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Editorial.

On the State of the Public Health.

THE report of Sir George Newman for the year 1932* reads as if it might not improperly be counted the most satisfactory he has ever submitted on the State of the Public Health. Having regard to the circumstances and the conditions prevailing, it might very well be regarded as the most remarkable. With the country in the grip of a great depression, with unemployment widespread, that the Chief Medical Officer of the Ministry of Health should find himself in a position to report that the national health was not only just as good, but in many respects better than in normal times, is staggering. Since the view widely held and quite commonly expressed was that there must be a mark on the

people of the country because of the adverse conditions, it is not strange that one of the main researches to which Sir George devoted himself throughout the year was aimed at determining the extent of the injury. Even to him, probably, it came as a surprise to find that there was no evidence whatever to be obtained from vital statistics, or routine or special reports of medical officers of health or school or national health insurance medical officers, of any marked effect upon the health of the nation generally, or of widespread malnutrition. He was enabled, therefore, to controvert such alarmist statements as were broadcast at intervals during the year that, in spite of statistics, malnutrition was markedly present amongst both adults and children, and that the only way to describe Britain was as a "hungry Britain, badly fed, clothed and housed." Very properly Sir George has set out fully the various data upon which his

* Annual Report of the Chief Medical Officer of the Ministry of Health. H.M. Stationery Office. Price 4s. net.

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conclusions are based, and the strikingly convincing chapter on Unemployment and National Health is one certain to be widely read.

Possibly because the enquiry into unemployment and malnutrition provided something of an inclination in that direction, the report seems to contain rather more than the usual amount of discussion on food and nutrition. It is curious that, having failed to find evidence of widespread malnutrition, there should be so much of criticism of the country's methods and practices in relation to food and feeding, and so much stressing of the lack of knowledge of dietetics and nutrition generally. As a fact, there are a number of statements that are quite scathing, many of them unfortunately only too true with regard to certain sections of the population in various parts of the country. A most interesting part of the discussion on food is that submitted under the heading "A New Problem in Food Adulteration," in which attention is drawn to the increasing importance from the point of view of the consumer of treatment or sophistication for commercial purposes. Amongst processes of which note is made is fumigation of food with toxic gases to destroy insect pests; the "bleaching" and "improving" of flour, and the addition of vitamins, empirically, to a variety of foods. The impression given, and rightly, is that the last is, perhaps the most important of all, though it is impossible to see, having regard to the amount of injudicious and unrestrained talk by experts, self-styled and other, on the wonders of the accessory food factors, how food producers and dealers can be blamed for trying to give the public as large a supply as possible of such valuable substances. The frankness of the report on these matters is equalled by the frankness of the reference to milk pasteurisation, Sir George Newman declaring himself quite definitely favourable to the procedure, and repeating a statement already several times made that a most formidable obstacle in the way of progress is the producer-retailer. Fortunately, neither this fact nor a multitude of others, economic or what not, fully discussed or only hinted at in the report, have been able to stay advance in activities in the public health interest or to prevent improvements in the health conditions of the people.

The statistical returns are wonderfully good,

the general and key death-rates continuing their downward trend, and the communicable diseases showing a definite and proper reaction to all the preventive works done in regard to them. Tuberculosis is coming more and more under control, and so also are the venereal diseases. Cancer is a source of anxiety still, but there is no indication of abandonment of hope that it will come under control. In the field of health insurance, and fields opened up by the operation of the Local Government Act, in relation to hospital provision, for example, progress is noted and a hopeful note is struck. Maternity and child welfare schemes almost universally are working well, though there is still room for improvement so far as maternal mortality is concerned, a matter that health authorities in some cases might do a great deal more about.

And for his final word, Sir George, it is not surprising to find, turns again to the need for a closer mutual co-operation between the medical officer engaged in the public health service and the medical practitioner in practice. The necessity for realisation by the medical student and practitioner alike of the importance and interest of preventive medicine, of the enlarging sphere of professional work it has opened before them, is again stressed. Of all the possible sources of revelation of these things it is doubtful if there is any better, more instructive and attractive than Sir George Newman's official reports, and more especially that on the State of the Public Health. Of all that he has ever produced there is none better than that for 1932, and if the medical student and practitioner will only study and properly appreciate its bearings, there is every reason to believe that the state of the public health, good as it is, could be markedly bettered.

Public Health in India.

IN practically all respects the health of the British and native troops in India continues to be good, and no special prevalence of disease has occurred. This is one of the outstanding facts recorded in Volume II of the annual report of the Public Health Commissioner with the Government of India for 1931, the subject matter of which has, amongst other virtues, that of brevity, a somewhat unusual feature in official publications.

The volume contains much information that is interesting and instructive, though some at least has apparently already appeared in the Army medical report for the same year. Three-quarters of the present report consists of an appendix giving the admissions to hospital, deaths and casualties, which might well have been omitted.

Although not so important in military as in civil life, it is satisfactory to learn that progress is continued in maternal and infant welfare, and much benefit has resulted from the establishment of combined hospital and child welfare centres, especially for the families of Indian troops. It is rather surprising to note that abortion was the principal cause of admissions to hospital for the women of the British Army. This is clearly a matter which demands some investigation. Improvements in hygienic conditions have chiefly taken the form of better accommodation for both British and native troops.

Obituary.

HENRY CUNNINGHAM MULHOLLAND, M.B., B.CH., N.U.I.; D.P.H.

THE Society records with regret the death of Dr. H. C. Mulholland, a member of the North-Western Branch. Graduating at the National University, Ireland, he first took up work as a general practitioner at Hyde, Cheshire. During the war he was a Captain in the Royal Army Medical Corps, and saw active service in France. His career in the public health service commenced in 1919, when he was appointed Assistant Medical Officer of Health and Assistant School Medical Officer for Doncaster. In 1921, he secured the appointment of Medical Officer of Health and School Medical Officer to the Swinton and Pendlebury Urban District Council, but was forced to resign in 1931 owing to tubercular condition of the spine. During the period of his service at Swinton he commanded the greatest respect, and was held in the highest esteem by the council, officials and public alike. Dr. Mulholland had not only an exceptional gift for the duties required of a medical officer of health, but performed those duties with such enthusiasm that there is little doubt that it contributed very largely to his ultimate breakdown in health. His death followed an illness of three years' duration, of which two years were spent in the Shropshire Orthopaedic Hospital, Oswestry. By his

death at the early age of forty-six, Dr. Mulholland leaves a widow and two children, to whom the sympathy of the Society is extended in their bereavement.

H. J. EGERTON HUTCHINS WILLIAMS, M.D., D.P.H.

The death of Dr. Harry John Egerton Hutchins Williams, Medical Superintendent of the Sheffield City Infectious Diseases Hospitals, is announced with regret. Born in 1870, at Aylesford, Kent, Dr. Egerton Williams received his medical training at Middlesex and King's College Hospitals and the University of Brussels. His earlier appointments included those of Assistant Medical Officer at Whitechapel Infirmary from 1892 to 1893; Assistant Medical Officer at Holborn Infirmary; Assistant Medical Officer at the Eastern Hospital (under the Metropolitan Asylums Board); Senior Assistant at the Board's Northern Hospital; and Senior Assistant at the Eastern Hospital. In 1901, he took charge of Lodge Moor Hospital (the chief fever hospital in Sheffield) and later of four other city hospitals. This post he held for over thirty years, and during that time, made of Lodge Moor one of the most modern hospitals in the country, devoting continuous and untiring energy in building up the institution to a high standard of efficiency. As a teacher, Dr. Williams was held in great esteem, and many generations of students owe much to the common-sense, practical instruction which they received at his hands in the diagnosis and treatment of fevers. He was a Fellow of the Society of Medical Officers of Health, and took an active part in the work of the Fever Hospital Medical Service Group. By his death the citizens of Sheffield have lost a faithful and devoted servant, and the medical profession an honoured and trusted colleague. His widow and two sons survive him.

DR. C. A. BRIGSTOCKE, Medical Officer of Health of the Borough of Haverfordwest for the past forty-three years, has tendered his resignation. Dr. Brigstocke, who is a Fellow of the Society of Medical Officers of Health, celebrated his ninetieth birthday last June. He was in practice at Llanelly during the cholera epidemic of 1866, and for his share in combating the scourge he received a testimonial from the inhabitants.

Modern Conceptions of Immunology.

By H. A. MITCHELL, M.D., Medical Director, Evans' Biological Institute, Runcorn, Cheshire.

When Dr. Mitchell read his paper before the Northern Branch of the Society, the opinion generally expressed by those who heard it was that they had been given a very clear description of modern views on immunity. That opinion readers of the journal cannot fail to accept.

THE struggle for existence, whether in man or bacteria, is a struggle for food, since to maintain life there must be energy, and the source of energy is what we think of as food.

The maintenance of life depends on the ability of the organism to utilise what is available in the way of food, to break it up into a form suitable for its purpose, to assimilate it and convert it into energy.

It is well recognised that there are certain basal requirements. The dormant animal requires considerably less energy, and, therefore, less food, than one which is very active, and if an animal can only obtain a limited amount of food, it must inevitably become dormant. Bacteria in a dormant state are more or less harmless, and even lose their power of reproduction to a very great degree. There are, of course, many factors influencing an epidemic. It is not simply a question of adequate supplies of food, but also there must be the necessary set of conditions whereby the food can be utilised. The animal to be attacked contains the required food in easily assimilable form, and offers ideal conditions for the invading organism to thrive and multiply, but before the invading organism can gain entrance there must be some breaking down of the natural defences of the animal. These natural defences are known collectively as immunity.

Immunity as understood by the bacteriologist is that condition of an animal, on account of which its tissues cannot be invaded by a bacterium or, if they are invaded, are destroyed by them. If the microbe cannot break down and assimilate the tissues of the animal, that animal will suffer no ill effect, and the microbe will die. In other words, such an animal is immune to that particular infective agent.

Bacteria are fungi, constituting a sub-group known as Schizomycetes or "fission-fungi."

They can be divided roughly into three groups, viz:—

1. *Saprophytes* which have the power of splitting up dead organic material, thus releasing the simple nitrogenous salts essential for plant life. A practical application of this phenomenon is the septic tank in which, by the action of saprophytic organisms, sewage is converted into an innocuous effluent which can safely be run into rivers.

2. *Symbiotic organisms* which, as their name implies, live in conjunction with other forms of life.

3. *Parasitic organisms*. This group is the one with which we are especially concerned. These organisms are able to live and multiply at the expense of living tissues. They accomplish this through certain poisonous products known as toxins which they produce and which, by a ferment-like action, break down living tissue.

These pathogenic bacteria are of many kinds, and, according to their environment, have adapted themselves to various conditions. Consequently we find that each type thrives best on a certain tissue, or in certain animals. They are more or less universal, and it is obvious that unless living tissue has some protective mechanism against their toxic influence, life would not be possible. This protective mechanism is present in all animals, and, depending on the maintenance of it, life can go on. The balance of power in health is on the side of the tissues, and pathogenic bacteria are held in check. Once that balance is upset, the need for the medical man or the surgeon arises. It is a significant thing that sooner or later one or other of these pathogenic organisms invariably gets the upper hand, and death ensues; and a true appreciation of the reasons for that failure on our part to withstand attack indefinitely may lead us eventually to the conquest of death. Meanwhile, efforts are directed towards an understanding of the mechanism whereby we can, for varying periods up to one hundred years or so, successfully withstand this insidious enemy.

Years ago, Jenner successfully protected human beings against smallpox, by vaccinating them with material obtained from cowpox. In reality, what he did was to bring about a mild form of smallpox which, without the attendant risks of virulent smallpox, established a suitable resistance against it. This discovery has withstood the test of time and, although bitterly assailed in many quarters, it remains a reasonable and effective method of protection against the disease. We believe that a mild attack of smallpox establishes in the patient an immune condition, a resistance, an increase of natural protection, which effectively prevents any further inroads by that particular disease.

It was Pasteur who saw in Jenner's results on smallpox the possibility of a general law applicable to all disease, viz., that by causing an animal to undergo successfully a mild infection, protection is afforded to that animal against a more severe and perhaps fatal attack of the same infection brought about naturally or artificially. He appreciated the fact that such immunisation, when brought about, is definitely protective and specific. Unfortunately, however, it has only been possible in a very few cases to obtain a living organism sufficiently attenuated as to be safe for administration. Pasteur was able to treat rabies in this manner, and at the present time we employ living attenuated cultures for the treatment of anthrax, blackleg, and contagious abortion in cattle. It also forms the fundamental basis of the production of immune sera.

For many years it was believed that the use of a living virus, no matter how attenuated, was essential for the production of satisfactory prophylactic immunity, but gradually that belief broke down. In 1897, Haffkine carried out experiments on plague, in which he injected killed cultures, and successfully established prophylactic immunity against that disease. In the same year, Wright completely broke away from the old belief, and was able to show that typhoid fever could be prevented by inoculation with dead bacteria. To-day, there is only one human disease, viz., smallpox, in which the injection of a living virus is used to procure immunity. On scientific grounds we now look upon the use of a living virus as bad. Once injected, there is no way of controlling it, checking its growth or preventing it, if it desires, from increasing

in virulence with disastrous results to the patient. There have been attempts from time to time to re-introduce the use of attenuated viruses, a very notable example of which we know of in connection with tuberculosis. The results up to now have been unfortunate, and it is not possible to determine how long an attenuated organism will remain dormant when re-introduced into an animal. It is, indeed, by just such means that the virulence of an organism is raised in most cases.

Wright's success in producing prophylactic immunisation with killed typhoid organisms quickly led to the discovery that many other infections could be dealt with in the same way.

It is unnecessary for me here to enlarge on the differences between vaccines and sera. In the case of a serum one introduces into the body specific antibodies, artificially prepared and which are capable of neutralising the toxins produced by the corresponding infecting bacteria.

The modern tendency is to give massive doses of antitoxin at as early a stage of the disease as possible, with the object of flooding the body with ample supplies, not only to deal with toxins already present, but ready to neutralise further toxin as formed before it has an opportunity of causing serious damage.

Just how this works is not always clear, but we do know that when a toxin and an antitoxin are brought together in suitable circumstances a flocculation occurs whereby the toxin loses its toxic power but not its immunising power. In fact, we can judge of the immunising power of a toxin by its flocculation value. Extensive experiments have been carried out at Evans' Biological Institute and elsewhere which tend to show that a toxin of high flocculating power is a good immunising toxin although its minimum lethal dose figure as determined on animals may not be very great.

In a recent case of tetanus treated in a Lancashire hospital under my observation, in which serum was injected into the cisterna magna, it was found at subsequent puncture that the fluid was opaque, due, it is believed, to a flocculation of tetanus toxin present in the cerebro-spinal fluid by the antitoxins injected.

The principle involved in injecting a vaccine, on the other hand, is the stimulation of antibody formation by the body with the object of strengthening the natural resistance

against a specific infection for a more or less prolonged period, and so preventing future attacks.

Wright's original ideas were based on the principles of strict specificity, but it is now recognised that other substances, particularly of a proteid nature of origin, can bring about similar phenomena.

James McIntosh* reported his observations in this connection while investigating the causes of saline fever in relation to salvarsan therapy. It was observed that rapid healing of leg ulcers, chronic eczema, etc., frequently took place after an injection of normal saline, and on investigation it was found that this saline had been prepared from ordinary distilled water containing large numbers of dead bacteria. Patients receiving these injections exhibited the usual symptoms of what we now recognise as protein shock, *viz.*, rigor, followed by a rise of temperature, with headache, nausea, or vomiting, and a rapid pulse. The temperature would reach its maximum in about three hours, and then, accompanied by sweating, slowly fall to normal again after about eight hours. Subsequently marked improvement in the healing of various skin lesions was observed. This line of treatment is a direct development of specific vaccine therapy.

Resistance to infection following the use of vaccines depends largely on two factors, *viz.*, the production of specific antibodies and the sensitisation of the tissues to the virus. It is somewhat difficult to understand what happens following non-specific vaccine therapy, although its favourable results can so often be observed.

