and step children) more than double. In the case of the "big interval" children, one must remember one has also to deal with the child who "went before," alone till the new one came, vulnerable on two fronts. In the "big interval" cases the incidence of symptoms increased steadily with the interval between births. These are facts that demand attention, and whether the solution of this aspect of the problem lies in saner birth control, the limitation of sale of contraceptives, the provision of nursery schools and play centres, new "maternity benefits" or the acceleration of the housing programme, it is at least something that must take up much of our time and thoughts.

Well, once again we are up against "big questions," and we have struck several in this survey. To press our case (or the children's case) we should be able to produce creditable data, co-ordinated evidence, and to state our claims against other pressing questions of social interest and professional concern, with due regard to the most economical use of all resources. As civil servants, ratepayers, social workers, humanists and physicians, we have a choice for the operation of our consciences. The field stretches far and wide, and it may lend zest to our task that we are privileged to hold in it something of a key position.

As a final example of the type of case that taxes our resources, teases our intelligences, and finally gives us little confidence that even in our sphere we have done all that is possible, may I quote the following:—

Mother notified phthisis, *aet.* 41; has uterine fibroids and a ventral hernia. Has had eleven or more miscarriages and eight children, of whom three are dead.

For her own health, has been referred to a contraceptive clinic, but the usual equipment

impracticable owing to her fibroids. Nothing done regarding fibroids or hernia.

Father, *aet.* 60; out of work fourteen months; broke foot six weeks ago, and attends hospital three times weekly for treatment, paying 2s. fares out of unemployment benefit. Unlikely to obtain work again. In due course will qualify for old age pension.

Eldest child, *aet.* 14, away from home five years, in hospitals and sanatoria with phthisis.

Second child in hospital with rheumatic heart following acute rheumatism. Also epileptic. After twelve weeks' in-patient treatment now due for convalescence.

Third child had pneumonia this year, followed by empyema. In hospital seven weeks.

Fourth child has been in convalescent home three months; said to be consumptive.

Fifth child has active rickets. Has been in hospital four times with pneumonia and pleurisy—a total of twenty weeks. Recommended for convalescence.

The three children who died, died of tubercle.

In view of the financial position of the Model Abattoir Society, it has been necessary to arrange for the secretarial work to be undertaken by the staff of the Royal Sanitary Institute at a minimum of cost. All communications for the Society should, therefore, be addressed in future to the Secretary, Model Abattoir Society, 90, Buckingham Palace Road, London, S.W.1.

At the end of September and the beginning of October the Minister of Health proposes to visit the areas of certain local authorities in order to make closer contact with the personnel and work of the authorities. Amongst the conditions to which he will devote particular attention will be the practical and local aspects of slum clearance and reconditioning. His visit will coincide with the period during which housing authorities in general have been requested by the Minister to submit schemes for dealing with slums within a period of five years. In the autumn of last year the Minister of Health paid similar visits to Tyneside and the counties of Lancashire, Glamorgan, Monmouth, and Brecon. This autumn the authorities to be visited will be for the most part county boroughs.

Ut Ita Dicam.

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

A Century of Factory Inspection.

There has always been a tendency on the part of those engaged in factory and workshop work to claim that health activities on behalf of the population employed in these places commenced considerably earlier than any undertaken in the interests of the mass of the people. In discussing these activities it is usual to take 1833 as the year in which they were initiated, and to suggest that, so far as general public health measures are concerned, 1875 marks the commencement. More or less the public health service accepts this, for convenience mainly, well knowing that medical officers of health were appointed first about 1856, and sanitary inspectors (under this title or that of inspectors of nuisances) considerably earlier. The appointment of factory inspectors, however, antedated that of either medical officer or sanitary inspector; officers so-named having been appointed in 1833 in succession to others known as "visitors" appointed by Justices of the Peace under powers granted in 1802. The "visitors" do not appear to have been much good, and it was not till the factory inspectorate came into being in 1833, a hundred years ago this year, that anything really effective was done. In his annual report for 1932* the Chief Inspector of Factories and Workshops takes the opportunity of reviewing the development of the functions and responsibilities imposed on his department by progressive legislation between 1833 and 1932. The reviews treat of various aspects of the work done, and have reference, in addition to health, to such matters as employment, safety, welfare, home work, the Government wool disinfecting station, and so on. Each of these is the work of the officer in charge of the particular activity.

The Beginnings of Health Work.

The story unfolded regarding successive periods and stages of development is astonishingly fascinating, not only as it affects health, which naturally claims chief attention here, but in the case of each of the others as well. As Dr. Bridge indicates in the section on health, the fact that the science of medicine was not recognised as capable of aiding in the

improvement of working conditions in industry till rather late was no fault of the medical profession. From what is told by Mr. Wilson, the chief inspector, Miss Taylor, and others, it is clear that the early inspectors had tremendous difficulties to face, and encountered intense opposition and terrible apathy. They fought heroically, however, securing vastly improved conditions for those for whom they fought. Gradually also they made a position for themselves, and those who came after, showing the need for the various advances that were made, and the directions that progress should take. So far as the medical inspectorate is concerned, it was due to the efforts of the earlier officers that those first appointed must have found a path that was fairly smooth, though it was such men as Whitelegge, Legge, Collis, and Bridge who proved, and are proving the need for medicine in relation to industry, and the value of the advice and assistance the science of preventive medicine can render. Dr. Bridge, like all the others of the contributors to the symposium, finds one particular individual to whom he must pay tribute on account of his foresightedness.

Thackrah and, of course, Simon.

The person to whom he gives chief credit is Dr. Thackrah, of Leeds, who, in a book published in 1831, appears to have foreshadowed future developments in industrial medicine, and improvements in factory conditions now required by law. The factory legislation of 1833 unfortunately took no cognisance of Dr. Thackrah, his work and suggestions, though it was by reason of the operation of the Act that the need for action in relation to conditions in factories and the work done therein was recognised. In 1844, power to appoint certifying surgeons was given to factory inspectors, and there was provision against the employment of women, young persons and children in wet flax spinning, except under certain conditions. Then, of course, comes Sir John Simon, saying it is all very well to fence machinery, but what about dust and bad ventilation; holding forth on "the canker of industrial diseases (that) gnaws at the very root of our national strength," and influencing the

legislation operating between 1879 and 1894. The laws then passed took particular care of women and children, the Act of 1891 particularly forbidding women to work within four weeks after childbirth, and leading to the making of greater provision, by means of special rules, for dealing with industries in which dangerous materials were handled. In a note of great interest, Dr. Bridge reveals that it was not really until 1879, or thereabouts, that occupations injurious to health came to attract attention seriously, lead poisoning being the first to give rise to anxiety. Arsenical poisoning also, however, received mention, milk being recommended as a preventive against it, as against other metallic poisons. The essential preventive measure against phosphorus poisoning was cleanliness of the workers and good ventilation of workplaces. This latter was a provision not always easily secured, however, judging from what some of the earlier inspectors had to say with regard to dangers from dust. Anthrax, like phosphorus, excited interest first about 1880, and reference is made to the beneficial effects obtained as a result of exhaust ventilation at the sorting bench. One of the features of the period 1878-1894 was the development of labour-saving devices which led to a displacement of workers, particularly women, who, it was thought, would enter domestic service as an alternative, only, as is the case to-day, they did not.

The Pioneers of Medical Inspection.

The period 1895-1900 was noteworthy, not only for legislation and progress, but for the appointment of Dr. (afterwards Sir) Arthur Whitelegge as Chief Inspector, and of Dr. (later Sir) Thomas Legge. Several conditions (lead poisoning, etc.) were made notifiable in this era. Knowledge of industries producing various poisonings steadily increased, and Sir Thomas Legge developed into a world authority on these, and on lead poisoning in particular. By the end of 1900, according to Dr. Bridge, "the activities of the Department had revealed the main causes of industrial ill-health and diseases produced by specific toxic substances known at that time." The effects of lead, of various dusts, and of carbon bisulphide received full consideration, and the work then done in relation to phosphorus led to the passing of the Act in 1908, that prohibited the use of the yellow variety in the manufacture of matches and

the importation of matches so made. The period 1901-1913 was mainly important, of course, for the passing and coming into operation of the 1901 Act. The Workmen's Compensation Act of 1906 led to an increase in the work of the inspectors, and to developments in industrial hygiene. Dr. Collis, appointed second medical inspector, investigated, amongst other subjects, the question of injury to health from dust more fully. Anthrax also received greater attention, Sclavo's serum being first introduced in 1904.

The War and After.

The war period 1914-1918, which brought forward new problems for study, is shown to have exerted a very great and actually a beneficial influence on industrial medicine, and to have been responsible for fuller recognition of the fact that the health of the worker is a factor of great economic value in industry. It led to the appointment of many whole- or part-time works' doctors, and to the study, amongst other matters, of poisonings produced by such materials as arseniuretted hydrogen and trinitro-toluene, the effects of fatigue, etc. The references by Dr. Bridge in his last period, 1919-1931, are mainly to such conditions as fibrosis of the lung and cancer. In connection with the former there is mention of the important work of Dr. Middleton, and as regards cancer, note is made of the recognition by Dr. Henry, of the relation of mineral oil, used as a lubricant, to its production. It is useful to take a glance backwards, and it is an interesting story that Dr. Bridge has to tell as a result of his looking back. That the story is not ended he himself shows by pointing to the new problems that new industries have brought, and indicating the need for continual search for new risks in connection with new methods that have supplanted or are supplanting the old.

The Year 1932.

Because so much space had to be found for the historical reviews—I wish I had room and excuse for discussing the others at least as fully as that of Dr. Bridge—the report on the work of 1932 had to be greatly compressed. It is interesting to learn from what is said, however, that a considerable number of special investigations were carried out during the year, into certain dusty occupations, for example, and into the effects of trichlorethylene, carbon tetrachloride as a cleaning agent, etc.

Lead poisoning cases, due to an increase in ship-breaking, were more numerous in 1932, but as a compensation the anthrax figures (16 cases with one death) were the lowest recorded. There were 131 cases, with 44 deaths, reported from epitheliomatous ulceration of the skin; 33, with one death, from pitch; 37, with 18 deaths, from tar, and 60 (57 among cotton mule spinners), with 25 deaths, from oil. Gassing accidents reported number 125. Dermatitis, it is encouraging to note, is receiving greater attention, though Dr. Bridge

finds it surprising, having regard to its importance from the economic point of view, that employers attempt so little in the shape of prevention by providing washing accommodation with hot water, for example, and insisting on their use by the workers. The factory report is one that always fascinates me, and this year, because it is so very largely historical, I find it more fascinating than ever. Which is my excuse for devoting so very much space here to its consideration.

P.

Dental Enamel: is it a Vital Tissue?

By JEFFREY FLETCHER, L.D.S., R.C.S.(ENG.), School Dental Officer, Yorks. (West Riding) County Council; Honorary Secretary, Yorkshire Sub-Group of the Dental Officers' Group of the Society.

Any contribution to knowledge of the causation of caries is of importance to others engaged in the health service than members of the dental profession. Mr. Fletcher, in this paper, provides a most complete and instructive review of a quantity of research into one of the aspects of the subject, and himself offers an opinion on the problem discussed which, though it may not be generally accepted, will be received with respect and genuine interest

DURING the last six years there has been considerable activity by research workers into the question of the vitality or non-vitality of the enamel. This has probably, in part at any rate, been stimulated by claims, which have come chiefly from outside the ranks of the dental profession, that dental caries can be prevented and, even after its inception, cured or arrested by the internal administration of various substances, whose action is claimed to be through the tooth itself, and not, as in the theories of Broderick, in the reaction of the saliva.

The subject, of course, is by no means a new one. In fact, this passage from Pierre Fauchard,¹ writing 200 years ago: "Lequel émail se fortifie et s'embellit jusqu'à l'âge d'environ vingt ans," may be taken to infer that Fauchard was on the side of the vitalists on this question. Whereas John Hunter,² writing some fifty years later, in 1778, uses these words: "This substance has no marks of being vascular and of having a circulation of fluids. The most subtle injections we can make never reach it; it takes no tinge on feeding with madder even in the youngest animals, and . . . when soaked in acid there appears no gristly or fleshy part with which the earthy part has been incorporated. In all these experiments I never could

observe that the enamel was in the least tinged either in the growing or formed tooth."

To return to more recent years, research has attacked the problem mainly on these lines:—

- (1) Estimations of the organic content of the enamel.
- (2) X-ray examinations of the enamel.
- (3) An investigation into the hardness and specific gravity of the enamel.
- (4) Histological examinations of the enamel and its staining reactions in both normal and pathological conditions.

In considering the chemical analyses of enamel, may I again be pardoned if I go back a few years and recall the classic experiments of Sir Charles Tomes³ in 1895? He was able to show, by slowly dissolving enamel in acid and then carrying out tests for proteins, that only a trace of organic matter, insufficient for quantitative measurement, was present in enamel. As a check experiment he made up a mixture of calcium phosphate and calcium carbonate in the same proportions as in enamel, but with .25 per cent. of dry collagen, obtained from dentine, added. Dissolving this in the same manner, he was able in this case to demonstrate the presence of organic matter with "the utmost clearance." He therefore concluded

that the trace of organic matter present in enamel was less than .25 per cent.

Evelyn Sprawson and F. Bury⁴ read a paper before the Royal Society in 1928, entitled: "A Chemical Investigation of the Organic Content of Human Enamel." They collected samples of enamel from three sources:—

- (1) Young enamel. (This from pre-molars from subjects between the ages of 12 and 14 years.)
- (2) Adult enamel. (This from pre-molars of subjects not less than 50 years of age.)
- (3) Enamel from deciduous molar teeth.

From the enamel to be examined, Nasmyth's membrane was removed and samples of enamel filed off with steel files. The amount of protein in the samples was then calculated from estimations of the nitrogen present, and also from estimations of the carbon present, other than in the form of carbonates. The nitrogen estimations gave a percentage of protein of from .14 per cent. to .15 per cent., and the carbon estimations of from .18 per cent. to .21 per cent. The authors showed that there had been slight unavoidable contaminations of the specimens by the steel files—the steel itself containing 1 per cent. of carbon—in spite of their efforts to remove the particles of steel with a powerful magnet. The estimates based on the nitrogen content should, therefore, be the more correct, and so they concluded that the slight amount of organic matter present was independent of the age or of the dentition from which the teeth were obtained. Thus the findings of Sir Charles Tomes, 33 years previously, were completely confirmed by the more exact methods now available.