There appears to be a general tissue response dependent on the ability of the foreign protein to produce a febrile condition. We know now that a febrile condition in times of infection is a very good thing, and not to be suppressed. During fever, the general metabolism is increased, circulation quickened, and the flow of lymph increased. The result is that an increased flow of antibodies passes through the tissues of the body with a corresponding increase in the rate of removal of waste products.

A further phenomenon is that of the leucocyte response. After a primary leucopenia, there follows a very definite leucytosis, reaching its maximum in about twenty-four

hours. The curve is very similar to the fever curve, but not quite so prompt.

It is clear, therefore, that in vaccine therapy one has not only a specific factor at work, but a non-specific one as well.

In any consideration of the problem of infective disease, we must recognise two distinct factors, *viz.*, the infecting organism, and the patient. There has been in the past too great a tendency to concentrate on the infecting organism, and to pay too little attention to what is going on in the patient.

With regard to the former, we are handicapped by our methods of blood culture with the result that it is only occasionally that we are able to demonstrate the presence of a blood-borne infection. Clinical evidence however, supports the idea that such is present. Why, for example, should we get osteomyelitis, following a slight injury, or suppuration in a hæmatoma, or fever following a chill, if not by a conveyance of the causative agent through the blood?

A very striking evidence of this, too, was to be found in trench fever during the War. The blood of a trench fever patient injected into a volunteer consistently reproduced the disease, and we know, also, that the ordinary body louse was able to extract sufficient blood from a trench fever patient to pass on the disease to another.

The conditions existing in the patient have received more attention of latter years, and some very interesting phenomena have come to light. We have learned to recognise that there is in every person a certain amount of polyvalent antibody, but that the amount varies considerably in different individuals.

Some people are more susceptible than others to the common cold, and a simple study of the statistics of any epidemic at once shows that a large percentage of the population are unaffected and, of those affected, some follow a simple course, others get complicating conditions, whilst others do not appear to react at all, and quickly die.

We can find in the laboratory further evidences of the same nature. Normal serum in low dilutions will agglutinate *B. typhosus*, and it is well known that the growth and activity of bacteria are definitely inhibited by normal serum. It is not without significance, too, that the application of sterile normal horse serum to burns is followed by very favourable

results, not only as regards infective processes, but also as regards healing.

Wright found that the addition of an emulsion of killed organisms to normal serum resulted in the appearance of the corresponding specific antibodies in the serum, and we know that in many cases a sensitised vaccine, so called, is more effective than a simple vaccine.

Without quoting more evidence, I venture to point out that there appear to be two factors at work.

1. A specific antigenic protein element which may be supplied by the infective organism.

2. A non-specific inherent factor produced in the tissues of the body and present in normal serum. This latter factor is controlled by the former, with the result that, in the case of a specific infection occurring, there is a general response upon the part of the patient, whereby both specific and non-specific processes become focussed on the offending organism. Depending on the extent to which this can be brought into play, the ability of the patient to deal with an infection will vary.

The word antigen which is now used extensively causes some confusion. An antigen is a substance which brings about the development of specific reactive agents, formerly known as antibodies, but which I prefer to look upon as already described, *viz.*, a "complex" in which both the bacterium and the patient's tissues play a part.

Antigens are proteins, and practically all proteins may be antigenic. Before, however, a protein can be antigenic it must fulfil certain conditions.

1. It must be soluble in the fluids of the injected animal in order that it may come into contact with, and react upon, the tissue factors to produce the necessary complex.

2. It must be foreign to the living tissue of the animal, since no stimulation occurs from substances which are normally in contact. The specification "foreign," however, must be accepted in its broadest sense, else why does an autogenous vaccine prove so efficacious? The explanation probably is that a protein can be so altered structurally, physically or metabolically that on re-introduction it behaves as a foreign protein. Going a step further, one can conceive of chemical alterations of the proteins within an animal sufficient to bring about antigenic phenomena.

Vaccines are not in favour with a great many medical men, largely because of their lack of success with them. It is very probable that in such cases the vaccine has not been properly prepared, so as to ensure its full antigenic properties. Unfortunately, like organo-therapy, the field of vaccine therapy

has been exploited beyond reasonable limits, and the markets have been flooded with vaccines prepared without due regard to or in ignorance of the basic antigenic requirements. In preparing vaccines in the past the main objects have been to produce profuse growths of the organisms concerned, and even yet everything that can be got growing in so-called pure culture is washed off and put into the vaccine. Media have been chosen which will produce the most profuse growth, and yet that on the face of it may be all wrong. An antigenic protein must be either foreign to begin with, or made foreign by some means or other before it will exert its proper effect, and yet the very fact that one gets a good growth at the first attempt on artificial media would seem to indicate that the original conditions of life have been closely simulated. Obviously, therefore, there cannot have been any very great change brought about, or in other words, the protein of that organism has not been made sufficiently foreign as to be a fully effective antigen.

Another cause of failure is due to absence of the specific organism in the vaccine. Let us consider the flora of the mouth for a moment. Culture will reveal in practically every mouth a number of distinct organisms. Some of these are always present.

An infection is almost always due primarily to one organism. Sometimes a second or a third may subsequently become superimposed. Heretofore a vaccine has been prepared usually from all the organisms because of our inability to determine which were the offenders and which were not. A big stride forward in dealing with this problem has been made by what is known as pathogen-selective culture. Considerable work in this connection has been done by Cronin Lowe, of Liverpool, and others. The investigations have been directed not so much against acute infective or septic conditions in which the causal organism is indisputably present in the pathological material, as in the case of diphtheria, but rather to determine in a sub-acute or chronic case if any bacteria actually pathogenic to the patient are present in the specimens examined.

The work has been based on the observations of various people who have shown that natural immunity in animals is associated with the presence in their blood of a bactericidal agent acting against the organism concerned.

* *Lancet*, October 30th, 1926.

To take a concrete case, let us suppose that there are present, in the secretions of the upper air passages of a person suffering from a chronic catarrhal affection, four organisms. In the ordinary way, one inoculates the pathological material obtained into suitable media, and subsequently isolates the four organisms. If, however, one inoculates this material into say 5 c.c.s. of the patient's own blood, quite different results may be obtained.

Cronin Lowe, employing ordinary media as a control in each case, has classified his results on 400 specimens as follows:—

1. Six per cent. of cases showed no difference in results between the blood cultures and ordinary cultures. These cases he assumes to be generally deficient in bactericidal power, suggesting a marked absence of general immunity.

2. Thirty per cent. of cases showed only a proportion of the different organisms actually present growing in the blood culture.

3. Thirty-five per cent. of cases showed only one organism growing in the blood culture. In these cases the assumption is that the patient's resistance is defective only in respect of one organism, and that, therefore, is the offending organism.

4. Eighteen per cent. of cases yielded organisms by blood culture which were not present by ordinary culture. These cases afford a very striking illustration of the "hit and miss" nature of the ordinary vaccine.

5. Twenty-two per cent. of cases yielded no growth by blood culture, although organisms were obtained by ordinary methods. In other words, the infective focus may be in some other part of the body altogether, illustrating the idea that an infection may show up at some part quite distant from the point of entry, or again demonstrating the difference between organisms which are of definite pathogenic significance and those which are only of local infective importance.

A rather practical application of pathogen-selective culture has been suggested by Ramsay and Pearce, and others, in connection with the vexed question of tonsillectomy. We recognise the fact that the tonsils normally form one of the barriers against infection, and although they may be laden with bacteria we must not lose sight of the fact that their presence may lead to the immunisation of the patient by a process of auto-inoculation. Pathogen-selective culture might well be practised in such cases, with a view to determining whether the organisms present are actually pathogenic or not.

We now turn to another aspect of immunity, and that is local immunity. We are indebted to Besredka, of the Pasteur Institute, for much of the work on this subject.

Unfortunately, much of Besredka's work has not been confirmed by other workers, and while, therefore, we must accept a great deal of what he says with the proverbial grain of salt, I do think that there may be a measure of truth which merits more than passing attention.

As far back as 1921 it was shown that, if virulent anthrax bacilli were rubbed on the shaved skin of a guinea-pig or rabbit, a violent local inflammation resulted which, spreading to the subjacent tissues and finally to the blood stream, caused death in about four days.

If, however, an attenuated culture be used, a temporary inflammatory reaction at the site of inoculation only occurs, without fatal results. Following on such an application, the most virulent cultures could be applied without producing harmful effects. In other words, a solid immunity against anthrax could be established which did not depend primarily on the presence of specific antibodies in the blood. Besredka was further able to show that, by vaccinating the skin at one point, the whole skin of the animal becomes immune.

Confirmation of this of a very convincing nature was obtained by Plotz. This worker enclosed high doses of virulent anthrax bacilli in glass bulbs, which he introduced through an incision in the skin into the subcutaneous cellular tissue. After waiting for complete healing of the wound in the skin, he crushed the glass bulb, thereby liberating the anthrax bacilli, under the skin. Nothing happened, and yet if the glass bulb is broken before complete healing of the skin takes place, the animal dies from anthrax. The unbroken skin protects the subject from anthrax, but let there be the slightest break in continuity and the infection gains entrance.

Besredka argues that this phenomenon may be true of other bacteria as well. It is very difficult, for instance, to immunise guinea-pigs against staphylococcal or streptococcal infections by subcutaneous, intraperitoneal or intravenous injections, but Besredka was able, by applying the organism to the shaved skin or by intracutaneous injection, to establish full protection. He injected subcutaneously into a guinea-pig, doses of virulent staphylococci with the result that the animal developed a severe cellulitis with progressive oedema and gangrene. The same procedure

adopted after a preliminary skin inoculation was without such unfavourable results, indicating that a satisfactory immunity had been established.

Besredka went further in his experiments and found that he could establish excellent immunity against staphylococci, simply by applying to the skin of guinea-pigs, wet compresses soaked with cultures of staphylococci. He found that immunity developed in twenty-four hours. He presumed that this skin immunity was brought about by soluble products coming from the staphylococci and, to prove it, prepared germ-free porcelain filtrates of broth cultures of staphylococci. These were equally effective when applied to the skin and, in addition, non-toxic. These filtrates contain substances which are absolutely inhibitory to staphylococci and, in fact, it is not possible to grow them again in such a medium. Besredka called this filtrate "anti-virus." It is specific for staphylococci, is very stable and, taking into account the rapidity with which it acts and its mode of action, he came to the conclusion that here was a local or cutaneous immunity. Besredka believes that antibodies play no part in this immunisation, but I suggest that this is but another manifestation of the essential relationship which must exist to obtain immunity. The specific antigenic factor in the organism reacting on the tissue to form a "complex," the essential state for the arrest of an infective process, it may well be that what happens is simply a desensitisation of the receptive cells of the tissue concerned by the products of the organism.

For purposes of vaccine therapy the following classification of infective diseases is suggested.

A first group would contain those cases which are doing well, natural resistance being satisfactory, and no anxiety exists as to the outcome. The need for a vaccine in such cases does not arise.

A second group embraces those cases in which the infection is localised, but in which the equilibrium between resistance and infection is very unstable. In such cases the use of a vaccine is often quite sufficient to turn the scale definitely in favour of the patient. I remember a very typical case of this some years ago. A middle-aged man developed a carbuncle due to staphylococcus aureus. He was acutely ill for some time, exhibiting the

usual signs of a septic condition. The whole condition appeared to be stationary, and it was evident that it would only be a question of time before that man would die. A vaccine was prepared, and within a very few days of commencing treatment, improvement was noted and rapid recovery ensued.

There is also a third group in which the patient does badly from the start, and is obviously being overwhelmed by the infection. I doubt very much whether one is justified in using a vaccine in such cases. To superimpose a further toxic effect, no matter how transient, may well give to the infection that little extra which is needed, and before any useful effect of the vaccine can come about the damage may be done. In these cases, I suggest that there is rather an opportunity for chemo-therapy.

Although vaccine therapy is practised by a comparatively small percentage of the medical profession, I believe that it forms a useful means of treatment well worthy of trial in selected cases. Results are definitely improved when careful attention is paid to the selection of organisms and to the strains employed. Furthermore, the dosage is important. In this connection, there are two schools of thought. On the one hand, some practitioners believe in very small doses, while others, especially in America, go in for enormous doses. Behind both of these ideas about dosage is a basic principle. Small doses of the actual offending organisms, properly prepared, are quite sufficient. If, on the other hand, one does not know for certain what the offending organism is, and if the vaccine is not prepared in such a way as to bring out the essential antigenic factor, large doses may well have to be resorted to in order to get sufficient of the correct antigen in a dose.

Dosage should be given and timed according to the local and general reactions produced. It does not matter very much whether there are 500 million organisms or 5,000 million. It is the suitability of the organisms which matter, and each case becomes a law unto itself.

I would like to say something now about the active immunisation, especially of children, against diphtheria and scarlet fever, and since the basic principles underlying the two in this connection are more or less the same, I will confine my remarks to diphtheria.

A filtered broth culture of the diphtheria bacillus contains two constituents which can be measured. One of these is toxin, a highly poisonous substance which, at the same time, exhibits marked immunising powers when properly applied to an animal. The other substance is known as toxoid, which is presumably toxin so modified as to still possess immunising power without being poisonous. Both toxin and toxoid have the power of combining with antitoxin to form a neutral inert mixture, which on injection produces no harmful effect. It must, however, be exactly neutral, and one must bear in mind the possibility of secondary dissociation with consequent freeing of toxin.

In 1913, von Behring reported the active immunisation of human beings against diphtheria. The material used by von Behring was a mixture of toxin and antitoxin. In the same year the Schick test was introduced. This test is a special application of the test for the combining power of toxin and antitoxin. The injection of a small dose of toxin into the skin of man produces a typical reaction. A red flush appears in twenty-four to thirty-six hours, reaching its maximum in four days, when it is a fairly circular circumscribed area 1 to 2 cm. in diameter, and somewhat raised above the general skin level. It slowly fades, and about a week after its maximum there is left an area showing some brown pigmentation and desquamation. This reaction is prevented if sufficient antitoxin to neutralise the toxin is injected at the same time, or if antitoxin is already present in the person under test. The conclusion to be drawn, therefore, is that if no reaction follows the injection the patient already possesses antitoxin in his body and is therefore immune to diphtheria. On the other hand, if a definite reaction occurs, it indicates a lack of antitoxin and therefore susceptibility to the disease. A practical point in connection with this test is that readings should not be taken before the fourth day, since that is the time of maximum intensity, and no later than the seventh day, after which fading becomes pronounced. A study of the presence of diphtheria antitoxin in individuals at various ages is also interesting. At the end of the first six months of life about one half are Schick positive, i.e., susceptible to diphtheria. Presumably those which are immune at this stage have derived their antitoxin for the most

part from the maternal blood, since about 85-90 per cent. of women who have reached the age of child-bearing are Schick negative.

After the first six months the percentage of Schick positives rapidly increases, reaching a maximum at the end of the first year, and between the ages of twelve months and three years eight or nine out of every ten children are susceptible to diphtheria. After the second or third year of life the child apparently begins to form its own antitoxin, with the result that we observe a rapid falling off in Schick reactors. At the age of ten, only about 30 per cent. are susceptible, at fifteen years about 20 per cent., and so on in decreasing numbers. These figures correspond very well with the age-incidence of diphtheria, and serve to emphasise the fact that if active immunisation is to be carried out, the best time is between the ages of one and three years.

Another interesting point I might mention is the fact that the percentage of Schick reactors in institutions, such as orphanages, where the children live a prolonged communal life with constant risk of infection, is considerably lower than is the case with children living a more sheltered existence. One can think, therefore, of the immunising effect of institutional life. It is also recognised that any epidemic or wave of infection is invariably accompanied by a wave of immunisation.