The experiments of Thewlis,⁵ who made a radiographic examination of enamel in 1932, need only briefly be referred to. He found that the mineral content was in the form of apatite, but that further material was present. He calculated the amount of organic material by this somewhat ingenious but apparently extremely fallacious method. The specific gravity of apatite is 3.2, and that of enamel 2.96; assuming that the additional material is organic, and the specific gravity of keratin and albumin being 1.3, the organic content of enamel, he claims, must be in the neighbourhood of 5 per cent.

While considering the organic content of enamel it is convenient here to examine the views of Lartschneider,⁶ who, in 1932, dealt not so much with the amount of organic matter present, but with the nature of the organic

matter present. He states that "Enamel and shells of molluscs are homologous structures even to the most remote end-products." To him the organic matter in enamel is in the form of conchyolin, a proteid substance similar to chitin, which does not, he says, permit of metabolism, and that therefore enamel must be a dead substance. In comparison with this, he points out that both in bone and dentine the organic matter is collagen, which would perish if metabolism were not constantly taking place in them.

This brings us to a very interesting thesis⁷ by Sam Karlstrom, a Swedish dental surgeon, published in 1931. I shall deal rather fully with this because he claims to show that not only is the calcium content of enamel able to be increased in the fully-formed tooth, but also that calcium salts can be removed from the enamel under certain physiological and pathological conditions. His method of approach, too, is an entirely original one.

Arguing that it is the dense calcification and hardness of enamel that has hitherto prevented research workers from arriving at a true estimate of its nature, he decided to try whether, by a study of these very properties, namely, its hardness and specific gravity, a truer picture could not be obtained.

For the purpose of testing the hardness of enamel he used an instrument known as the Herbert pendulum hardness tester, as the commoner methods of hardness-testing by scratching, drilling, grinding, etc., hardly give sufficiently accurate results for purposes of comparison. (The Herbert pendulum is essentially a heavy metal bow weighing about 9 lbs.—4 kilos. It is provided with devices for shifting the balance so that the centre of gravity may be made to coincide with a spherical ruby 1 mm. in diameter which is held in a chuck just under the centre of the bow. On the top is a curved spirit scale with a bubble, and the bubble moves against the scale when the pendulum is oscillating. When the centre of gravity of the pendulum has been made to correspond exactly with the bearing point of ruby, the centre of gravity is dropped .1 mm. and the pendulum is ready for use.) The principle on which it works is this: "when the ruby is placed on a certain substance a certain impression is caused. If the pendulum is then caused to oscillate, the speed of the oscillation will be a function of the degree of impression, in other words, the hardness."

Karlstrom tested the surface hardness of

enamel at the cutting edge, half-way up the crown and at the cervical surface. He found the enamel hardest at the cutting edge, slightly less hard half-way up the crown and considerably softer cervically. It is obvious, therefore, that in comparing different teeth, the same relative part of the tooth must always be examined. The hardness, or as he calls them, scleroscopic, estimations were therefore made at points midway between the cutting edge and cervical surface.

The relative hardness of different depths in the enamel from the surface to the amelodentinal junction were estimated for a number of permanent teeth; the averages for the different depths calculated, and a graph plotted to give the normal curve, as he calls it, of enamel hardness from the surface to the amelodentinal junction in the permanent dentition. The graph shows that the greatest hardness is in the outer tenth of the enamel. From there until 70 per cent. of the enamel has been cut away the hardness is almost constant at a slightly lower figure than at the surface. The curve from this point falls away with greatly increasing steepness until the dentine is reached.

Having established this "normal curve" as a control, he then took thirteen unerupted teeth in which the enamel casings were fully formed, and worked out the average hardness curve for these. Comparing the two curves here are his words: "The difference of hardness between normal permanent teeth and unerupted ones is extremely insignificant in the outer 20 per cent. of the enamel. For the stretch 0-10 per cent. the two hardnesses are respectively 20.9 and 20.4 and for the stretch 11-20 per cent., 19.7 and 19.5. Afterwards, however, the distance between the two curves is quickly and fairly uniformly increased so that the difference of hardness in the stretch 71-80 per cent. is so highly significant as 3.0 (18.6 and 15.6) and in the stretch 81-90 per cent. reaches 3.8 (17.8 and 14.0)." Karlstrom is thus able to show that a quite appreciable post-eruptive hardening takes place in the inner half of the enamel.

The question as to whether the enamel of a mother undergoes any metabolic changes during pregnancy was studied by taking thirteen teeth, all extracted either a few days before or after the birth of the child. In ten cases the pulps were vital, non-vital in one, and in two cases it was not established whether the pulps were vital or not. Hardness determinations for the different depths of enamel were made for these teeth. He claims to show, on the strength of a graph plotted from the average hardness

determinations of the thirteen teeth, that in the inner halves of these "pregnant" teeth, the enamel hardness was appreciably lower than the normal.

He then puts the question whether these changes are influenced by the mother's state of health, diet and other circumstances during her pregnancy, and so divides the thirteen "pregnant" teeth into two groups, group 1 being "teeth from mothers who, during pregnancy, had been relatively healthy and lived under good dietary conditions," and group 2, "teeth from women whose pregnancy had been disturbed by illness or had lived on a diet which presumably had not supplied the body with adequate nourishment." I am here quoting Karlstrom's own words.

Eight teeth were placed in the healthy group and five teeth in the abnormal group. The hardness curve for the healthy group was found to follow the normal curve. It therefore follows that it was the figures from the five abnormal teeth only that affected the curve for the "pregnant" teeth. To examine the five abnormal teeth in more detail, three teeth were taken from two mothers suffering from albumen gravidarum, a condition which necessitated a protein-free diet in the later months of pregnancy. The fourth tooth was from a case who had, to quote Karlstrom, "lived under conditions and on a diet which, with tolerable certainty, might be assumed to be deficient in vitamins, and also in other respects of unsuitable composition." The fifth tooth in this group was from a patient who stated she had observed an increase in caries during pregnancy. Now, peculiarly enough, if we plot a curve from Karlstrom's figures for these last two cases, this curve also closely follows the normal curve. And so Karlstrom's case that lime salts are abstracted from the enamel in pregnancy, instead of resting on thirteen "pregnant" teeth or even on the five teeth in the abnormal group, rests only on figures from three teeth, and these three from two mouths only. It will thus be seen that Karlstrom's contention that "from this investigation can be drawn the very important conclusion that changes in the scleroscopy of dental enamel occur in pregnancy," rather falls to the ground.

The mothers in the healthy group, whose enamel hardness was not affected, did not, however, escape caries, as in this group four are described as having "fairly high caries frequency," and only one as having "fairly good teeth."

The average age of the two albumen gravidarum cases was eighteen and a half years as against twenty-seven and a half years for the other cases, and so possibly the post-eruptive hardening of the inner layers of the enamel which Karlstrom has demonstrated, had also, in these two cases, not proceeded so far.