This brings me to a few brief remarks on the prophylaxis of diphtheria. Prophylactic measures are only needed when it is known that the individual concerned is susceptible, and the Schick test, of course, gives us this information. Following on the use of toxin-antitoxin mixtures, which have been tried out very extensively in America and on the Continent, it was soon found that, in the great majority of cases, a Schick positive became Schick negative, and, therefore, resistant to diphtheria. There is sufficient evidence now to warrant the conclusion that active immunisation is definitely effective, and particularly so in those cases in which exposure to risk is high and protection especially desirable.

Under properly controlled conditions of manufacture, toxin-antitoxin mixtures can be administered to children with reasonable safety, the few accidents which have occurred having been due to circumstances in connection with the preparation of the mixture which

could not properly be foreseen, but which, now being known, can be avoided. There is, however, the fact that dissociation may occur. The addition of phenol as a preservative is sufficient to increase the toxicity of a mixture, whereas the absence of phenol increases the risk of bacterial contamination which, if pathogenic, may have serious effect on the recipient.

There are obvious advantages therefore in using a prophylactic in which the chance of such dissociation is eliminated. In 1924, Ramon introduced, under the name of anatoxin, a modified toxin or toxoid which, while relatively non-toxic, possesses its full combining power when associated with antitoxin. This diphtheria toxoid has been tried out very extensively in France and elsewhere, and results to date indicate that its immunising properties are even better than the toxin-antitoxin mixture, and without the same attendant risk.

Harrison* summarises the advantages of diphtheria toxoid over toxin-antitoxin mixture as follows:—

1. It is from 20 to 30 per cent. more effective, even when only two doses are given.
2. It contains no serum or other animal protein likely to sensitise to a later therapeutic serum injection.
3. It is absolutely without local or general reaction in practically all children under seven years of age. Reactions in older children and adults are only unpleasant, not dangerous.
4. It contains no free toxin.
5. It is more stable, retaining its effectiveness for a longer period, and is not affected by freezing.

Park and Schroder, from New York, who have been pioneers in the use of toxin-antitoxin mixtures, and who have used them extensively in New York City, now report also that they are finding toxoid more satisfactory, and expect to give up the use of the toxin-antitoxin mixture entirely.

Mixtures of toxoid and antitoxin, known as toxoid floccules have also been suggested, but there is no evidence to support the contention that they are any more effective than toxoid by itself. One must bear in mind, for what it may be worth, the undesirability of injecting anything containing horse serum unless it is absolutely necessary, as in the case of actual infection, where a serum or antitoxin is indicated.

* *American Journal of Public Health*, January, 1932.

The problem of anaphylaxis is still not understood, but we must for the moment accept the fact that some risk is attendant on a second dose of anything containing horse serum, no matter what the interval since the first dose. The percentage of people who up to now have been exposed to this risk is relatively unimportant, but with the extended use of sera, which must, in my opinion, ensue, due regard should be given to this point, and no unnecessary administration carried out. This can be avoided by the use of diphtheria toxoid for active immunisation.

It is now known that the serum of patients convalescing from measles will, on injection into exposed persons, successfully protect them from this condition. Being of human origin, it is not feasible to commercialise it, but if it has not already been done, I would urge the introduction of a convalescent measles serum pool, for use in selected cases as may be considered desirable. The blood should be collected from volunteers within ten days of the disappearance of the rash, its serum drawn off, sterilised by filtration and put up in hermetically sealed ampoules. Five c.c.s is considered to be a suitable prophylactic dose.

DR. J. GREENWOOD WILSON, Medical Officer of Health of Dewsbury, has been appointed Medical Officer of Health of Cardiff, in succession to Dr. R. M. F. Picken, at a commencing salary of £1,200 per annum.

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 9th, 10th and 11th, at 4 p.m., by J. C. Drummond, D.Sc., F.R.C., Professor of Bio-Chemistry, University of London, on "Modern Views of the Vitamins and their Functions." (b) A course of lectures on "Citizenship in Relation to Personal and Public Health," on Wednesday afternoons at 4 o'clock from October 18th to December 13th. 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 Council Reassembles.*

There was a notably large attendance at the house of the Society for the first meeting of the Council after the recess. Most of those present admitted that they had, and many, indeed, appeared to have, benefitted from rest and change. Which was just as well, as, apart from having to face the all-seeing and truthful eye of the camera (the first business being to be taken together in the form of a group), they were faced with an agenda heavy with items very numerous, varied and ticklish. Amongst other things to be done was the appointment of representatives to this and that—the National Council for the Disposition of the Dead, for example—and the election of members of Council under the rules governing elections additional to those made by Branches. A few changes were made in the process, but the majority of those elected were old, tried and trusted and valuable members, well up in the work and of proved wisdom. No names being named. In the case of most of the other representatives on committees of the British Medical Association, the order was no change, and in the case of the Public Health Committee there were many complimentary references to Professor Picken and the excellence of the services he had rendered.

Departmental Committees.

Two departmental committees of the Ministry—that on the cost of hospitals and other public buildings, and that on food law—asked for evidence from the Society. In the case of the first-named it was thought well to refer the preparation to several individuals with special knowledge, and in the case of the latter, the assistance of Dr. Savage, who had already prepared a memorandum on the subject, was again sought. The terms of reference of this committee, which have been altered somewhat since the committee, which was suspended in September, 1931, was first constituted in May of that year, are interesting and worth quoting: "To consider whether it is desirable that the law relating to the composition and description of articles of food should be altered so as to enable definitions or standards to be presented, or declarations of composi-

tion to be required, for articles of food other than liquid milk; and, if so, to recommend what alterations of the law are required." Other bodies turning to the Society for assistance were the Worshipful Company of Plumbers, and the Association of Municipal Corporations. The former (and all this goes to show how versatile is the medical officer of health, and how many and diverse are his concerns) seek his views on the "one-pipe" system of drainage and the possibility of securing that only properly trained craftsmen shall be engaged in this branch of plumbing work; while the Association of Municipal Corporations seek his views on the method of sale of "fancy" bread and the necessity for limiting the quantity of moisture in bread.

Infectious Disease in the Medical Curriculum.

A big part of the business of the afternoon—which occupied nearly three hours—was the consideration of the report and recommendations of the General Purposes Committee. This body met on July 7th, and certainly to all seeming, performed most admirably the function of saving the full Council time, trouble and labour by clearing up here and there a disgruntlement, and getting the knots of the knottier problems ready for unknotting. Also they discussed the question of the instruction of medical students in infectious diseases with representatives of the Fever Hospital Medical Service Group, and conferred with members of the Association of Public Vaccinators on the operation of the Vaccination Acts. The matter of the teaching of fevers, which has been before the Council more than once, is one that has exercised the teaching members of the Group very greatly, and it was because it seemed proper that it should be gone into in detail that it was referred for discussion at the General Purposes Committee. The main points to which attention was required to be given were as to the amount of time to be devoted to instruction and at what stage in the curriculum and by whom the course was to be given. The important matter naturally was the relationship of the course on fevers to that on public health, and the decision herein

was that it should be taken in either the penultimate or the final year of medical study. In this way, it was hoped that the teacher of public health might be able to concentrate on the preventive aspects of the infectious diseases and not be staggered, as occasionally he is, by hearing that his class has no practical knowledge of these conditions or of the provision made for dealing with them. The committee agreed to recommend the Council on lines satisfactory to the Group on this and the other questions raised.

Public Vaccinators and Voluntary Vaccination.

In the case of vaccination, having heard the views of the Association of Public Vaccinators, which were against the placing of vaccination on an entirely voluntary basis, the committee decided merely to recommend that the statements made should be given publicity by means of publication in the journal of the Society. The Council raised no objection to this, and they will be found elsewhere in this issue. So far as is known, no definite official step has been taken in the direction of introducing changes in the law and procedure in regard to vaccination, though in the report of the Ministry of Health it is stated that the majority of authorities appear to favour 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. As the public vaccinators may claim to know something of the practice of vaccination, of the attitude generally of the people towards compulsion, and of the difficulties of securing its acceptance, the views expressed in the statements submitted on behalf of their Association will be read with interest and must receive due weight.

Health Week and Diphtheria Immunisation.

In their statements the public vaccinators, it will be seen, make several references to diphtheria immunisation, and rather suggest that, desirous as people in some areas appear to be to take advantage of the protection offered, both they and those engaged in carrying out the procedure are likely to find themselves becoming less enthusiastic after a time. At the moment there seems to be little sign

of cooling off on the part of either the public, or the authorities or their officers. So far as the last-named are concerned, it will be remembered that the meeting at which the subject was discussed last session was the largest ever held. Also it is noticeable that in Health Week programmes, diphtheria immunisation appears quite frequently as an item. The propaganda material available for use in connection with this subject is increasing both in amount and attractiveness, and though authorities in this country may have been behind other countries in establishing schemes and recommending immunisation for adoption in their areas, progress is being accelerated, thanks largely to the use of slogans, posters, leaflets, films and so on. Of leaflets, that issued by the National Baby Week Council is an extremely good example, and it is not surprising to learn that arrangements are being made for its distribution during Health Week in a number of districts whether or not special reference is made to diphtheria immunisation in the programme. Like a number of other propaganda bodies, the National Baby Week Council is anxious to assist in every way possible to make Health Week (October 8th to 14th) a success. Anyone desirous of finding out about such assistance, or about the diphtheria or any other leaflet, need only write to the Secretary at—is it necessary to say?—117, Piccadilly, London, W.1.

In Memoriam Walter Reed.

"Lives of great men all remind us—" and it is good that we should be reminded of the lives of those who have been great among us. For that reason it is pleasing to learn that one of the outstanding events of the annual meeting of the American Public Health Association, to be held in Indianapolis, from October 9th to 12th, 1933, is a memorial session to Dr. Walter Reed and his associates on the Yellow Fever Commission. Those who attended the Indianapolis annual meeting in 1900, at which Dr. Reed read his famous paper, are invited to send a note of any memories they may have of the occasion. Any such proposing to attend the Indianapolis meeting this year are requested to indicate this intention as well, so that they may be paid some honour, too, when the Association meets in banquet session on Wednesday evening, October 11th.

A Study in Health.

By SURGEON-CAPTAIN D. H. C. GIVEN, R.N.(RET.), M.D., D.P.H., D.T.M. & H., Medical Superintendent, Norwood Sanatorium, Beckenham; formerly Senior Medical Officer and Naval Health Officer, H.M. Naval Base, Singapore.

It is extremely unfortunate that, for reasons of space and others, it is impossible to print Captain Given's paper in full. For this excellent summary thanks are due to Mr. Leigh Breese, the Honorary Secretary of the Dental Officers' Group, to which Captain Given delivered his address.

WHILE serving in H.M. Navy, Surgeon-Captain Given had the rare privilege of working for eight years in a primitive community that set him, as he says, an intriguing problem to solve, namely, to explain good health. The community was a large labour force of mixed Asiatics with wives and families on the Naval Base, Singapore. It included several races from India, Chinese from five provinces, and a sprinkling of Malays, Javanese and others. All races shared one point in common, they enjoyed a standard of health and physical efficiency far above western standards. The scheme of Captain Given's health survey falls into two complementary parts, the physical and biological. Contrasting Asiatic labour recruits on the one hand, and recruits for the British Navy and Army (for which figures were obtained from official sources) on the other, it was noticed that there is a striking standard of uniform normality among the Asiatics—uniformity in physical measurements and normality in health which includes sound teeth, a healthy nose and throat that precludes the carrier, bowel regularity, good cardiac reserve, supple muscles and a body less prone to septic infection, varicose veins, hæmorrhoids, varicocele, hernia, rheumatism and deformities. The writer had complete sickness records to hand, but time permitted of only one being considered, *viz.*, that relating to diseases of the digestive organs. Figures and charts were shown on the screen illustrating the greater percentage and longer duration of sickness in the Naval personnel in almost every case of diseases of teeth and gums, mouth, palate and fauces, tonsils, stomach, intestine, rectum and anus, and of hernia. Captain Given says "The contrast here compels one to review the picture as a whole. There is evidence of some abnormal wear and tear of the whole digestive tract in the Naval personnel

that is only typical of modern civilisation. It is not dental disease, not tonsillitis, not appendicitis, nor peptic ulcer that we are called upon to explain, but the picture as a whole. It points strongly to some common origin, and other evidence will be given in support of this conclusion. This involves an entirely new interpretation of disease as applied to the digestive organs. It implies that disease is an evolutionary process; it begins small in the minor maladies which are the most common, from these in turn spring gross organic disease in various guise. Furthermore, there would appear to be two complementary parts of the picture, diseases of digestion proper, and diseases of septic origin. These latter represent only part of the group of diseases referable to septic infection, from which no part of the body appears to be exempt. This evidence of lowered resistance to infection is absent in the Asiatic labourer. I present a simple demonstration which would appear to explain the mechanics of the digestive diseases proper in civilised man, and I think that at least the radiologist will bear me out. It consists of two pieces of bicycle tubing, one of which has been subjected to overload until it became permanently dilated and elongated, the other is used as the control. The first is intended to represent the bowel of civilised man, which has been subjected to chronic overload, the other the normal bowel of primitive man. Complementary to chronic over-feeding is chronic over-nutrition, and, as one would expect, this affects not the digestive organs alone, but the whole body. This expresses itself in lowered resistance to infection.

"*Human Biology.*—From the study of life we learn that diseases are only the indicators that point to some defect in man's mode of life or environment. There is a simple biological reason underlying the good health of the Asiatic labourer, and that same reason gives

us the clue to the causes of ill-health and disease in the European. A thorough understanding of the biology of good health is the first step to the study and interpretation of ill-health and disease. The study of life and health in the primitive Asiatic enables us to define good health as a biological compound with five essential ingredients:—

"1. *A good health heritage* from good stock and healthy parents. A defective health heritage implies sub-normality from birth. If the vital spark of life at birth is weak, it means that life peters out prematurely. It fails to last the allotted span.

"2. *Food.*—The food must be right as regards *quantity* and *quality*, and a *balance* must be struck with the work done.

"3. *Exercise.*—Exercise is the pivot on which the smooth running of all the functions of life depend. It represents the most perfect automatic lubricating mechanism.

"4. *Sunlight and fresh air.*

"5. *Sanitation and water supply.*

"We have learnt much about the last two ingredients during the last half century or so; we have scarcely begun the study of the other three. A living body is responsible for body-building, and as such it is a very efficient chemist, providing the health heritage is satisfactory; hence the term 'biological.' It can produce perfectly good flesh and blood from the most varied assortment of materials, but within certain limitations. The best results are obtained from natural unrefined foods; they must be adequate in amount to meet physiological requirements, and a balance must be struck between food intake and work done. Good health is comparable to a chemical *compound* inasmuch as it gives no clue to the identity of the several ingredients. It is only in the study of physical breakdowns that we rediscover their identity. A defective ingredient is responsible for a certain train of sequelæ from which diseases are evolved. These diseases are abolished when the defect is corrected. We have learnt this from the diseases resulting from defective sanitation and water supply. We are still learning about the wonderful health-giving powers of sunlight and fresh-air. Our knowledge still lags with regard to health heritage and our bodily requirements with regard to food and exercise. It follows from this definition of good health that *disease* is a biological product, not a compound. It is the product

of defective ingredients, comparable to the jerry-built house. A body physically defective to start with is predisposed to disease. No interpretation of disease can be correct which does not take us back to the beginning of things, the defects in the ingredients which are the *foundations of health*.

"*Health Foundations of the Asiatic Labourer.*—Applying this principle to the Asiatic labourer, we find at once the explanation both of his good health and of his diseases. The chief defect in his health foundations is to be found under sanitation and water supply.

"The chief and primary diseases of the Asiatic are all referable to this defect—malaria, hookworm disease and bowel infections, and they can be eradicated by putting right the defect. That was the line of treatment followed on the Naval Base. Drainage eliminated the malaria-carrying mosquito, sanitation and water supply eliminated the sources of hookworm disease and bowel infections. The principle of treatment is communal. It provides healthy conditions for the community. Of course, the sick individual must receive treatment, but communal methods are necessary to prevent sickness. The communal principle is applicable to humanity in general. Whatever be the prevalence of disease, the defects responsible for disease are common to the whole community. The herd instinct is so strong in the human race that everyone must be like his neighbour. It applies to his mode of living generally as much as to the clothes he wears. Civilisation is forever changing, hence the changing fashions in diseases. The defects responsible for them are communal, although subject to variation in different sections of the community caused by occupation and social status. The features of good health in the Asiatic labourer are sound teeth, bowel regularity, a healthy nose and throat, a skin not subject to boils and carbuncles and healing readily after trauma. High resistance to septic infection eliminates the need of surgical treatment. This health standard is attributable to the health foundations.

"The health heritage is satisfactory.

"The food is from nature without concentration or refinement, the *quality* is right; two meals a day, the *quantity* is right; *sauce*

and *balance* are provided by hard manual labour.

"Work in the open-air promotes the health of the respiratory organs and precludes the carrier. It did not matter how overcrowded and stuffy the atmosphere of sleeping quarters, respiratory infections did not spread in such a community. Good health is forced on the Asiatic labourer by virtue of his occupation and humble station in life."

The writer went on to review the state of affairs in Britain, and traced a connection between the incidence of disease and the changes that have taken place in the mode of living, since the eighteenth century, of individuals and of the race as a whole. The break-up of the peasant villages, the industrial revolutions and the period of the last seventy years are cited as bringing about great changes in the habits of the people, and in what may be called the five keys to good health. Soon after 1800, tuberculosis became the king of killing diseases, and accounted for 15 per cent. of the total deaths. The authorities dealt with certain obvious defects—child labour, excessive hours of work, faulty sanitation and water supply, insanitary slums and overcrowding, and unhygienic conditions in factories. The result was almost immediate. Water-borne diseases and diseases of dirt and vermin were reduced, and finally wiped out. Tuberculosis mortality began to decline at a rapid rate, and has continued ever since *pari passu* with the progress of the work initiated about 1860. The Registrar-General has demonstrated that tuberculosis represents a twofold problem, that of respiratory tubercle in the adult and "tuberculosis, other forms" in the infant and child. Mortality from respiratory tubercle began to decline rapidly from 1860, while that of "other forms" hung fire until about 1900. Since then, it has crashed down like a slump on the Stock Exchange, and more than made up for its delayed start. No satisfactory explanation has been offered of this remarkable split up of tuberculosis in the history of its declining mortality—why the brunt of it falls on the prime of life, and not in the case of civilised man alone, but of humanity in general. The following explanation is based on a study of facts. Tuberculosis in any form is a disease of sub-normal man. Any cause productive of sub-normality predisposes to tuberculosis. It culls out the

weaklings in the King's palace or in the workman's cottage, while the normal man escapes. The causes of sub-normality are:—

First and foremost—a defective health heritage from impoverished stock—sub-normal parents.

Secondly—inadequate nourishment—food defective in quality and quantity, particularly provocative in the growing child.

Thirdly—the lack of sunshine and fresh air due to overcrowding and atmospheric pollution.

Fourthly—overwork and unhygienic conditions in the place of work—bad enough for the grown-up, but particularly damaging to the child.

Lastly.—The debilitating effect of an environment productive of epidemic diseases. The survivors do not escape unscathed.

All of these causes prevailed during 1800-1860. A legacy of this period is with us to-day in the slums and the slum population. The programme of reform initiated in 1860 made a frontal attack on all of these defects except one, defective feeding of the infant and growing child. It was this omission which remained uncorrected till the late nineties, and led to the split in tuberculosis mortality.

Most diseases that are now on the increase are traceable to two primary biological defects in the health foundations—dietary and lack of exercise, superimposed at times on a weakened health heritage. Turning to the consumption of sugar, which is on the increase, and alcohol, which is on the decrease, the writer says that diseases associated with these two foods are respectively increasing and declining. The mortality from diabetes and consumption-of-sugar curves show a certain parallelism. Sugar is abundant in nature, but invariably well diluted, like oxygen in the atmosphere; refined sugar which is so generally indulged in to-day is an extract, and in that form is liable to throw a considerable strain on the digestive organs and to cause deranged nutrition and lowered resistance to infection. The increasing use of refined carbohydrate is associated with the steady increase of dental caries. The introduction of refined foods has made the food of the people over-stimulating, over-combustible and unbalanced. They exhaust the oxygen and inhibit metabolism, creating a "metabolic stasis." The introduction of power and the

motor-car has reduced physical exercise to a minimum. The combination is responsible for a mass of new pathology, degenerative diseases of the heart, blood vessels, kidneys, muscles and joints, and diseases of digestive organs and nutrition-metabolism.

The President (Mr. Grantley Smith) in closing the discussion, thanked Captain Given for his paper, which shewed a great deal of research and thought. In short, it came, he said, to a comparison between European and Asiatic civilisation; the cure, in fact, being to go native! He thought that in the epidemic of Spanish influenza, the Indians died in as great a number as the Europeans. He was not sure that basing statistics on a comparison between Naval personnel and the Asiatic labour force was a fair one. The Naval personnel were under control, their diet was also to a certain extent under control; they were not subject, or only to a very slight

degree, to the nervous wear and tear which affected health.

Captain Given, replying, said that as ordinary foods had an abundant supply of sugar and starch, refined sugar was not necessary. The place to study disease must be in the outposts where issues were clearer, and where a more normal and consistent health standard prevailed. He had forgotten to refer to Tristan da Cunha where there was no refinement of diet and where, in contradistinction to the conditions on the Singapore labour settlement, the children had as good teeth as their parents. The dental superiority of the Asiatic was only on a par with the standard of his physical efficiency. As to the criticism that the Naval personnel did not give a fair picture of health conditions of European civilisation, Captain Given held that his case was even further strengthened by the fact that the Naval personnel consisted of picked men whose standard was superior to that of Europeans generally.

AN AMERICAN LETTER.

Our Correspondent discusses mainly the Outbreak of Encephalitis Lethargica in St. Louis, and Reforestation Camps and the Unemployment Problem.

An Outbreak of Encephalitis Lethargica.

The epidemic of encephalitis in St. Louis, Missouri, is the major medical event of the year as yet. While attention was called to some cases about the third week in August, there is evidence that they began late in July. So far, 800 cases, with 144 deaths, have occurred. There were cases of encephalitis lethargica in St. Louis in 1919, 1924, and 1932, but the present outbreak is by far the most serious. It bears little resemblance to the classic disease described by Economo in 1916 and 1917, in Vienna, but is much more like that on the Inland Sea of Japan, in 1924, which was similar to the condition seen in Australia in 1917-18, and called there the "mysterious" or "X-disease." The death-rate in Australia reached 70 per cent. The present epidemic differs from that, in which 50 per cent. were under five years of age, in that the great majority of cases are over 15 years, only 19 per cent. being under this age, and the case fatality is greater in the higher age groups—35 years and above. Japan has

experienced 13 outbreaks, one of which, in 1873, though limited in extent, showed a mortality of between 80 and 90 per cent. The largest epidemic in Japan was in 1924, which came on suddenly, showing a large number of cases in widely separated areas almost at the same time. Some 7,000 cases occurred, with a death-rate of 60 per cent., 66 per cent. of which were over 40 years of age. Two smaller epidemics have occurred in Japan since that time, in 1925 and 1929, the latter with a death-rate of 65 per cent.

The epidemic in St. Louis corresponds more closely to the Japanese type, as described, than any other of which we know, yet there are many cases which do not correspond with this type, and it is not too much to say that not only the profession in St. Louis, but the officers sent there from Washington by our Public Health Service, are puzzled over the situation, and are not prepared to make dogmatic statements. The epidemics in Japan showed a tendency to reach their peak about the last week in August. The great epidemic

of 1924 occurred in a summer which was unusually dry and hot, which is true of St. Louis also, the summer having been the driest since 1837.

The Situation in St. Louis.

St. Louis offers a situation which is unique in some respects. The city is credited with 1,200,000 inhabitants. The city proper has not enlarged its boundaries since 1876. Whenever expansion became necessary on account of the increase in population, municipalities have been founded in suburban areas around it. There are upwards of 20 such municipalities, each having its own separate government, yet one does not know when one is in a suburb or in the City of St. Louis. These groups, which are politically separate entities, correspond to what would be generally called outlying wards. The drainage problem has been acute. The river Des Peres has been used as a common sewer, and whenever the wind is in the right direction the stench is observed in the city. All of these outlying municipalities drain into some such stream, the majority into the river mentioned, which is at best little more than a creek. The mosquito situation this year is extreme. There have been four dry years in succession, and the present summer has been excessively dry, only one really heavy rain having occurred since June. The result is that this common sewer is unusually foul. According to the testimony of an expert from the Public Health Service, an ordinary tumbler full of the river water will contain from 5,000 to 8,000 mosquito larvæ. The health officer states that anywhere along the course of this stream where there is a quiet place, one may dip up a mixture which is three-fourths larvæ and one-fourth water—as he expressed it, “A living soup of larvæ.” Of course, attempts have been made to connect the sewage situation with the outbreak, so far without any success or apparent good reason, but other lines of research have been equally abortive. However, as a matter of precaution, all patients in hospitals are screened.

Clinical Features of the Disease.

So far, rather more than 50 per cent. of the cases have occurred in what is called St. Louis County, embracing the various municipalities referred to, and the remainder in the City of St. Louis, the figures being: County, 438

cases with 72 deaths; City, 362 cases with 72 deaths. In the business section, where comparatively few people reside, there have been few or no cases. The section of the city occupied by thrifty people of German descent has been practically free, as has also University City, which corresponds to this in thrift and cleanliness. There have been only 14 cases among the negroes, who form 12 per cent. of the population, although the housing in the section occupied by them is perhaps the poorest anywhere. In only four instances is there positive evidence of two cases having occurred in the same house. In one, a nurse and a child were stricken simultaneously, pointing to a common cause rather than to contact one from another. The experts studying the epidemic admit that there are many more cases than have been reported, which one would expect. There have been also many cases not diagnosed as encephalitis which, when looking backward, would probably be classed as mild or abortive cases of the disease. One striking feature of the outbreak is that the patients who do not die get well quickly in some cases; as a neurologist connected with one of the hospitals in the City says, “miraculously so.” It is, of course, too early to speak of subsequent damage to the nervous system. Some effects may appear, as they have in other epidemics, after several months, but at present complete and even rapid recovery seems to be the rule. Post-mortems have been done on all patients who have died. The lesions found so far are of the same nature, but at a higher level and more diffused than usually found in lethargic encephalitis. The cortex is involved, and there is no tendency toward a localisation in the central nervous system such as the basal ganglia and the brain stem. Many cases show a marked inflammation of the kidney with rather diffuse hæmorrhages. The incubation period seems to be five to twelve days, and the onset fairly sudden—in many cases extremely so.

Preventive Officers Engaged.

The United States Public Health Service has been invited into the city. Already seven officers have been there, and four more have been ordered to report. The Federal Treasury Department has granted \$25,000 for a study of the disease. Senior Surgeon J. P. Leake has been in charge of the epidemiologi-

cal study. Dr. George W. McCoy, Director of the National Institute of Health, has been there for some days in a consulting capacity. Dr. L. Williams, who is in the plague unit of the Public Health Service and has been trained as a mosquito man, has made a survey of the territory; and Dr. Charles Armstrong, also of the Public Health Service, who has done so much on encephalitis following vaccination, is assisting in the study of the epidemic. Dr. Cornelius B. Phillip, an entomologist connected with the Rocky Mountain Spotted Fever Laboratory, in Hamilton, Montana, is another engaged in the work. Those recently ordered include laboratory experts, epidemiologists and special research men. The Health Department of the City is under the competent management of Dr. J. F. Bredeck, with Dr. P. J. Zentay as Assistant Health Commissioner. Needless to say, the school situation has attracted much attention. The schools in St. Louis have opened on schedule with some 95,000 enrolments. The various colleges throughout the State will also open as usual, though there is some alarm being shown by those who have enrolled, and some are cancelling their reservations. No cases have been reported from Central Missouri, but some 45 have occurred in the neighbourhood of Kansas City. A house-to-house canvass will be made, and it is to be hoped that the opportunities for study will clarify some of the problems connected with encephalitis in general. It remains to be shown whether the various epidemics considered, as well as the one at present in St. Louis, are due to distinct etiological entities, or can all be referred to a single causative agent, at present unknown, as is the mode of transmission, though personal contact seems now to be the most important factor.

Reforestation Camps and Unemployment.

Mention has already been made of the reforestation camps proposed by President Roosevelt. These have been operated under the Army, and have been a great success. Some 314,000 boys and young men have been enrolled in the various camps. They are well fed and clothed, and are taught discipline and habits of good health, which will bear fruit throughout their lives. A large part of the small salary which is paid them (\$1.00 a day) is sent to their families. It may seem this

would scarcely make a dent in our unemployment problem, there being some 12 to 13 million unemployed, yet the psychological effect has been pronounced, and, in addition to the value of the forests now being planted and cultivated, and the change in mental attitude brought about among the men themselves, as well as their families, we cannot but expect far-reaching and permanent good results.

MAZYCK P. RAVENEL, M.D.

CONSEQUENT upon the retirement of Dr. P. H. Stirk, the Exeter City Council will appoint the Deputy Medical Officer of Health (Dr. J. F. B. Page) as Medical Officer of Health as from November 11th, at a commencing salary of £900 per annum (subject to any temporary abatement), rising to £1,000 per annum, with £100 per annum for provision and upkeep of car.

THE Royal Sanitary Institute announces the holding of sessional meetings as follow: London.—Tuesday, October 17th, at 5.15 p.m., at the Institute. Chairman: George F. Buchan, M.D., F.R.C.P., D.P.H., Chairman of the Council. Paper on “The Middlesex Sewerage and Sewage Disposal Scheme,” by John D. Watson, M.INST.C.E. West Ham.—Saturday, October 21st, at 10.30 a.m. A description of the River Lee improvement works will be given by W. Lionel Jenkins, M.A., M.INST.C.E., F.S.I., after which the members will be conducted over the works in progress. Cheltenham.—Friday and Saturday, October 27th and 28th. Chairman: Osmond Cattlin, M.INST.C.E., F.S.I. (Member of Council.) 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., paper on “Notes on the Water Supply of Cheltenham,” by J. S. Pickering, M.INST.C.E., Borough Engineer, with a note on “Chlorination,” by Donald E. Morley, M.D., D.P.H., Medical Officer of Health, Cheltenham. Followed by a discussion on “Reconditioning,” opened by Wyndham Parker, M.C., M.B., CH.B., D.P.H., Medical Officer of Health, Worcestershire, and F. R. Jefford, Chief Sanitary Inspector, Cheltenham. On Saturday visits will be paid to the Cheltenham Corporation waterworks, the sewage works, and a housing estate.

The Society.

Reports, Proceedings and Announcements.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society, on Friday, September 15th, 1933.

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. K. Chalmers, J. A. Charles, J. Fenton, C. Herington, J. Howard-Jones, J. B. Howell, Professor W. W. Jameson, Drs. A. Joe, R. H. H. Jolly, G. W. N. Joseph, J. Mair, H. J. Milligan, W. A. Muir, E. H. T. Nash, A. H. Nicoll, W. Paterson, R. M. F. Picken, C. Porter, T. N. V. Potts, T. P. Puddicombe, E. H. Snell, P. H. Stirk, J. A. Stirling, E. Ward, H. Gibbons Ward, R. H. Wilshaw and F. T. H. Wood.

The minutes of the last meeting, held on May 19th, were confirmed and signed, and apologies for absence were received from Sir Francis Fremantle, Drs. J. J. Jervis, C. Killick Millard, and G. C. M. McGonigle.

The President reported that he had sent a letter of sympathy to Sir Arthur Newsholme on the recent death of Lady Newsholme, and the Council instructed the Executive Secretary to convey their condolence also to Sir Arthur.