We can now pass on to the staining reactions of enamel. Gordon Jeffery,⁸ in the *British Dental Journal* of July 15th, 1932, shows that he was able, with the aid of an electric current, to drive acid fuchsin through the dentine into the enamel via the pulp chamber by kataphoresis. He finds that young dogs' enamel stains easily throughout its whole distance, but that in old dogs' teeth the permeability is much reduced. "The stain is confined to the prism sheath, and it is difficult to find any area where the prism or interprismatic substance appears to have taken the stain." He finds that it is difficult to reverse the process and drive stain into the enamel from the outer surface, the enamel glaze being the most impermeable part of the tooth. Deposits of secondary dentine prevent staining of the dentine and enamel in the paths of the tubules blocked by the secondary dentine. The enamel spindles stain, but the stain does not spread out from them. The enamel spindles would, therefore, appear to be of no physiological significance. The tufts and "lamellæ," however, stain well. And now an important statement in view of Evelyn Sprawson's paper shortly to be dealt with. Referring to cracks in the enamel, he says: "Artefacts which occur during life usually become sealed from the pulp by hypercalcification of the dentine immediately beneath, and are therefore impermeable."

Jeffery also succeeded in staining human enamel, but a much longer time and a higher voltage was necessary. He says: "Young teeth usually stained fairly freely but staining was sometimes very variable. In older teeth results were even more variable."

E. W. Fish⁹ in his book, "An Experimental Investigation of Enamel, Dentine and Dental Pulp," published recently, has also demonstrated the ease with which young dogs' enamel can be stained. He actually introduced dye into the living pulp chamber in dogs and the dye diffused along the dentinal tubules into the enamel prism sheaths. He was also able in young dogs to stain the enamel from the surface by cementing metal caps, containing stain, over the teeth. In recently-extracted teeth the experiment of placing stain in the pulp chamber was also successful if the tooth was kept at body

temperature for from 24 to 48 hours. And so it was possible by using this method to carry out staining experiments on newly extracted human teeth. Describing the results he states: "In the course of a pathological investigation which has extended over several years, dye has been placed in the pulp chamber of many hundreds of extracted human teeth and has always been found to diffuse along the normal dentinal tubules, but it only entered the enamel in approximately 5 per cent. of the sections of teeth examined, and then only into occasional tufts of prisms . . . at most a small wisp of blue was seen to penetrate the enamel from the dentine, colouring an occasional enamel tuft."

By decalcifying enamel under the microscope he finds a skeletal framework firmly attached to the horny cuticle (Nasmyth's membrane) in both young and old dogs and also in human enamel. He found this skeletal framework less friable in old dogs than in young, a fact which led him to the view that "at present the balance of evidence seems to suggest that calcification cannot continue in the absence of cells, and that any further change is in the nature of a keratinisation of the organic remnants."

Von Beust¹⁰ in 1912 also stained enamel by capillary attraction from the dentine, and makes these somewhat extravagant claims: "It is often possible to follow these vessels perfectly filled with red-coloured organic substance right up to the margin of the enamel." Then again: "Much of the enamel is highly vascular," and, "the canals can sometimes be traced into Nasmyth's membrane." It would seem that he must be referring to the so-called "lamellæ," about whose true nature there seems to be very considerable confusion. Some writers seem to consider them to be cracks and others formative faults in the enamel of a horny nature and continuous with Nasmyth's membrane. This is what R. W. Leigh¹¹ says about them, writing in the *Journal of the American Dental Association*, April, 1927: "The lines in the enamel referred to by Bodecker as organic in nature are only fracture lines in the enamel cap. Others are centres of incomplete calcification of the inter-columnar substance."

Howard Mummary,¹² writing in 1926, says that both he and von Ebner have succeeded in staining enamel from without to a certain depth, both the prisms and interprismatic substance taking the stain. This in contradiction to the later findings of Fish, confirmed by Jeffery, that human enamel does not stain from the surface and that in any case it is only the prism sheaths

that stain. Mummery's investigations were, however, chiefly confined to deciduous molars chosen to include small dark or white spots indicating the first invasion of caries from the surface. His words are these: "Where caries has not advanced as far as the dentine in the great majority of sections clear zones were seen in the enamel closely surrounding the decayed portion on its dentine aspect." "The carmine stains the carious portion very deeply and its margin is sharply defined by the clear zone beneath." He considers the prism sheath the chief channel between the enamel and the pulp, and in some instances shows that the translucent zone appears to follow the course of the prisms and therefore also of the prism sheath, and concludes that "enamel cannot be a dead inert substance but is capable of reaction to stimuli, and therefore, like other tissues of the body, endowed with vitality."

Evelyn Sprawson,¹⁸ writing in 1930, also deals with translucent zones in enamel, but they are rather of a different kind from those described by Mummery. Sprawson's investigation deals chiefly with marsupial enamel; in fact, it was young wallaby (*macropus*) enamel, the most tubular of all marsupial enamels, that he examined.

He found that stain introduced through the pulp chamber freely permeated the young wallaby enamel to three-quarters or more of its extent *via* the interprismatic substance. Old wallaby enamel was hardly permeable, however, or only to a slight degree, but that—and this is interesting—the continuity of the enamel tubes with the dentine was still quite evident.

Comparing the appearance of young stained human enamel with stained marsupial (wallaby) enamel, he considers the chief difference to be "in the direction of the prisms and the degree and regularity of the patency of the interprismatic substance." It would, therefore, seem that, in Sprawson's view, it is the interprismatic substance that acts as the metabolic path in the enamel. And logically, of course, this is necessary to maintain the analogy between tubular and non-tubular enamels, it having now been established that in tubular enamel the tubes penetrate the interprismatic substance, and not, as in the earlier views of Tomes, the enamel spindles.

The main part of Sprawson's investigation concerns the cheek tooth of a young wallaby, which showed many cracks or "laminæ" which were, to use his own words, "most probably caused by the stress of mastication." In the

area where the enamel exhibited these "cracks" the tubular structure was mostly obliterated, and so the enamel was in appearance similar to the bulk of human enamel. Where the enamel was protected from the stress of mastication by the teeth in front and behind, it still, however, showed the usual tubular structure.

The appearance of these cracks differed considerably, and on these differences Sprawson based his main conclusions. In some of the cracks, the ones he considered to be the most recent, where the crack passed through the whole of the enamel and reached the dentine, he found the dentinal tubules enlarged, and in the enamel that the interprismatic substance immediately bordering the crack admitted more stain. He considers these appearances to be more or less analogous to inflammation in soft tissues, and dilatation of the tubules and the increased permeability of the interprismatic substance to be for the purpose of bringing an increased supply of calcium salts to the damaged area, for its ultimate repair in the form of a calcific scar or translucent zone. His slides also show these further stages of reaction; a translucent zone in the dentine just below the crack; then the crack is permeable only from the dentinal aspect, and occluded from the surface as an impermeable lamina. Further, the crack is not only completely impermeable, but so also is the adjacent enamel, and finally "where perhaps the enamel crack was only a small one, the repair is of such perfection that a translucent line of hypercalcification only is seen." He saw also repair and reaction in the dentine, even in the case of partial enamel cracks which did not reach the dentine.

Lastly, he states in his conclusions: "Allowing for structural and calcific differences, similar reactions to those shown in marsupial teeth have been found by the author (Evelyn Sprawson) in human enamel and dentine."

These then are brief summaries of the more important of recent researches, which have a bearing on the question of the vitality of the enamel, and they certainly seem to bring forward considerations which appear, at first sight, to point very definitely towards vitality. Let us see, therefore, if there are any valid objections which can be raised against them. It has been shown by several workers that enamel is stainable, but that in the case of human enamel, at any rate, the staining is by no means free, unless somewhat elaborate and artificial methods are adopted. Does this staining definitely prove the presence of a metabolic path

in the enamel? It can hardly be said, I think, that it does, as there are "in nature (this is a quotation from Karlstrom's thesis) a number of minerals and other substances more or less similar to dental enamel which have the power in a greater or less degree of absorbing dyes in various characteristic ways." Again, it is by no means certain that, where the molecules of a highly volatile stain can diffuse, the much larger molecules of the tissue lymph can also follow. Fish has shown that in young dogs' teeth, dye can travel right through the enamel from the inside and that dye can also penetrate the enamel from the outer surface. If tissue lymph can also follow this path it would seem that we must postulate an escape of lymph through the enamel into the mouth—surely an unbelievable state of affairs.

Further, does an increase of hardness in the enamel prove active metabolism? When we remember that plaster of Paris, cement, and mortar continue slowly to harden for a very long time after mixing we can hardly be sure that it does. It is suggestive, of course, but by no means conclusive proof.

Referring to Karlstrom's contention that, in pregnancy, calcium salts can be abstracted from the enamel—resting it is true on evidence from only two mouths—here is an interesting quotation from the recent book by E. W. Fish. This quotation refers actually to the dentine, but it is surely inconceivable that calcium should be abstracted from the enamel and not from the dentine, which, we should imagine, would be likely to be a much simpler process. Fish's experiments were planned with a view to determining whether there was:

1. An age-change in the calcium content of human dentine.
2. A change in the calcium content of cat's dentine after partial parathyroidectomy.
3. A change in the calcium content of dog's dentine (a) during two months on a calcium-free diet, and (b) during pregnancy complicated by the absence of calcium from the diet.
4. A change in the calcium content of dog's dentine (a) during six weeks on an increasing daily dose of calciferol (a vitamin D preparation) terminating in coma and death, and (b) during seven weeks on a therapeutic daily dose of calciferol.
5. A change in the calcium content of the dentine of two dogs suffering from a natural softening of the bones.

From these experiments Fish concludes: "It has not been found possible to modify the

calcium content of the dentine either by parathyroidectomy, calcium deficient diet, pregnancy or feeding on therapeutic or excessive doses of Vitamin D, nor did two dogs with extreme softening of the bones show any loss of calcium from the dentine. It appears, therefore, that the calcium content of the dentine is extremely stable, that slight physiological additions may be made to it, but that there is no evidence, as yet, of any definite loss of calcium from the dentine under any circumstances."

Turning again to claims resting on translucent zones in the enamel, it must be borne in mind that unstained tracts of enamel may not be due to any hypercalcification of that tissue, but, as shown by the remarks of Jeffery, quoted earlier in this paper, may merely be the result of the passage of stain through the dentine being blocked either by secondary dentine or translucent zone in that tissue, it having been shown already that enamel does not readily stain from the outer surface. In fairness, however, it must be admitted that it is difficult to see how this criticism applies to Mummery's translucent zones. It is impossible, all the same, to rule it out entirely.

Then as to the actual metabolic path, Fish and Jeffery have shown conclusively that in the solid enamels the only possible path is the enamel sheath and some occasional "lamellæ." The enamel spindles fill with stain but do not radiate it to the surrounding enamel. Enamel tufts do radiate the stain but only to the prism sheaths. Karlstrom, however, rejects the prism sheath as the path of metabolism, as his changes in hardness are confined almost entirely to the inner part of the enamel, and the prism sheaths pervade the whole tissue. He relies on the enamel spindles and tufts, and on the "lamellæ" for the slighter changes which may occur nearer the surface. These "lamellæ," however, are very variable and irregular in their distribution and, as they are frequently the starting points of caries, can hardly be claimed to be part of a defensive mechanism. Again Sprawson relies on the interprismatic substance as the path of metabolism, as, indeed, he must to bring tubular marsupial enamel into line with human enamel. But Fish and Jeffery have shown that the interprismatic substance does not stain, it being only the prism sheaths that do so. Howard Mummery is thus the only "vitalist" writer amongst those here reviewed who considers the prism sheath to be the channel along which metabolism can take place. There is thus complete confusion among the vitalists as to the

medium by which any vital action in the enamel can take place.

As regards the organic content of enamel, which Sprawson and Bury, confirming Sir Charles Tomes' earlier experiments, have shown to be so inconsiderable—insufficient, one would almost imagine, to sustain elaborate metabolism—"vitalists" might object that Sprawson and Bury's samples were bound to give too low a figure, as they would contain too great a proportion of enamel from nearest the surface, and so would not include to any extent the tufts and spindles. This criticism, however, can hardly apply to the earlier experiments of Tomes. Mummery¹⁴ would have considered the 1 per cent. to 2 per cent. organic matter found by Lovatt Evans¹⁵ as sufficient to account for the histological evidences of its presence. But should Lovatt Evans' 1 per cent. to 2 per cent. be the correct figure, we should expect more than the very inconsiderable residue left on decalcification with acids, when we remember the statement by Sir Charles Tomes that "the shell of pinna (a type of mussel), which has a prismatic structure, when decalcified leaves a perfectly coherent organic residue more bulky when wet than the fragment of shell itself. Yet this organic residue when dried is found to amount to only 1.3 per cent. by weight."

Finally, the enamel is an epithelial structure, and it is no uncommon thing for the outer layers of the epithelium to become dead and inert; in fact, it is usual in the outer layers of the skin. It is usual, too, of course, for the epithelium to receive its nourishment from the connective tissue below, so why should not the dentine nourish the enamel? The trouble about this is that, after the enamel is fully formed, the enamel cells all disappear, and even if calcific material were to be passed from the dentine and its odontoblasts to the enamel, there are no ameloblasts in the latter tissue to elaborate it into enamel.

It would, therefore, seem that we must, until much more convincing evidence to the contrary is produced, continue to look upon enamel, with E. W. Fish, as an inert substance and its age-change towards impermeability as being due to a keratinisation of its organic framework, and must still place our reliance when combating caries on those methods best calculated to protect the enamel surface from plaques of fermentable carbohydrates; unless, of course, one should happen to prefer the more complicated and, as some of us think, fantastic theory of

F. W. Broderick, which also does not postulate a vital enamel.

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BROADCAST talks on child welfare will be given during the autumn, on Fridays at 10.45 a.m., commencing October 6th, under the title of "Commonsense and the Child." Various physicians who have specialised in the care of children will deal in the talks mainly with the baby under two years of age, but in two, on "A Diet for a Family," suggestions will be made for meals for a family where there are older children. A pamphlet is being issued in connection with these, as well as with the cookery talks. Both may be obtained for 3d. post free, from the Publications Department, Broadcasting House, London, W.1. The cookery pamphlet works out in further detail the advice given with regard to food, and various alternatives for a week's meals are included. Welfare Centres and similar organisations can obtain a small reduction in price if the pamphlets are ordered in lots of not less than two dozen. A specimen copy will be sent on application to the British Broadcasting Corporation.