Cost of Hospitals.—A letter was received from the Departmental Committee appointed by the Minister of Health to report on the capital cost of construction and annual cost of maintenance of hospitals and other buildings provided by local authorities, requesting the evidence of the Society. The Council decided to refer this matter to a special committee representative of the various types of hospital concerned, and appointed the following: Drs. T. W. N. Barlow, H. J. Milligan, G. Lissant Cox, D. A. Powell, A. Joe, W. Brander and J. W. Miller.

Law Relating to Food.—A letter was received stating that the Departmental Committee on Food was resuming its work, which was suspended in September, 1931, with the following altered terms of reference:—

To consider whether it is desirable that the law relating to the composition and description of articles of food should be altered so as to enable definitions or standards to be presented, or declarations of composition to be required, for articles of food other than

liquid milk; and if so, to recommend what alterations of the law are required.

The evidence of the Society was requested. The Council had before them a memorandum prepared by Dr. W. G. Savage, which they instructed the General Purposes Committee to consider in detail.

Sale of Bread.—A letter was received from the Association of Municipal Corporations reporting that they have recommended an amendment of the law to ensure that "Fancy" bread shall not be sold otherwise than by weight, unless it is of a size and shape not liable to be confounded with household bread. The Association requested the observations of the Society on a further suggestion that there should be some limitation on the quantity of moisture permitted in bread offered for sale.

The Council referred this question for report by the General Purposes Committee.

Training of Plumbers.—A letter was received from the Worshipful Company of Plumbers inviting the Society to nominate a representative at a meeting to be held at the Guildhall, on October 3rd, when the question of the proper training of plumbers would be considered, with special reference to the "One-Pipe" System.

The Council appointed Dr. Charles Porter to be the Society's representative.

Antimony Poisoning.—A letter from the Association of Municipal Corporations reported that they had submitted the recommendation of the Society (see Council proceedings, PUBLIC HEALTH, June, 1933, p. 302) to the Ministry of Health.

Central Midwives Board.—A letter was received from the Association of Municipal Corporations, reporting that the following resolutions had been passed:—

We are clearly of opinion that the constitution of the Board is unsatisfactory, and that the representation of local authorities thereon should be substantially increased, and this view is also shared by the Society of Medical Officers of Health.

We recommend that a representation be made to the Minister of Health requesting him to take steps to secure an alteration in the constitution of the Central Midwives Board by substantially increasing the representation thereon of local authorities.

The question of the direct representation of cases to the Board by local supervising authorities was still under the consideration of the Association.

Dr. C. V. Craster.—A letter was received from Dr. C. V. Craster, who states that he has been unable to secure any financial assistance towards his proposed lecture tour, and must, therefore, regretfully postpone his visit until circumstances are more favourable.

Port Sanitary Hygiene.—Dr. J. Howard-Jones drew attention to the fact that the question of Ship Ventilation is being taken up by the British Guild of Science, and urged that the Society should again make representations to the Board of Trade regarding the improvement of the standard of hygiene in merchant ships built under the supervision of the Board.

The Council instructed the Executive Secretary to obtain information as to the policy and views of the Association of Port Sanitary Authorities on this subject.

Report of the General Purposes Committee.—The Council received and adopted the following report, presented by Dr. G. F. Buchan, of the General Purposes Committee (meeting held July 7th):—

Appointment of Medical Inspector of Factories.—The Executive Secretary reported that he had written to the Secretary of the Parliamentary Medical Committee in accordance with the instructions of the Council at their meeting of May 19th. Dr. A. B. Howitt, Secretary, Parliamentary Medical Committee, had requested in reply further details as to the personal qualifications of the member of the Society in question for the post of Factory Medical Inspector. The Executive Secretary had written then to the effect that the case was being brought to the attention of the Parliamentary Committee as an illustration of the Society's view that there was insufficient relationship between the public health service and the factory services.

The Executive Secretary reported that the former chief of the member in question had reported that he was eminently qualified for the post of Medical Inspector of Factories. He was instructed to write further to the Parliamentary Medical Committee once again drawing attention to the principle involved, and also mentioning that the Society were satisfied as to the qualifications of the particular individual mentioned.

Diseases of Milch Cattle.—The Executive Secretary reported correspondence with the Hon. Secretary of the County District Group, who had forwarded an enquiry from the County Councils' Association regarding certain proposals which had been made before the Committee on Cattle Diseases of the Economic Advisory Council. The Executive Secretary reported that he had informed the County District

Group of the views of the Society's representatives in regard to the appointment of a whole-time veterinary staff of county councils and county boroughs. A further point of the question referred to the functions now appertaining to sanitary authorities in relation to cowsheds, and normally exercised through their Sanitary Inspectors. There had been proposals that these functions should be transferred to county councils and exercised through their veterinary inspectors. The Executive Secretary had quoted the reply given in confidence by representatives of the Society to the effect that a whole-time veterinary officer should have the supervision of the environment of the bovine animals in his area, but would not be actually responsible for getting improvements carried out in the building or other environment affecting animals, existing officers of the sanitary authorities being responsible for this as heretofore.

The Committee confirmed the Executive Secretary's reply to the County District Group.

Representation of the Society.—A letter was received from the National Smoke Abatement Society enquiring as to the representation on their Council. The Committee recommend that Drs. T. W. N. Barlow and Cyril Banks be nominated to continue as the Society's representatives.

Accounts Sub-Committee.—Dr. G. F. Buchan reported that at a meeting of the Accounts Sub-Committee preceding that of the General Purposes Committee, accounts had been passed which had fallen due since their last meeting on March 24th.

The Committee also discussed correspondence with the Midland Maternity and Child Welfare Sub-Group regarding Group expenses. The Group had requested that they should be allowed to invite two outside speakers per session, and that the travelling expenses of these speakers should be allowed as part of the legitimate expenditure of the Group. The Accounts Sub-Committee are of opinion that the only claim upon the Central Council of the Society should be the running expenses of the Group, viz., the actual cost of calling meetings, stationery, and the hire of a suitable room.

The Executive Secretary was instructed to inform the Midland Maternity and Child Welfare Sub-Group of this view.

Annual Dinner.—It was reported that the date of the dinner would be November 23rd, which would avoid a clash with the dinner of the Royal Society of Medicine, and that it would be held at the May Fair Hotel; price of the tickets to be 12s. 6d. as in previous years.

Salary Cases.—A report was received as to the action taken by the B.M.A. with regard to the salary question at Bradford and in Herefordshire. It was reported that with regard to Bradford there was reason to hope that a satisfactory solution would be reached. With regard to Herefordshire, the B.M.A. had made representations to the Ministry against the proposal to reduce salaries of the medical staff, which were already below the agreed minimum. The Ministry were in correspondence with the County Council. (At the Council Meeting, Dr. John Buchan reported that a satisfactory solution had been reached in regard to the salaries of certain senior departmental officers at

Bradford, but that the Salaries Agreement had not been formally adopted.)

Instruction of Medical Students in Infectious Diseases.—The Committee conferred with Dr. E. W. Goodall and Dr. A. Joe of the Fever Hospital Medical Service Group regarding the recommendations of the Group for a standard of instruction for medical students on the subject of infectious diseases. The Group's recommendations were printed in the minutes of the May Council Meeting. After discussion it was agreed to submit the following comprehensive recommendations for the acceptance of the Council:—

(a) That the course in infectious diseases should be taken in appropriate relationship with the course in public health either in the penultimate or final year of medical study.

(b) That both systematic and clinical instruction should be given by the same lecturer, and that the time occupied by such instruction (combining both systematic and clinical) should be not less than 24 hours, to be divided up into periods according to local circumstances, but extending over a period of not less than eight weeks.

Articles of Association.—The Committee considered the position arising from the decision of the Extraordinary General Meeting of May 19th, to refer back to the Council the revised Articles of Association which had reference to the title of the Society and the constitution of the Council. It was agreed that it would be impossible to have this matter reconsidered and to get the Articles passed in their entirety before the end of the present session. In these circumstances, the existing Articles of Association would operate until the revised Articles were finally passed.

Regarding the provisional sessional programme for 1933-34, the only result of the non-adoption of the revised Articles would be that the Annual General Meeting would have to be held this year in October. (The amended programme appears on the Society's sessional card.)

Vaccination Acts.—The Committee conferred with Drs. James Bennett, A. E. Cope, Kennard and Orchard, of the Association of Public Vaccinators. Dr. Bennett and Dr. Orchard spoke on behalf of the Association, and the Committee decided to recommend the publication of their remarks in PUBLIC HEALTH, so that the views of the Association might be given full publicity. (The statement referred to appears in this issue, p. 29.) The chairman thanked the Association for the expression of their views, and stated that it would be the policy of the Society to urge compensation for any official who had lost any emoluments from the abolition of his office by legislation. The Executive Secretary was directed to express this view to the British Medical Association.

Signing of Letters on Clinical Matters by Medical Officers of Health.—Dr. Ernest Ward raised the question of the advisability of the above practice of which one or two cases have occurred in connection with the work of clinical Tuberculosis Officers.

The Committee recommend that any such cases can best be dealt with by personal representations.

Recruitment.—The Executive Secretary reported to date that there had been 76 elections to the Society during the season, and there were eleven candidates for the next election. During the same period 59

members had sent in their resignations and 14 had died.

The suggestion was put forward that medical graduates should be asked to join the Society immediately upon taking the D.P.H. The Secretary was also asked to investigate and report on the possibility of a reduced subscription for candidates who joined upon taking the diploma, for the first three years of membership.

The Executive Secretary also asked the Committee to approve the sending of a questionnaire, from which it was hoped to ascertain current salaries and conditions of service of all members.

Medical Appointments in County Districts.—The Council adopted the following report presented by the special committee appointed to consider Dr. C. E. Tangye's memorandum on medical appointments in county districts (L.G.A., 1929, Sec. 58):—

The Committee considered Dr. Tangye's memorandum which had been presented to the Council of the Society through the West of England Branch. The memorandum put forward various questions which it might be desirable to consider in connection with the re-organisation of county districts and the provision of whole-time services. Dr. Tangye explained that he had had in mind the important aspect of the prospects of all-round experience and of promotion for members of the public health service. The Sub-committee recommend the following replies to these questions (which are also set out below):—

(1) Is it satisfactory that all the new posts should have a minimum commencing salary of £800? Yes.

(2) If so, are they to be entered direct on obtaining the D.P.H., or through Assistantships in the Service? In the latter case, care will have to be taken that Assistant posts without district work still exist. In some areas, the Assistant as such will disappear, except perhaps in the case of women.

A candidate whose only qualification is the possession of a D.P.H. should not be regarded as suitable, and previous experience in public health work should be required.

(3) Are women to be encouraged to become District Medical Officers of Health by offering such posts without sex qualification? Is a woman likely to succeed in such posts, or is she better employed in M. and C.W. and School Medical Inspection?

Posts should be open without distinction of sex.

(4) Is the Society (and particularly its Tuberculosis Section) satisfied that such joint officers can properly be Tuberculosis Officers and maintain the standard of specialism whilst engaged in their varied duties?

A proper standard of specialism cannot easily be attained by an officer carrying out varied duties in a county district.

(5) If not, can such officers properly act as Assistant Tuberculosis Officers in their areas with the reservation that there must be at least one

senior officer specialising in tuberculosis only? Yes.

(6) Is it desirable that these posts should be created, as in the past, as entities completely separate from the County Council, or should the officer in some capacity be an official of the County Council?

The question as to whether or not the M.O.H. of a county area should carry out duties outside the statutory duties of a M.O.H. may depend upon the size of the population involved, and the number of assistants provided.

(7) What is, in theory at least, the best combination of duties? Should the new M.O.H. be responsible for all duties—District and County—in his area, or can some (e.g., M. and C.W.) be best run from Headquarters by women assistants?

In our opinion the best combination of duties for a M.O.H. is such that the M.O.H. for the area is responsible for all public health work in that area.

A cordial vote of thanks to Dr. Tangye was passed for his trouble in bringing forward these important questions.

The Ray Report (Local Expenditure) and Tuberculosis.—The Council received a memorandum by the chairman of the Joint Tuberculosis Council (Dr. G. Lissant Cox) concerning reference to tuberculosis in the report of the Committee on Local Expenditure issued in December, 1932.

The Council expressed thanks to the Joint Tuberculosis Council for the opportunity afforded of seeing this memorandum and trusted that it might be found possible to publish it in whole or in part.

Elections to the Council, 1933-34.—The following were elected to vacancies on the Council for 1933-34 under Article 19 (d):—Drs. T. W. N. Barlow, James Ferguson, H. J. Milligan, E. H. T. Nash, R. M. F. Picken and E. H. Snell.

Sir Henry Brackenbury and Dr. W. Paterson were renominated by the British Medical Association under Article 19 (e) and Sir Francis Fremantle and Professor W. W. Jameson were re-elected under Article 19 (f).

Representation of the Society.—The following nominations were made of representatives of the Society 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.

Central Council for the Care of Cripples.—Drs. E. Ward and T. P. Puddicombe (for three years).

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

National Council for the Disposition of the Dead.—Dr. W. M. Willoughby.

Conference on Mental Health (London, November 22nd-24th).—Dr. G. F. Buchan.

Annual Report of Council, 1932-33.—The Report of the Council for the past session was approved for submission to the Annual General Meeting on October 20th. (See p. 24.)

Public Health Service Representatives.—The question of the expenses of Public Health Service Representatives at the annual representative meeting of the British Medical Association was raised by Dr. E. H. T. Nash, and referred for consideration by the General Purposes Committee.

Professor R. M. F. Picken.—The Council expressed hearty congratulations to Dr. Picken on his appointment as Mansel Talbot Professor of Preventive Medicine in the University of Wales, in succession to Professor E. L. Collis. Dr. Picken was also thanked for his able chairmanship of the B.M.A. Public Health Committee, 1932-33.

A Deputy M.O.H. Asked to Seek Another Appointment.—The question of what action should be taken on behalf of a deputy M.O.H., whose Council had passed a resolution asking him to seek an appointment elsewhere within six months, was discussed; the chairman of the General Purposes Committee, and the Hon. Secretary of this member's Branch were asked to watch the situation and to take immediate action if necessary, in consultation with the chairman, B.M.A. Public Health Committee.

The Neech Prize.—The President reported that no entries which were in accordance with the regulations of the Neech Prize had been received for the year 1931-32. The Council instructed the General Purposes Committee to consider whether Dr. Neech should be asked to authorise certain changes in the regulations for his Prize.

The meeting then adjourned.

DR. W. SPENCER BADGER, a Fellow of the Society attached to the Midland Branch, is, it is learned with regret, resigning his appointment as School Medical Officer for Wolverhampton, owing to ill-health.

Annual Report of the Council, 1932-33.

Your Council report:—

1. That 76 candidates have been elected as Fellows or Associates of the Society during the session. (In the previous session the number was 96; it should be noted, however, that in the session under review no election was held after May, and that at its close 26 candidates were awaiting election.) During the same period 76 resignations (1931-32, 104) were accepted from members who were retiring from active work, or who decided to relinquish membership for other reasons.