The Intradermal Tuberculin Test.

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Based on a Memorandum prepared at the request of the Joint Tuberculosis Council.

IN epidemiological enquiries the Mantoux test is invaluable, but the value of a positive Mantoux test for the diagnosis of active tuberculosis as a clinical entity in adults is almost useless after the early years of childhood, because it occurs in a large number of healthy persons never likely to develop clinically active tuberculous disease. A positive finding within the first two years of life does, however, possess definite importance. The early onset of sensitivity implies early infection, and this, as we know from Blacklock's recent work, and that of others, strongly suggests the probability of active and severe disease. This inference is not, however, to be looked on as invariably true; the evidence provided by the test is suggestive only and not conclusive.

The value of a negative Mantoux test is very great in childhood, and even to some extent in adolescence and adult life, because it may help to clear up the diagnosis by excluding tuberculosis where other clinical findings are regarded as suspicious. To be of value, however, a negative must be a conclusive one. In this connection, the Mantoux test is definitely superior to the von Pirquet test. A von Pirquet test carried out with undiluted old tuberculin is only equivalent to a Mantoux test carried out with 1/10th of a c.c. of a 1/1,000 dilution of old tuberculin. One cannot make the von Pirquet test any stronger unless one obtains specially prepared tuberculins for the purpose—a matter of great difficulty. The Mantoux test, however, if found negative to 1/1,000 (the equivalent to a von Pirquet) may still prove positive to 1/100, or even to 1/10. If a healthy child or adolescent or even an adult is definitely negative to 1/100 or 1/10, a diagnosis of active tuberculosis may, I think, be excluded. It is only true of healthy persons, because certain diseases, such as measles, influenza, etc., and certain forms of tuberculosis, such as acute miliary, and other forms of the disease in its terminal stages, are accompanied by a loss of tuberculin sensitivity and a state of "anergy" which may lead to a negative response to the Mantoux test.

I now come to more general considerations. If the Joint Council desires to advocate an extended application of the Mantoux test throughout England and Wales, they have my entire support, provided these tests are applied chiefly for epidemiological enquiries and the acquisition of further knowledge. It must be conceded that we do not yet know the exact implication of differences in tuberculin sensitivity as between individuals, or in different age and racial groups, and we require more knowledge on this subject.

The results of the South African enquiry definitely suggest that hypersensitive reactions may exist without any considerable degree of resistance. The evidence, in fact, suggests that the higher the tuberculin sensitivity the greater the risk of subsequent tuberculosis in these susceptible African tribes. Is this true to any extent of European populations? The evidence which I have so far accumulated does not point definitely to such a conclusion, though it is, perhaps, rather suggestive. Females in Wales are liable to a more severe form of young adult tuberculosis than males; and my investigations suggest that they have a greater degree of sensitivity than males. This work is based on small numbers, and is not by any means conclusive but merely suggestive. It will require many years of follow-up work before we know whether these results have a definite meaning, or whether they are merely erroneous conjectures.

What we want is a large number of accurate observations, especially on children, both in contact families and healthy families, with repeated tests at intervals of three years, if possible, up to the termination of school age. Every case so tested should be given a record card to allow of following-up as far as possible during his or her subsequent life history. Only by such an investigation can we learn whether high tuberculo-sensitivity is associated with an increased liability to develop tuberculosis in later years, or whether the reverse is the case.

We require to know also whether a very severe reaction to a relatively low dilution is or is not more suggestive than a slight reaction

to a high dilution. The two often go together, but not invariably.

To make our observations of real value, it is necessary to carry out the Mantoux test, not with one dilution only, but in serial dilutions, starting with, say 1/100,000, and continuing until a positive has been reached, or until the case has proved negative to 1/100, or even 1/10.

Graded Tuberculin Tests.—The intradermal tuberculin test of Mantoux lends itself well to the determination of the degree of hypersensitivity to tuberculin in terms of the "end-point" of reaction to each individual test.

There are at least two factors involved in the reaction to tuberculin:—

- (1) The degree of hypersensitivity of the patient,
- (2) The amount and concentration of tuberculin injected,

and there is reason to think that the greater the degree of hypersensitivity the less the amount of tuberculin necessary to evoke a reaction. Thus, the use of a series of "dilutions" of tuberculin in each of a group of individuals may be expected to elicit differences depending on the different degrees of hypersensitivity of the persons composing the group, some of whom will react definitely to low and not at all to high dilutions; others to both high and low dilutions.

The most suitable diluting fluid is 0.5 per cent. carbolic acid in sterile normal saline solution.

A convenient series of dilutions of Koch's old tuberculin for routine use is as follows: 1/100, 1/1,000, 1/10,000, 1/100,000.

The dilutions can be made up by means of an accurately graduated tuberculin syringe or, preferably, by means of sterile graduated pipettes, and stored for use in vaccine phials capable of holding 20 or 30 c.c., and provided with rubber caps through which the needle can be introduced when it is desired to fill the syringe for injections.

It is best to start by inoculating on the same day with the two highest dilutions, 1/100,000 and 1/10,000. The results are read on the third day (48 hours). If a "positive" is obtained to either dilution, the reaction is measured and its dimensions in m.m. recorded, no further tests being necessary, as it is found that those reacting to the higher dilutions invariably give a still more marked reaction to the lower ones, so that the patient may be spared the further injections. When, how-

ever, the patient remains negative to the higher dilutions, the two lower dilutions, 1/1,000 and 1/100 are given, preferably on the other arm, and the results read after a further 48 hours. When a "negative" is recorded to these dilutions, it may be advisable to test with a 1/10 dilution, since a definite though small proportion of those failing to react to 1/100 still show a positive reaction to 1/10.

The individuals tested are grouped according to the "end-point," i.e., the highest dilution of tuberculin to which they react, and placed in sub-groups according to the extent of the reaction to any given dilution.

Further information is needed as to the exact significance of very marked hypersensitivity to tuberculin, nor is there accurate knowledge as to the respective significance of a very high end-point on the one hand or a very marked reaction to a more concentrated tuberculin on the other.

There is, however, some reason to think that in young children a very marked reaction to a dilution of 1/10,000 or over, or a very intense and "vesicated" reaction to 1/1,000, is suggestive of the existence of active lesions.

It is to the elucidation of these points that a more intensive study of graded intradermal tuberculin tests in young children, and especially in "contacts," is needed.

DR. JOHN FRANCIS PORTER, Medical Officer of Health for the Helmsley Rural District, has recently resumed his official duties after a prolonged illness. Being 94 years of age, it seems likely that he must be the senior on the active list of the public health service. He is regarded as "the grand old man of Ryedale" and the oldest magistrate and farmer in Yorkshire. He has rendered especially good service in securing water supplies for the villages in his sanitary area.

A POST-GRADUATE Course on Non-Pulmonary Tuberculosis will be given by the Medical Superintendent of Princess Mary's Hospital for Children, Margate, and the Medical Superintendent of the Royal Sea Bathing Hospital, Margate, from October 9th to 14th, 1933. Full information with regard to the Course, the fee for which is £3 3s., may be obtained from Dr. William Brand, Hon. Secretary for Post-Graduate Courses, Joint Tuberculosis Council, 8, Highway Court, Beaconsfield, Bucks.