2. That the Society has to mourn the loss by death of two of its Honorary Fellows, namely, Sir Arthur Whitelegge, K.C.B., M.D., F.R.C.P., D.P.H., formerly H.M. Chief Inspector of Factories, M.O.H., Nottingham, and C.M.O.H., West Riding, Yorks, and Sir Philip Magnus, Bart., M.P. for the University of London, 1906-22, and a great educationalist; of three Past-Presidents, namely, Dr. David Samuel Davies, President, 1906-7, and formerly M.O.H., City of Bristol, Dr. Alfred Bostock Hill, President, 1911-12, formerly County M.O.H., Warwickshire, and Emeritus Professor of Public Health, University of Birmingham, and Dr. Harold Kerr, O.B.E., President, 1930-31, M.O.H., City of Newcastle-upon-Tyne, and formerly Professor of Public Health, University of Durham; of Drs. Arthur Bryans (Middlesbrough), Niel Campbell (Norfolk), Major B. L. Davis, O.B.E., R.A.M.C., Dr. Alexander Duncan (Merthyr Tydvil), Mr. William Fisk, L.D.S. (Watford), one of the founders of the Dental Group of the Society; Drs. D. R. Hamilton (Shipley), Arthur Hawley (Coventry and Warwickshire Hospital), Henry Holroyd (Lancashire), B. W. Housman (Worcestershire), J. E. Linnell (Sheringham U.D. and Erpingham R.D.), Mr. Hugh Love, L.D.S. (Islington Union), Drs. A. J. W. MacFadden (formerly Senior M.O., Ministry of Health), W. A. Macnaughton (formerly Kincardineshire), H. B. Mapleton (Newton Abbot and Dawlish U.D.'s and Newton Abbot R.D.), H. C. Mulholland (formerly Swinton and Pendlebury U.D.), D. R. Roberts (Bedwellty U.D.), Dorothy W. Roughton (L.C.C.), Walter Spencer (formerly Clowne R.D.), H. J. Egerton Williams (City Hospitals, Sheffield), and John Williamson (Carshalton,

Dorking, Epsom and Leatherhead C.S.D.).

3. That allowing for these losses the membership of the Society shows a net decrease of 25, as compared with a decrease of 43 in 1931-32, and an increase of 53 in 1930-31. While recognising that the economic stringency of the past two years has affected the number of new appointments made in the public health service, and therefore the number of potential recruits to the Society, the Council would once more urge those who hold junior posts in the service to apply for membership. There is undoubtedly a large number of Assistant Medical Officers who, while remaining outside the Society, enjoy benefits obtained by the Society's activities. The present scale of salaries was established largely through the united efforts of the B.M.A. and the Society, and efforts are still being constantly made to bring recalcitrant authorities into line. In such prospective improvements of conditions of service as the universal adoption of superannuation schemes, the Society's influence must inevitably depend upon the proportion of the public health service which it represents, and experience has shown that corporate action is the only means of improving the status of the service as a whole. The Council appreciates the efforts of Medical Officers of Health in bringing the claims of the Society before their assistants, and trusts that they will continue.

4. That Dr. G. H. Pearce delivered his Presidential Address at the Annual Meeting of the Society, on October 21st, 1932, on "The Yorkshire Branch and the Society." For the ordinary meetings of the Session, the President arranged the following discussions:—

"Some Epidemiological Features of the Pneumococcus and its Types." A. S. M. Macgregor, O.B.E., M.D., D.P.H., Medical Officer of Health, City of Glasgow.

"The Recent Trend of Cerebro-Spinal Fever." E. Ashworth Underwood, M.A., B.Sc., M.B., D.P.H., Deputy Medical Officer of Health, City of Leeds.

"What Do We Really Mean by Mental Deficiency." G. A. Auden, M.A., M.D., D.P.H., F.R.C.P., D.P.H., School Medical Officer, City of Birmingham; F. C. Shrubsall, M.A., M.D., F.R.C.P., D.P.H., Senior Medical Officer, London County Council.

"Diphtheria Immunisation—Its Possibilities and Difficulties." E. H. T. Nash, M.R.C.S., L.R.C.P., D.P.H., Medical Officer of Health, Borough of Heston and

Isleworth; J. G. Forbes, M.A., M.D., F.R.C.P., D.P.H., Divisional Medical Officer, London County Council; Guy Bousfield, M.D., B.S., Medical Officer, Diphtheria Immunisation Clinics, Camberwell, Lambeth, Heston and Isleworth; R. M. F. Picken, M.B., B.Sc., D.P.H., Medical Officer of Health, City of Cardiff.

A discussion arranged for May 19th, when Dr. E. K. Macdonald was to read a paper on "The Responsibility of the Local Authority towards the Blind," was unavoidably postponed. No Provincial Meeting was held in 1932-33.

5. That an Extraordinary General Meeting was held on May 19th, 1933, to discuss and, if thought fit, adopt the revisions in the Society's Articles of Association brought forward by the Council after receiving the observations of the Branches and Groups. As certain Articles were referred back to the Council for further consideration, the present constitution will hold for the session 1933-34, pending a further Extraordinary Meeting.

6. That the Council held four meetings, the General Purposes Committee six meetings, and special Sub-Committees five meetings during the session. The proceedings of the Council have been recorded in PUBLIC HEALTH for the information of members.

7. That during the session Drs. T. W. Naylor Barlow, O.B.E., G. F. Buchan, and James Fenton have been elected Trustees of the Society, and have met on two occasions. The grateful thanks of the Society are due to Dr. George Millson, O.B.E., for his long services as a Trustee up to the present year.

8. That they have had official communication with the Ministry of Health, the Board of Education, the Ministry of Agriculture and Fisheries, and other Government Departments on various matters affecting public health administration and officials. Evidence was given before the Committee on Cattle Diseases of the Economic Advisory Council, and the publication of the Society's memorandum of evidence entitled "The Reduction of Disease among Milch Cattle and the Improvement of the Milk Supply" (see PUBLIC HEALTH, August, 1933, p. 366) aroused widespread interest. A memorandum on "Local Government Areas" (see PUBLIC HEALTH, October, 1932, p. 28) which was submitted to the Ministry of Health and other bodies, has also stimulated discussion on the best methods of securing efficiency of local health administra-

tion under the Local Government Act, 1929. The Council's recommendations in connection with the substitution of voluntary for compulsory vaccination have also been widely discussed.

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 London School of Hygiene, 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, 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 set up under Section X of the Salaries Memorandum, has

continued to hold 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 King has conferred the honour of Knighthood on Surgeon Vice-Admiral Sir Reginald St. G. Bond, K.C.B., R.N., M.B., F.R.C.P., D.P.H., Medical Director-General of the Navy, and for many years a Fellow of the Society; and that Dr. George F. Buchan, Hon. Treasurer of the Society, and Sir Frederick K. Menzies have been elected Fellows of the Royal College of Physicians of London.

13. That the grateful thanks of the Society are due to Dr. George Harper Pearce for his services as President during the past session. Dr. Pearce has given the same energy and

enthusiasm to the affairs of the Society as a whole, as to the Yorkshire Branch for many years past, and has presided with distinction at the Annual Dinner of the Society and at its general meetings. In his capacity as chairman of the Council he controlled its discussions with admirable courtesy and firmness.

14. That the grateful thanks of the Society are due to Dr. Charles Porter who is relinquishing the editorial chair of *PUBLIC HEALTH* for his year as President of the Society, for his unremitting labours in connection with the Society's journal.

15. That the annual exchange of officers and the re-election of the Council involve the retirement of Drs. A. K. Chalmers, J. Howard-Jones, A. F. Cameron, J. B. Howell, A. J. Laird, Agnes H. Nicoll, J. J. Jervis, and Mr. A. E. Baker, L.D.S. We recommend that the thanks of the Society be accorded to these representatives for their services as members of the Council.

16. That they desire to express once again their sense of the manner in which the Executive Secretary has discharged his duties at all times, having particular regard to the interests and prestige of the Society.

THE METROPOLITAN BRANCH.

President: Dr. James Fenton, M.O.H., Kensington.
Hon. Secretary: Dr. Vynne Borland, M.O.H., Bethnal Green.

A meeting of the Council of this Branch was held at the house of the Society, on July 28th, 1933. The President occupied the chair, and twelve other members were present.

It was resolved to place on record the Council's deep appreciation of the services rendered to the Branch by Dr. Fenton, during his nine years tenure of office as Honorary Secretary.

The Honorary Secretary reported that he had, on behalf of the Branch, congratulated Dr. A. Ferguson on his appointment at Stepney, and Dr. Macdonald on his appointment at Greenwich. Dr. Ferguson, who was present, was cordially welcomed by the President.

The Council resolved to hold a special

meeting in the autumn to consider revised Branch bye-laws.

Other questions under consideration, on which it was resolved to obtain further information, were (a) convalescent home for mothers and babies; (b) protection of municipal workers in tar.

DR. WILLIAM BENTON, for twenty-three years Medical Officer of Health of East Ham, has retired. He is succeeded by Dr. Malcolm Barker, who has been Deputy Medical Officer for some years.

THE Midwives Institute hopes shortly to be in its new house, 57, Lower Belgrave Street, S.W.1. It is to share with the Queen's Institute for District Nursing the magnificent premises provided by the National Birthday Trust Fund as headquarters for midwifery in London.

Branch and Group Elections: Session 1933-34.

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L.D.S.
Hon. Secretary ... W. Leigh Breese, Esq.,
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Council of
Society ... Grantley Smith, Esq.,
L.D.S.

"BREAD AND MILK" is the title of a special symposium to be held by the Food Group of the Society of Chemical Industry, in the Hall of the British Medical Association, Tavistock Square, London, W.C.1, on November 23rd and 24th, 1933. Some 14 papers will be presented by leading scientists from various countries, and will deal, amongst other matters, with both the chemical and microbiological aspects of the preparation and distribution of these two important foodstuffs. Professor W. W. Jameson will open the symposium and preside at the first session. At the conclusion of the meeting a dinner will be held at the Trocadero Restaurant, at which Dr. L. H. Lampitt will take the chair, and Sir Edward Hilton Young, Minister of Health, will be the principal guest. Those wishing to attend the symposium should notify the General Secretary of the Food Group, at 46, Finsbury Square, London, E.C.2.

The Association of Public Vaccinators and Compulsory Vaccination.

SUMMARY OF OFFICIAL STATEMENT SUBMITTED BY DR. JAMES BENNETT, AND
ADDENDUM BY "A VACCINATION OFFICER." JULY 7TH, 1933.

1. That removal of the atmosphere of compulsion without its legal enforcement will immediately lead to a decrease in the numbers of vaccinations and the "easy facilities" mentioned will influence no one.

2. The compulsory clause does not now prevent a single individual from accepting vaccination.

3. Abolition, however, will immediately influence many who now regularly accept it.

4. Parents will argue that if it is not compulsory then it is not necessary, and if it is not necessary, they will not have their children vaccinated.

5. In the performance of their duties Public Vaccinators never hear it suggested that but for compulsion parents would accept vaccination. On the other hand, they are frequently told that it ought to be compulsory.

6. The abolition of domiciliary vaccination which the dropping of compulsion implies will at once cut out the possibility of interviews with the fathers both by the Public Vaccinators and the Vaccination Officers, whose arguments are founded on experience and knowledge and which now result in large numbers of hesitating parents becoming satisfied and consenting. Clinics will not provide these opportunities, and it seems obvious, if domiciliary vaccination is done away with along with compulsion, that Child Welfare Clinics are the only alternatives. Probably anti-vaccination propagandists would deal out their literature at clinic entrances.

7. Health Visitors, who, as a class, are not mainly interested in vaccination will largely fail to carry conviction.

8. Talks to people in the mass as at clinics, are useless, and far more likely to start conversations about individual children who have had some trouble than about benefits which are not directly visible, and so discredit rather than help vaccination.

9. The suggestions that entire freedom about vaccination will increase the number of vaccinations is entirely unsupported by past experience; when the Royal Commission suggested the Conscience Clause, it predicted

that the numbers of vaccinations would increase, instead of which there was an almost immediate drop in the numbers, and this has gone down to practically zero in some places in consequence.

10. Judged by the very few coming forward voluntarily for immunisation against diphtheria, a disease which is still regarded with awe by most people, and is seldom absent from any considerable aggregation of people, vaccination which deals with a disease which only occurs infrequently will be passed over in the absence of the organisation of officers who by law administer it.

11. Diphtheria immunisations it is true are being carried out in a few places, but it must be recognised that youthful enthusiasm with its natural desire not to be outrivalled is probably much more concerned with the numbers than any real voluntary spirit of desire for protection, and as such, is more likely to evaporate notwithstanding that the disease is continually occurring.

12. Removal of compulsion in the case of vaccination will re-act detrimentally to progress in regard to other immunisations for it will certainly be loudly proclaimed that vaccination has been found to be useless.

13. The abolition of compulsory vaccination will give such a fillip to anti-serum propagandists that their activities will be at once stimulated and their proclamations of success which they will at once claim has justified their work will undoubtedly make a strong appeal to the large unthinking part of the community. This will increase their funds and exaggerate the importance of their pernicious doctrines.

14. Administration by the Ministry of Health is absolutely essential if it is desired to prevent retrogressive members of local authorities, whose knowledge on such matters as vaccination is so limited and often viciously biased, from getting control.

15. The missing of vaccination in infancy towards which the abolition of compulsory vaccination—even the degree of compulsion still remaining—will lead, will defer the operation to a more dangerous period of life if

vaccination becomes necessary owing to outbreaks of smallpox.

ADDENDUM.

Persons having a rooted objection to vaccination "contract out" by making a Statutory Declaration. The remainder available for vaccination can be divided into three classes.

(1) Those anxious to have it done. These sometimes send in their requests before the child reaches the age of four months.

(2) The indifferent or complacent who await the call of the Vaccination Officer, and after a certain amount of mild persuasion or blandishment agree.

(3) Those who would rather not have it done at all, but have been remiss or too careless or indolent to get exemption. These have to be persuaded by the Vaccination Officer, and threatened that if they do not comply, the penalties provided by the Act may be put into operation. In a great number of cases they comply in order to avoid further bother. As

a last resort the Vaccination Officer has still the power of enforcement.

Under a voluntary system, vaccinations would be confined to a portion of the first category only; some would be of opinion that it is not necessary or advisable.

Classes (2) and (3) would entirely drop out and would not be touched.

Propaganda by Health Visitors, of whose work this would be but a small item, cannot be so effective as that by the Vaccination Officer whose business this is, and in the great majority of cases, his means of a livelihood.

Propaganda at the Clinics would have a bad effect on the attendances.

The voluntary system means "contracting in" for vaccination, whilst the present system means contracting out, and takes advantage of the mass inertia of the public.

The voluntary system would add to the number of the unvaccinated the enormous mass of the indifferent and the careless.

The amount of propaganda would depend entirely on the complexion of the local governing body at the time.

THE Eugenics Society has removed to 69, Eccleston Square, London, S.W.1.

THE King has confirmed the appointment of Dr. Alexander H. B. Pearce, Chief Medical Officer, to be a nominated member of the Legislative Council of the Colony of Fiji. Dr. Charles Norman Griffin (Chief Medical Officer) has been appointed an official member of the Legislative Council of the Presidency of Dominica.

SIR HILTON YOUNG, the Minister of Health, has appointed A. Strachan Bennion, Esq., F.S.I., M.L.S.T.U.E., to be an additional member of the departmental committee which he set up last July 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 Council of the British Medical Association is prepared to consider an award of the Katherine Bishop Harman Prize, of the value of £75, in the year 1934. The purpose of the

prize is the encouragement of study and research directed to the diminution and avoidance of the risks to health and life that are liable to arise in pregnancy and child-bearing. Within this sphere competitors are free to select the work they wish to present. Any medical practitioner registered in the British Empire is eligible to compete. Should the Council of the Association decide that no essay submitted is of sufficient merit, the prize will not be awarded in 1934, but will be offered again in the year next following this decision, and in this event the money value of the prize on the occasion in question shall be such proportion of the accumulated income as the Council shall determine. The decision of the Council will be final. Each essay must be typewritten or printed in the English language. It must be distinguished by a motto, and accompanied by a sealed envelope marked with the same motto, and enclosing the candidate's name and address. Essays must reach the Medical Secretary (to whom inquiries may be addressed), British Medical Association House, Tavistock Square, London, W.C.1, not later than December 31st, 1933.

The Literature of Preventive Medicine.

The Children Act, 1933. By GEOFFREY G. RAPHAEL, ENID ROSSER, and WILFRID FORDHAM, Barristers-at-law. London: Eyre and Spottiswoode (Publishers), Ltd., 1933. pp. 116. Price 8s. 6d. net.

Many local health officers have only recently been called upon to undertake infant life protection work, and are still on the look out for a book dealing with the law on the subject. In this, which has been prepared by three members of the South-Eastern Circuit, they may find, in addition to the official text of the Act of 1933, most useful comparative tables, and a very complete index, compiled by Mr. H. A. C. Sturgess, Librarian to the Middle Temple, which are certain to prove of value.

Health and Environment. By EDGAR SYDEN-STRICKER. London: McGraw-Hill Publishing Co., Ltd., 1933. pp. 217. Price 15s. net.

This volume is one of a series of monographs published under the direction of the Research Committee on Social Trends, set up by Mr. Hoover, the then President of the United States, in 1929, to survey social changes in the United States in order to "throw light on the emerging problems which now confront or which may be expected later to confront the people of the United States." Like others in the series, this present monograph embodies scientific information much of which was used in the construction of the final report of the Committee. Mr. Sydenstricker is Chief Statistician of the United States Public Health Service, and the investigation has been carried out with all the thoroughness that might be expected from a worker occupying such a position. The book is one primarily intended for, and likely to be most interesting to, American readers. It contains, however, much information of general use and interest, more particularly in such chapters as those dealing with economic status and occupation. One of the great difficulties with which the author appeared to be faced was how to dispose of heredity as an influence, and though he has not always been successful in getting away from it, he may be counted as a useful contributor to the collection of analyses of the effects of environmental factors of various

kinds on health as shown by changes in mortality and other rates.

Maternal Mortality and Morbidity. By J. M. MUNRO KERR, M.D., F.R.F.P.S.(GLAS.), F.C.O.G., Regius Professor of Midwifery, University of Glasgow; Obstetric Surgeon, Glasgow Royal Maternity and Women's Hospital. Edinburgh: E. and S. Livingstone, 1933. pp. 382, illustrated. Price 25s. net.

As any coming from the pen of Professor Munro Kerr must be, this volume constitutes a contribution of extreme value to the solution of one of the most outstanding problems of the day. In it he claims to have assembled the information available with regard to the subject. In this he is too modest, for though there is wide quotation from various reports, and reference to the work and research of others, the selection is made with knowledge, and throughout there is evidence of his own wide knowledge and experience. Essentially the aim is to direct attention to the need for, and possibilities of, prevention. Even in the section dealing with causation this is evident, the discussion of such matters as the influence of operative procedures, abortion, etc., forming a complete and convincing introduction to those others in which details of prevention through ante-natal care and intra-natal care or management of labour are given, and the obstetric services, including the education of medical students, are described, and an outline of a national maternity service is given. This last, as is well known, is a subject to which Professor Kerr has given much thought, and the scheme he adumbrates here is that originally submitted at the Congress of the Royal Sanitary Institute in Glasgow in 1931. The need for a national maternity service is one generally recognised, and when the mode of its constitution comes to receive real consideration, the scheme of Professor Kerr, because it appears to cover so completely all the essentials, must inevitably be regarded with favour. It is well that place has been found for it in this volume, which is certain to be found helpful and encouraging by all concerned at the extent of maternal mortality and morbidity, and anxious to see action taken with a view to their limitation.

In the Annual Reports.

VIEWS ON DISINFECTION.—During 1930 I had the opportunity of putting into practice an investigation into the efficacy of steam disinfection of clothing, bedding, etc., from infected households. From the evidence submitted there appeared to be every reason to doubt the efficacy of the traditional methods adopted, and since that time this authority has discontinued the routine steam disinfection of bedding and clothing from households infected by the commoner infectious diseases. Three full years have now elapsed since routine steam disinfection was discontinued, and . . . the percentage of secondary cases (scarlet fever and diphtheria) has diminished from 5.30 per cent. (with steam disinfection) to 3.37 per cent. (without steam disinfection). In my opinion the evidence accumulated in Leyton during the last three years is sufficiently encouraging to justify an extension of the experiment by discontinuing the spraying of infected premises, and substituting household disinfection for municipal disinfection after the commoner infectious diseases such

as scarlet fever and diphtheria. There was a time when water carts in London sprayed liquid disinfectant on the streets; and it is not so very long ago since long queues of people stood outside the Leyton public health department waiting to receive their weekly ration of disinfectant with which to conceal one bad smell by creating another. Both these practices have been scrapped as obsolete, and in Leyton routine steam disinfection after the commoner notifiable diseases has now become a thing of the past. There are, however, two surviving forms of ritual carried out by the staff of the public health department, viz., the spraying of rooms and the testing of drains in premises where infectious diseases have occurred. These are relics of epidemiological theory which we have grown out of, but they are still practised because of public faith in their efficacy. By lulling the members of the community into a false feeling of security, these measures, cause the more important human sources of infection to be overlooked, and could be discarded as a routine in favour of a thorough domestic spring-cleaning.—*Dr. Andrew W. Forrest, Leyton.*

Correspondence.

The Editor does not accept responsibility for the opinions of correspondents.

"DENTAL ENAMEL: IS IT A VITAL TISSUE?"

To the Editor of PUBLIC HEALTH.

SIR,—I should be very grateful if you would allow me to correct one or two slight errors which, it has been pointed out to me, appeared in my article "Dental Enamel: is it a Vital Tissue?" published in the September issue of PUBLIC HEALTH. My text may give the impression that it was only material from young wallabies that Mr. Sprawson used for the subject matter of his excellent paper "On the Histological Evidences of the Organic Content and Reactions of Marsupial Enamel, with a note on Human Enamel," whereas in reality, in addition to newly-erupted teeth from a young museum specimen (*Macropus ualabatus*) and teeth from a young female (*M. brunii*), teeth also from an old male (*M. ualabatus*) were used. As, however, the appearance of the enamel of the old wallaby is referred to in my next paragraph (p. 400, col. 1, para. 3), I hope little or no confusion of thought may have arisen because of this.

At the foot of the same column, referring to what I considered to be the main part of Mr. Sprawson's investigation, that is to say, that portion dealing with the "cracks" and various stages of reaction thereto, I wrote that this concerned the cheek tooth of a young wallaby. I should here have written "teeth" instead of "tooth," and should like to say how happy I am that Mr. Sprawson has pointed this out, as it would be a cause of

great regret to me if any inaccuracies on my part should give a false impression of the strength of the evidence on which Mr. Sprawson bases his claim that marsupial enamel, and by analogy human enamel, has inherent reparative powers.

I should probably have made it clear in connection with my remarks questioning whether the tissue lymph could follow the same path as highly volatile stains, that Mr. Sprawson used stains soluble in aqueous media. Here, however, it is perhaps not out of place to remark that it is well known that the diffusive powers of a crystalloid, such as the silver salt that he used to stain some specimens, photomicrographs of which are reproduced to support important conclusions, are very much greater than those of the tissue lymph.

Referring to the possibility of unstained tracts in the enamel being caused by blockage of stain in the dentine, as is shown by Gordon Jeffery usually to be the case in artefacts that occur during life, this may not be applicable in Mr. Sprawson's case, as in one of the methods of staining used by him it was not necessary for the stain first to pass through the dentine before reaching the enamel.

I am, Sir,

Yours faithfully,

Heathersett,

Listerdale,

Rotherham, Yorks.

September 19th, 1933.

JEFFREY FLETCHER.

PUBLIC HEALTH

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THE SOCIETY OF MEDICAL OFFICERS OF HEALTH.

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Editorial.

Opening of the Session, 1933-34.

IT was not Dr. Pearce himself, but Dr. J. J. Buchan, in proposing the vote of thanks to him when he left the presidential chair, who said that the year of his tenure of office had been as heavy a one as any borne by the President for some years. Equally in presenting Dr. Charles Porter on his election as his successor, and installing him in the presidential chair, it was not of the weight of the duties and responsibilities Dr. Pearce warned him. It was of the kindness and the sympathy and support he would receive that he spoke, and of the pleasure and pride he was certain to feel because of the honour conferred and the loyalty, respect and esteem his fellows seemed always eager to manifest towards the chair and its occupant. In the welcome accorded to the new, as in recording their appreciation of the services rendered by the retiring,

President the very full gathering at the annual general meeting on Friday, October 20th, gave what may be very well described as a demonstration of regard and esteem, and it may be accepted that Dr. Pearce made the proper references to the support which the President would receive in performing the work of the year that lay before him. At the same time, it cannot be doubted that the position of President carries with it duties and responsibilities that are onerous, and in the execution of which there is very real need for all that loyalty and support of which Dr. Pearce spoke and that the Society has never proved niggard in rendering. The grounds upon which Dr. Charles Porter had been elected, it was pointed out, were that he had served the Society well in a number of capacities, and that he was held in great affection by his colleagues. So far as the former is concerned, it is probable there

are few, if any, at present on the Council who have actually served thereon for so long a continuous period. Of special positions in relation to the parent Society, the most important, naturally, is that of Editor of PUBLIC HEALTH, from which he retired on his election to the Presidency. Having been so long and so closely connected with the Society, it may be supposed that he has had peculiar opportunities of noting the duties imposed upon and performed by the President. To judge from the presidential address he delivered, he appears to have gathered that amongst these duties there was one involving a certain amount of prophetic ability. To find proof of this he revealed that he had devoted considerable time to examination of the addresses of his predecessors. From the address itself, which appears in this present issue, it does not seem that his search was attended with particular success. Most of the presidents, in fact, though they may have threatened to prophesy, from what the address tells, refrained from exercising their powers or, if they did, were unwilling to go all out. Having regard to who they were, and what is actually involved, is this after all to be wondered at? Themselves engaged upon the work, looked to to bring about the results forming the basis of the prophecy, could they, in fact, prophesy without making promises? Also, would not promising or prophesying amount to a revelation of aims and ideals: an exposure of innermost hopes and beliefs? Certainly there appear to be such possibilities, and in them there may be found excuse for the reticence displayed. In the case of others, practitioners of other medical specialisms, there is no need for reticence. Having no responsibility, able to speak without any thought of policy and without fear of being pulled up, if such procedures as are advised are not proper subject for reference by an official or if effects advertised do not appear, there is no reason why they should not promise new heavens and new earths at any moment, and have their utterances acclaimed by press and public, and their suggestions and remedies specially noted for blessing by the church or sections thereof.

Tuberculous Bacillæmia.

ACCORDING to certain workers, the occurrence of tuberculous bacillæmia is extraordinarily frequent in mild and in latent tuberculosis, as well as in advanced and

miliary cases, some claiming also that the blood of persons with no previous evidence of tuberculosis, but suffering from diverse and unrelated diseases such as acute rheumatism and multiple sclerosis, yields cultures of *bacillus tuberculosis* in a high percentage of cases.

These pronouncements have tended to resuscitate and support various hypotheses, based on insecure clinical and pathological foundations, as to the tuberculous nature of certain forms of disease. In particular, may be mentioned the doctrines of the tuberculous causation of rheumatism and polyarthritis, and of some skin diseases of obscure origin. In these affections it has been suggested that the inflammatory symptoms are due to toxic products from remote and obscure tuberculous foci; or that the onset of intercurrent and independent disease sets free into the bloodstream, bacilli from previous quiescent sites of tuberculosis, and that these tubercle bacilli—recognisable by blood examination—excite local reactions. It has also been claimed that cutaneous reactions, or "tuberculides," occur in patients with occult tuberculosis, and that these are due to an increased sensitivity of the tissues becoming manifest around fresh deposits of bacilli from the blood. The tuberculous origin of such "tuberculides" has been supported from the clinical side by analogy with Bazin's *erythema induratum*.

An increase in the output of claims to be able to find tubercle bacilli in the blood in rheumatism and diseases of the central nervous system has shown the need for a critical investigation of the methods used. In the hands of Professor G. S. Wilson, and Drs. Herta Schwabacher, C. C. Okell, and E. A. Wood, the result of the investigation has been to lay bare and rediscover some little-known or unheeded sources of error. Very properly it was decided to put on record the collected evidence and fresh observations, and to restate the precautions that must be taken before confident reliance can be placed on the bacteriological diagnosis of *bacillus tuberculosis* in pathological material, and especially in blood. This has been done in a report recently issued by the Medical Research Council,* and a standard to which others may work has thus been provided. From the

*Special Report Series, No. 182, H.M. Stationery Office, 1933. Price 2s. 6d. net.

report it is clear that a large part of the published work on tuberculous bacillæmia rests on fallacies and must be entirely discounted, and that similar criticism may apply to some other work on tuberculous infections, including at least part of that dealing with filterable forms of tubercle bacilli.

The work of Dr. Schwabacher was done at the London School of Hygiene and Tropical Medicine, and included the cultivation of blood from 282 tuberculous and 122 non-tuberculous patients. Amongst the latter were cases of rheumatism, chorea, disseminated sclerosis, erythema nodosum, etc. Out of the total 404, only four revealed anything resembling a tubercle bacillus. Dr. Okell, who examined a number of cases of skin disease, was quite unsuccessful in his search, as was also Dr. Wood, who examined 24 patients and employed 201 animals in not one of which was any evidence of tuberculous infection obtained. Dr. Schwabacher, who extended her examinations to water, slime from taps, and dust, was successful in isolating acid-fast bacteria from these.

Testing of Colour Vision.

THE work upon which the report on this subject, issued by the Medical Research Council* is based, was originally undertaken at the request of the Admiralty, and was done with the aid of facilities given in the Royal Navy. The investigations which are here recorded have shown that a surprising number of colour-sense defectives may be found even among men who have been selected after passing various of the colour-vision tests now in general use, and that in some of these cases colour-blindness may be present in such degree as to impair efficiency. The data collected on this subject in the Royal Navy, and the suggestions which are made as to improved methods of testing, would, therefore, seem likely to be of great value to all who have to administer public or other services which contain staff requiring a high degree of colour discrimination for the safe and accurate performance of their duties. It was for this reason that the Committee on the Physiology of Vision set up by the Council decided to recommend publication.

A further contribution to the subject is con-

*Reports of the Committee upon the Physiology of Vision. XII. Colour Vision Requirements in Royal Navy. Special Report Series, No. 185. P-108. Stationery Office, 1933. Price 1s. net.

tained in a report, also published by the Medical Research Council*, entitled "Individual Differences in Normal Colour Vision; A Survey of Recent Experimental Work (1910-31)," by Mr. W. O'D. Pierce, a member of the research staff of the National Institute of Industrial Psychology. In this he reviews the literature dealing with colour discrimination and provides a most interesting survey of existing knowledge. The main object of bringing together such a collection of information as to differences in colour vision among "colour normal" individuals was the construction of tests for the selection and classification of workers on the basis of their colour sensitivity.

Together, these two reports must be regarded as a most useful contribution to the literature of the subject, and valuable and interesting, therefore, to specialist members of the medical profession. In addition, however, they possess very real practical importance from the point of view of industry.

The Eradication of Bovine Tuberculosis.

TUBERCULOSIS is not the only infectious disease conveyed by milk, but it is by far the most important and insidious. For the past quarter of a century, therefore, a pure and wholesome milk supply has been one of the major ideals of preventive medicine. The attainment of such a supply is not easy, since great scientific, practical, and financial difficulties have to be surmounted. Of the scientific difficulties, some have been partially overcome by work in which the Medical Research Council, through their Tuberculosis and Tuberculin Committees, have had a part. The steps taken include the introduction of the double intradermal tuberculin test, which, in skilled hands, provides a reliable diagnostic method under farm conditions. This is true notwithstanding the fact that no compulsory standard of potency has yet been prescribed to which the tuberculin used for veterinary practice must conform, and although there are points in the evaluation of the test that still require investigation. The solution of the practical and financial problems involved in the eradication of bovine tuberculosis is, however, less advanced.

*Special Report Series, No. 181. H.M. Stationery Office, 1933. Price 2s. net.