The Society.

Reports, Proceedings and Announcements.

NOTICES.

ROLL OF MEMBERS, 1933-34.

Members are reminded that final corrections of entries for the new Roll must be received at headquarters by September 15th. The Executive Secretary would be glad to receive by that date information of any recent changes of appointment or address not so far sent to him.

ANNUAL DINNER.

The Annual Dinner of the Society will be held at the May Fair Hotel, London, on Thursday, November 23rd next. The Minister of Health has accepted an invitation to attend. Tickets, price 12s. 6d. (exclusive of wines).

THE METROPOLITAN BRANCH.

President: Dr. James Fenton, M.O.H., Kensington.
Hon. Secretary: Dr. Vynne Borland, M.O.H., Bethnal Green.

The annual meeting of the Council of this Branch was held at the London School of Hygiene and Tropical Medicine, on May 26th, 1933. The Vice-President (Dr. G. Clark Trotter) occupied the chair, and thirteen other members were present.

It was agreed to recommend that the Branch Council for the ensuing year should consist of all metropolitan medical officers of health belonging to the Society; the county medical officer of health, and one of his assistant medical officers; two assistant medical officers of health; and one representative of each Group of the Society.

The Hon. Secretary submitted the draft annual report, which was duly adopted by the Council. It was resolved that copies be circulated to members with the next Branch agenda.

The annual meeting of the Branch followed the Council meeting. Dr. G. Clark Trotter occupied the chair, and was supported by twenty-three other members.

Dr. Charles Porter was congratulated by the Branch on his election as President of the Society, and Dr. Howell expressed himself similarly on Dr. Fenton's election as Honorary Editor of PUBLIC HEALTH.

The Branch Council submitted nominations for the election of officers for the ensuing session, and the Chairman declared the following elected:—

President.—Dr. James Fenton.

Vice - Presidents.—Drs. Cameron and Trotter.

Honorary Treasurer.—Dr. Keith.

Honorary Secretary.—Dr. Borland.

Honorary Secretary of Special Purposes Committee of Branch.—Dr. Thompson.

Representatives of Branch on Council of Society.—Drs. Fenton, Borland and Thompson.

Reports on the Council meetings held on March 31st, April 28th, and May 26th, were approved. The Council's recommendation of May 26th, as to its constitution for the ensuing year was approved, and the accounts for the past year were adopted.

At the conclusion of the meeting, by arrangement with Professor Jameson, Dr. Haldin-Davis read a paper on "The Prevention of Industrial Diseases of the Skin." Members of the Home Counties Branch of the Society and of the Food Group of the Society of Chemical Industry were also present, and after an interesting discussion thanks were expressed to Dr. Haldin-Davis for his excellent contribution, and to Professor Jameson for kindly allowing the use of the School for the meetings.

THE NORTH-WESTERN BRANCH.

President: Dr. T. W. Naylor Barlow, M.O.H., Wallasey.
Hon. Secretary: Dr. J. E. Spence, M.O.H., Eccles.

The annual meeting of this Branch was held at Wallasey, on May 26th, 1933, the President occupying the chair. Fifteen members and three visitors were present.

Two nominations for the office of President for the ensuing session had been received, namely, that of Professor H. B. Maitland, and Dr. Henry Whitehead (Medical Officer of Health of Wigan). On a ballot being taken, Dr. Whitehead was declared elected.

There being no other nominations, the following officers were declared elected:—

Hon. Treasurer.—Dr. G. W. N. Joseph.

Hon. Secretary.—Dr. J. E. Spence.

Council Representatives.—Drs. R. Veitch Clark, G. W. N. Joseph, and F. T. H. Wood, O.B.E.

The following members were elected by ballot to constitute the Committee of the Branch for the ensuing year: Drs. G. Lissant Cox, R. M. Galloway, H. Herd, Hamilton Hogben, E. K. MacDonald, Jean Mackintosh, C. O. Stallybrass, and H. G. Trayer.

The President (Dr. T. W. Naylor Barlow) read a paper on "**The Caravan Problem in Wallasey.**" He explained that there were approximately 2,000 caravans in Moreton, which became part of the extended Borough in 1928. A commencement was made by making closing orders in respect of 150 erections, after which a large number of appeals were made to the Ministry of Health on the ground that the erections were not houses, but only summer residences. The appeals were dismissed by the Ministry, a decision which had the effect of legally defining the structures as houses, and, as such, subject to closing orders. The next step was to represent 600 of the structures, which were congregated together, as an unsanitary area, on the ground that there was no drainage, in addition to the sanitary defects in the buildings themselves. The council accepted the representation, but there was delay in holding the local inquiry owing to the decision of the courts in the Derby case.

After the passing of the 1930 Act, the first representation was cancelled, and the area was represented anew in two parts, and two additional areas were also represented. A local inquiry was held, and the clearance orders were confirmed by the Ministry of Health. An agreement was also arrived at by some of the owners of land in other parts of Moreton, by which the owners undertook to get rid of 50 per cent. of the bungalows on their land by the end of 1932, and the remainder by the end of 1933. In cases in which the owners of buildings failed to remove the structures in accordance with the agreement, demolition orders were made.

The position now is that 1,353 bungalows have either been removed or demolished, and 83 will be demolished as soon as houses are ready. There remains to be dealt with 368 bungalows, namely, 205 under agreement,

and 163 in clearance areas. No special powers were found to be necessary to deal with the problem, but were promised if they should be necessary.

Dr. Barlow stated that trouble was occasionally caused by the removal of a caravan, on which a demolition order had been made, in the interval before the order became operative. In such cases an effort was made to trace the caravan, and its removal was notified to the medical officer of health of the district into which it had been removed, a procedure which subjected the health department to a considerable amount of abuse by the owner of a caravan.

In the discussion which followed, Dr. F. A. Sharp, of Preston, referred to the action which had been taken by him under Section 27 of the 1907 Act. He stated that caravans are temporary buildings, and require the approval of the council under the building bye-laws before erection.

Dr. C. O. Stallybrass questioned the ability of the occupants of caravans to pay the rent of corporation houses, but it was pointed out that the 1930 Act made provision for the adjustment of rents where necessary, and that a pool would be formed to be applied in the reduction of rents of large families.

Dr. Morley Mathieson, in proposing a vote of thanks to Dr. Barlow for his interesting address, remarked that although 1,300 bungalows had been demolished, only 300 houses had been provided, the explanation being that many were only used as summer residences, and that many of the residents had left the district.

The vote of thanks was seconded by Dr. F. T. H. Wood, who congratulated Dr. Barlow on having the opportunity of carrying out such an unusual problem, and on his courage in surmounting so many difficulties.

At the conclusion of the meeting, the members and visitors were met by His Worship the Mayor of Wallasey (Mr. Alderman F. S. Atkin, J.P.), and the Mayoress, and were taken to view the developments on the New Brighton promenade, the new open-air swimming pool, and the bungalow dwellings at Moreton.

On their return to the Town Hall, the members were entertained at tea by the Mayor, who extended to them a hearty welcome to the Borough, and greatly regretted his inability to be present during the whole of the meeting owing to another engagement.

On behalf of the members, Dr. Rees Jones thanked His Worship for his hospitality, and Dr. Barlow for the excellent arrangements he had made for the meeting. Mrs. Rees Jones expressed the appreciation of the visitors for the hospitality extended to them.

THE NORTHERN BRANCH.

President: Dr. A. Stuart Hebblethwaite, M.C., M.O.H., Sunderland.

Hon. Secretary: Dr. J. A. Charles, M.O.H., Newcastle-upon-Tyne.

The annual summer meeting of this Branch was held at Grindon Hall, Sunderland, on July 14th, 1933. The President and thirteen members were present.

On the motion of Dr. Hebblethwaite, duly seconded, it was unanimously agreed that Dr. J. O. Murray (Medical Officer of Health, Tynemouth) be nominated President of the Branch for the session 1933-34.

It was agreed that the nomination for Vice-President be left in the hands of Drs. Hebblethwaite, Franks and Charles, and that they submit a report to the next meeting of the Branch.

Dr. J. A. Charles was re-elected as Honorary Secretary and Treasurer.

Drs. G. C. M. M'Gonigle and J. A. Charles were re-elected as Branch Representatives on the Council of the Society.

Drs. A. S. Hebblethwaite and A. E. Raine were elected as the direct public health representatives on the Council of the North of England Branch of the British Medical Association.

Dr. Mary E. Howie was re-elected as one of the two representatives of the Northern Branch on the Executive Committee of the Newcastle-upon-Tyne Division of the British Medical Association. The appointment of the second representative was left over until the next meeting of the Branch.

It was decided to invite the North of England Branch of the British Medical Association to elect a general practitioner direct representative on the Northern Branch Council of the Society of Medical Officers of Health.

The Honorary Secretary was instructed to represent to the North of England Branch of the British Medical Association that the re-election of Dr. James Hudson would be welcomed by the Northern Branch of the Society.

The members then adjourned to the Grindon Mill Inn, where they were entertained at lunch by the kind invitation of the President.

In the afternoon several of the members played golf, while others visited the wards and grounds of the Grindon Hall Sanatorium.

Later a small party inspected the farms, dairies and "certified" herds of Mr. E. Greenshields, at East Herrington.

A tour was also made of the Grindon Convalescent Home for Children.

After these visits the members were entertained at tea by Mr. Greenshields, and the President, on behalf of the Branch, warmly thanked him for the splendid arrangements made for the visit, which had proved to be most interesting and instructive.

THE WEST OF ENGLAND BRANCH.

President: Dr. R. H. Parry, M.O.H., Bristol.

Hon. Secretary: Dr. P. H. Stirk, M.O.H., Exeter.

A meeting of this Branch was held at the Guildhall, Exeter, on July 28th, 1933. Nine members were present.

The following officers were elected for the session 1933-34:—

President.—Dr. A. E. Remmett Weaver, Medical Officer of Health, Weston-super-Mare.

Vice-President.—Dr. Dunstan Brewer, Medical Officer of Health, Swindon.

Hon. Treasurer.—Dr. J. F. Blackett, Medical Officer of Health, Bath.

Hon. Secretary and Representative on Council of Society.—Dr. P. H. Stirk, Medical Officer of Health, Exeter.

The members then proceeded by car to the new activated sludge sewage disposal works, where Mr. R. H. Dymond, the City Engineer and Surveyor, conducted the party on a tour of inspection.

After tea had been taken at Tinley's Café, Cathedral Close, Exeter, on the invitation of the Hon. Secretary, a cordial vote of thanks was passed to Dr. Stirk for the excellent arrangements made for the meeting.

Maternity and Child Welfare Group.—The names of Drs. Grace Calver and Maule Horne should have been included in the list of members of the Committee of this Group, published in the August number of PUBLIC HEALTH (p. 377).

The Literature of Preventive Medicine.

Mental Deficiency. Stoke Park Studies. Edited on behalf of the Medical and Consultant Staff of Stoke Park Colony, Stapleton, Bristol, by RICHARD J. A. BERRY, M.D., F.R.C.S., F.R.S.E., Director of Medical Services. London: Macmillan and Co., Ltd., 1933. pp. 249. Price 10s. 6d. net.

This is the title given to the first volume of Stoke Park Monographs on Mental Deficiency and other Problems of the Human Brain and Mind. Rightly it is dedicated to the memory of the late Reverend Harold Nelson Burden, Founder and first Warden of the Incorporation of National Institutions for Persons requiring Care and Control, since, but for his generosity, and that of his widow, the valuable work upon which the monographs are based might not have been done. The 17 contributions which make up this memorial volume represent original research, study and thought, and though some have been already published, all have been specially prepared for this work. The volume is admirably balanced, and extremely well produced, the illustrations practically without exception being markedly appropriate and of real value. The first of the series, the present volume is certainly of a very warm welcome, and the hope inevitably will be expressed that there are many more to follow.

Social Science for Health Visitors. By EVELYN WILKINS, B.A. (LOND.), Head of the Department of Hygiene and Public Health, Battersea Polytechnic, London. London: Edward Arnold and Co., 1932. pp. 128. Price 4s. net.

In the examination for the health visitor's certificate there seem to be a growing tendency to attach importance to social problems and procedures associated with their solution. Unfortunately for the candidate, the number of text-books on the subject is limited, and it was with the object mainly of meeting the needs of students preparing for the examination that Miss Wilkins produced this book. The task she set herself—being well qualified to carry it out—she has done very well. To the student it is recommended without any hesitation at all, and even by health visitors in office it will be found both helpful and suggestive.

Vitamins and other Dietary Essentials. By W. R. AYKROYD, M.D., late Beit Memorial Research Fellow. London: William Heinemann (Medical Books) Ltd., 1933. pp. 218. Price 7s. 6d. net.

Books on vitamins and dietetics increase in number steadily year by year, and though some of them need not be added to the list of those worth while, this by Dr. Aykroyd is not one of these. As a matter of fact, it deals very simply and very pleasantly with questions relating to dietetics and particularly with the problems of malnutrition, the author interestingly and convincingly seeking to drive home a belief that is shared by many, that the majority of mankind lives on a diet which modern research has shown to be defective. The deficiency diseases, like the various other matters, are clearly dealt with and authoritatively discussed.

Food, Health, Vitamins. By R. H. A. PLIMMER, D.SC. (LOND.), Professor of Chemistry in the University of London at St. Thomas's Hospital Medical School; and VIOLET G. PLIMMER. London: Longmans Green and Co., 1932. pp. 143. Price 3s. 6d.

When it comes to questions relating to food and dietaries and vitamins, the name Plimmer is one to conjure with. When there are two Plimmers (R. H. A. and Violet) on the title-page of a book of the kind and that book is in its fifth edition at the end of seven years or so, there is nothing for a reviewer to say: nothing certainly is called for from him in the way of commendation or of recommendation to readers.

RAWMARSH Urban District Council have accepted with regret the resignation of Dr. G. H. Menzies, Medical Officer of Health, and Medical Superintendent of the Isolation Hospital.

A NEWLY-CREATED post of Assistant Medical Officer of Health at Nottingham is to be filled by Dr. Ivor G. Davies, at present an Assistant Medical Officer at the North Wales Sanatorium, and formerly Assistant Medical Officer of Health at Bristol.