In a report by Dr. L. Jordan, Veterinary Pathologist to the Hannah Dairy Research Institute, recently issued by the Medical Research Council*, there is described the results of a large scale experiment promoted by the Council, with the aid of a private benefaction for tuberculosis research of which they were trustees. The general scheme was to select a definite area in the south-west of Scotland, to secure the co-operation of dairy farmers resident therein, and to provide these farmers with free tuberculin testing and free expert advice, on the understanding that they would attempt to eradicate tuberculosis from their herds by isolation methods. The general object of the scheme was to determine how far eradication might be achieved with these relatively small incentives and with a minimum of disturbance of the ordinary farm routine. An area of some nine square miles, to the north-east of Mauchline, Ayrshire, was eventually selected for the experiment. The area was bounded by good roads and contained 37 farms. Of the owners; three refused to participate, and two had already licensed tuberculin-tested herds; two others dropped out later. The scheme finally included 30 farms. The investigation was carried out for a three-year period. Of the 30 herds participating throughout this period, 28 made substantial progress; 20 were free from infection at the end of the experiment (as compared with eight at the beginning), while eight others showed substantial reductions in the number of reactors. In all these herds the stock showed a general improvement, resulting in increased valuation and an increased demand, while the costs incurred by owners in eradicating the disease were small and more than offset by the greater value of the stock.

The report gives a good example of the way in which a field investigation, carried out under careful scientific control, may lead to conclusions of great practical importance. It shows that eradication of tuberculosis from heavily-infected herds is by no means an insoluble problem, and it demonstrates clearly the progress in tuberculosis eradication which can be achieved by providing the relatively small incentives of free tuberculin testing and free expert advice. Considerable as is the importance attached to such procedure, and valuable as the report believes the results obtainable

may be, it is interesting to note that unwillingness is expressed to place reliance in so vital a matter as the safety of the milk supply on one single method of protection. A second line of defence in subsequent treatment of the milk, such as that given by pasteurisation, may be found to be desirable or even indispensable.

The report, in addition to giving a very full and complete description of the research carried out by Dr. Jordan, and of works in the direction of eradication performed by investigators in other countries, provides an exhaustive study of the whole subject of bovine tuberculosis that will be found useful and suggestive by officers, medical and others, engaged in the public health service.

Preventive Medicine in the University of Bristol.

DR. R. H. PARRY, Medical Officer of Health of Bristol, has been appointed Honorary Professor of Preventive Medicine in the new department of Bristol University opened recently by the Minister of Health. He is to be congratulated upon his appointment. Possibly, however, he might be congratulated more upon the fact that it was mainly as a result of his initiative that the new department of medicine came into being, and the corporation of Bristol and the university have come into close union. The benefit of such a union in connection with the teaching of preventive medicine should be immense, and it must be a strong desire of the public health service as a whole that the experiment should be attended with the greatest possible success. Within the department of preventive medicine, in addition to the actual teaching done by Professor Parry, there will be engaged as teachers also the professors of obstetrics and gynaecology, of medicine, surgery, pathology, etc. More important still, however, in the same building there will be the laboratories of the city bacteriologist and pathologist and the public analyst. Students, therefore, will have an opportunity of seeing municipal preventive workers engaged in their tasks and, better still, perhaps, of working in and breathing an atmosphere of preventive medicine. Under the arrangement entered into by the local authority and the university, the two bodies will be associated

* the appointment of the director and staff of the department, and the university will be

consulted in the appointment of the medical officer of health of the city. Having regard to the fact that this officer will be professor of preventive medicine, this is only right and proper, and will tend to strengthen the co-operation between the municipality and the university.

The Respiratory Diseases of Coal Miners.

A VALUABLE contribution to medical knowledge concerning the health of coal miners has recently been published in a book, entitled "The Health of Old and Retired Coal Miners in South Wales*," which embodies the results of a research undertaken by Dr. Enid Williams, Cecil Prosser Research Scholar in the University of Wales. Dr. Williams undertook the task of investigating the causes underlying the prominence which respiratory diseases, especially "bronchitis," take in the mortality statistics of workers in the South Wales coal-field, and for this purpose she has made an intensive study of 100 old and retired miners, 52 of whom had been employed in the steam coal mines, whilst the remaining 48 had worked in the anthracite pits in the western portion of the coal field. It was found that the worldly lot, including the housing conditions, of the anthracite workers was better than that of the steam coal workers, but doubt is expressed as to whether the former were adequately fed, though living in rural or semi-rural areas. Full details of the industrial and family histories of these men were obtained, and in reviewing their personal histories it was found that the majority of the illnesses from which they had suffered were associated with the chest, but that steam coal workers had, on the whole, suffered less than the anthracite workers. Amongst the symptoms present, dyspnoea was discovered in 76.9 per cent. of the steam coal workers, as compared with 93.7 per cent. of anthracite miners, and a higher proportion of the "very dyspnoeic" occurred amongst those who were under 60 years of age, this being probably attributable to the greater amount of stone dust inhaled since the introduction of modern mechanical drilling appliances underground, which factor also contributed towards the occurrence of a greater degree of dyspnoea amongst hard-heading workers. Cough was almost as frequent a symptom as dyspnoea,

and amongst 44 specimens of sputa examined, tubercle bacilli were found in six, and refractile particles were also detected in a large percentage of the sputa. All those examined showed diminished expansion of the chest, and alteration of the contour of the thorax was common; these changes were more prevalent amongst steam coal workers, and it was deduced that chest disease was more chronic in nature in these workers. Only eight men had no abnormal physical signs in the chest, but it was noted that clinical good health was compatible with the presence of physical signs. A study of von Bonsdorff's modification of Arneith's nuclear count indicated that the count was more valuable as an index of the state of health than as a test for tuberculosis, whilst the lymphocyte-monocyte ratio was regarded as a more reliable aid for the diagnosis of tuberculosis; 26 men, 24 of whom had cough, 15 had sputum and more than half had lost weight, were deemed to be probably tuberculous. These figures, together with the discovery of tubercle bacilli in six of the sputa, are conclusive that the incidence of tuberculosis amongst coal miners is considerably higher than had been hitherto suspected, and in this connection it was found that the disease was atypical and without signs of toxæmia such as fever and lassitude, so that in the absence of a laboratory diagnosis, the cause of death would probably be attributed to chronic bronchitis in these cases. Pneumonoconiosis was considered to be present in 32 of the miners examined, and, in addition, 31 were regarded as probably suffering from this disease. These conclusions likewise indicate a higher incidence than was anticipated, and the suggestion is made that this is attributable to exposure in varying degrees to hard-rock dust rather than to coal dust as evidenced by the frequency of the discovery of refractile particles, which are presumed to be silica particles, in the sputa.

This research has elicited the information that the clinical condition known as "miner's chest," is frequently due to pneumonoconiosis, and not infrequently due to tuberculosis, both of which are preventable, and in the latter case communicable to other members of the miners' families, which may have caused the high degree of household infection ascertained in many of the family histories of these men. The modern mechanical rock-drilling appliances have greatly increased the quantity of stone dust underground, and it is important that effective

*Special Report Series, No. 184. H.M. Stationery Office, 1933. Price 2s. net.

*University of Wales Press Board, 1933, pp. 108. Price 6s.

preventive measures should be employed and rigidly enforced, whilst the evidence of unsuspected cases of tuberculosis emphasises the necessity that greater use should be made of the diagnostic methods available in the laboratory and X-ray room, so that appropriate steps may be taken to prevent the spread of infection whenever the presence of tuberculosis is thus confirmed.

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Sir Alexander Houston.

THAT it must be a real grief to Sir Alexander Houston to find himself unable to assist the Metropolitan Water Board in the way they desired, by carrying on beyond the date set for his retirement, may well be believed. Even in the face of the reason for it, that the condition of his health forbids, it must be a great comfort to him to know that his regret is shared by the Board, and to have the occasion of the consideration of the resignation he felt compelled to tender taken to express not only the admiration for his work and gifts, but very real affection for him personally. Since he has been Director of Water Examination for some 28 years, and in that time has made contribution not only to the knowledge of the Board and suggestions of the extremest value for the benefit of those supplied by the Board, but helped in the advance of science, chemical and bacteriological, throughout the world, opportunity in plenty was given for members of the body for whom he worked to learn something of his value and to appreciate it. The committee to which he was primarily attached did not hesitate to express appreciation and their belief that, through him, they were able to play an important part in securing the health of the vast population supplied with water by the Board; while his researches have been effective in solving not only difficult problems relating to water supply in London but, being of general application, have been of advantage to other authorities elsewhere. To members of the public health service, these things are known, and it has been a source of gratification to them from time to time to note the recognition the work of Sir Alexander Houston has received and the honours conferred upon him. It is a serious matter for the Board to lose the services of so distinguished a worker and the regret they feel, and that has been so sincerely expressed, will be shared by everyone in the service. The resolution of the Board, which is to be inscribed on vellum and presented to Sir

Alexander, contains words of high appreciation and many kindly sentiments and sincere wishes and hopes. Amongst the hopes expressed is this, that "relief from his arduous duties and responsibilities will result in such an improvement in his health as will enable him to enjoy for many years the rest he has so abundantly merited." That wish and hope the whole body of the public health service will echo in all sincerity.*

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"British Rainfall, 1932."

THIS is the title of the seventy-second 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 1932, 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 1932. For the British Isles as a whole the rainfall of the year was 102 per cent. of the average, and 1932 was the tenth successive year with a general fall exceeding the average. February, 1932, was very dry, the general rainfall over the British Isles during that month being less than that recorded in any other month since before 1870. May, 1932, on the other hand, was one of the wettest Mays over England and Wales during the last 160 years. Partial droughts and dry spells were unusually frequent during 1932, the total number of partial droughts recorded at 100 selected stations being greater than the corresponding number in any year since before 1887. Another feature of the year was the succession of cyclonic rains in April and May, culminating in the heavy rains of May 20th to 23rd, which produced widespread flooding, especially in the Bentley district of the Don Valley. The volume includes three special articles which discuss the frequency of occur-

*All that is written here by way of appreciation of Sir Alexander Houston may stand, as may also all the wishes and hopes that are expressed, in spite of the fact that death intervened on October 29th, and science, and preventive medicine in particular, became so very much the poorer by reason of his loss.

rence of daily rainfall amounts, and deal with problems relating to the exposure of rain-gauges, and with the distribution of the average annual rainfall over the Tees Valley. Containing nearly 300 pages, this extremely interesting publication is issued under the authority of the Meteorological Office (Air Ministry), and may be purchased (price 15s. net, postage 5d.) from H.M. Stationery Office, or through any bookseller.

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The Health Education Conference.

THE Sixth Annual Conference on Health Education, organised by the Central Council for Health Education, will be held on Thursday, November 23rd, 1933, 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., continue until 1 p.m., and resume at 2.30 p.m. The subject for discussion, "The Education of Public Opinion in Regard to the Housing Problem," will be opened by Lord Balfour of Burleigh, who will be followed by other prominent speakers. The afternoon session will include an introductory address by Dr. James Fenton (Chairman of the Central Council) and a description of the Octavia Hill system of property management by a representative of the Society of Women House Estate Managers. Mr. G. L. C. Elliston, M.A. (General Secretary of the Central Council) will speak on the Council's schemes for the organisation of Health Weeks and Exhibitions on behalf of local authorities. At 4.15 p.m., there will be shown the new sound film, entitled "Milk," produced in England for the National Milk Publicity Council.

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 17th, to the 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.

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Obituary.

ALEXANDER JOHNSTON WILSON, F.R.C.S.,
L.R.C.P., (ED.), L.R.F.P.S. (GLAS.), D.P.H.

THE Society records with regret the death of Dr. A. J. Wilson, Medical Officer of

Health for the Burgh of Airdrie. He commenced practice in the Calderbank and Chapelhall district, with a surgery in Airdrie, but later removed to the latter place and extended the scope of his work. While still in private practice, he was appointed, in 1909, medical officer of health of the burgh, and also held other offices in the district, including those of medical officer of the isolation hospital; tuberculosis officer; police surgeon; certifying factory surgeon; and medical officer of the maternity home and infant welfare centre. He was a medical referee of the Ministry of Pensions; an examiner for the St. Andrew Ambulance Association, and presided over the executive committee of the New Monkland Mental Welfare Association. Always a keen supporter of the British Medical Association, Dr. Wilson was chairman of the Lanarkshire Division in 1924-25, and had served on its executive committee. During the war, he served as a surgeon in the military hospital in Gibraltar. He was a Fellow of the Society of Medical Officers of Health, and the author of a number of articles on infectious diseases and other medical subjects.

By his many activities in Airdrie and his unremitting devotion to the welfare of the community, Dr. Wilson had gained the highest esteem and affection, and his unexpected death came as a great blow to his personal friends and colleagues, and to the various societies and organisations which he had so actively assisted.

GEORGE HENRY ORMSBY, L.M.S.S.A.

With much regret the death is announced of Dr. G. H. Ormsby, which occurred on October 10th, following injuries received when he was knocked down by a motor car while crossing the road near his home. He was for many years Medical Officer of Health for the Wigan Rural and Standish Urban Districts, and had held other public medical appointments in the district. Born in 1870, Dr. Ormsby qualified from the Westminster Hospital Medical School in 1896, and was a Fellow of the Society of Medical Officers of Health for nearly 30 years, and an Honorary Life Member of the St. John Ambulance Association.

DR. BENJAMIN WRIGHT ANDERSON, of King's Cross Hospital, Dundee, has been appointed Deputy Medical Officer of Health and Assistant Tuberculosis Officer for Exeter.

Presidents and Prophecies.

Being the Presidential Address of DR. CHARLES PORTER, Medical Officer of Health, Metropolitan Borough of St. Marylebone, President of the Society, at his Installation at the House of the Society in London, on October 20th, 1933.

AT some stage or other of his career as a president, at his installation or on some such occasion, it is not unusual for the individual raised to that high office to indulge in something in the nature of prophesying.

Unless he happens to be the president of a republic the forecasts made are commonly taken as such. They are not, that is to say, regarded as promises, so that if they are not fulfilled nobody says anything about them or thinks any the less of the prophet.

In this Society, as in other organisations, there have been quite a number of presidents who have adopted the rôle of prophet, and have ventured to look well ahead and give their views as to what is likely to happen in this, that or the other connection.

As a matter of fact, the sort of general idea I had formed was that all presidents devoted some attention to prophesying in their presidential addresses, and as they were entitled to, having regard to their wide experience, indicated the lines that progress might be expected to take and the effect that in all probability would be produced.

Largely it was in order that I might test my belief that I chose the title for this address, and set out to examine as many of the addresses delivered from the presidential chair of the Society as possible.

As is announced whenever opportunity offers, the Society was founded in 1856, the first President being Sir John Simon. Like a number of his immediate successors, Simon occupied the chair for several years. Whether or not he and they delivered a presidential address at the beginning of each of the sessions in which they functioned it is difficult to say, since the Society did not publish a journal of its own until 1888.

This is unfortunate, as it would be interesting to read to-day what Sir John had to say on the 13th day of May, 1856, when he was chosen president on the ground that "it is Mr. Simon who has given sanitary science its present status and popularity, and that the creation of officers of health for the various districts of the metropolis was the result of the example set by Mr. Simon and of the beneficial effects of his labours in the city."

That the references in this quotation are exclusively to the metropolis is due to the fact, as has been explained so often, but never better than in the fascinating address of Dr. Pearce, President in the session 1932-33, that it was an association of medical officers of health in London that formed the nucleus of the Society, union between it and associations in Yorkshire and elsewhere taking place at a later date.

Whether or not, if Simon did make an address or addresses, he indulged in prophecy it is impossible to say.

Having regard to the amount that he did in connection with the drafting of the Public Health Act, 1875, and other Acts, in which he saw to it that such provision was made as would ensure the practically complete protection of this country from invasion by infection from overseas, it is possible that he may have considered it unnecessary to exercise his gifts when he addressed his fellows from the chair in the room at the General Board of Health, where the earlier meetings were held.

That there is no record of what Dr. R. D. Thomson, the immediate successor of Sir John Simon, who reigned from 1861 to 1864, said by way of prophecy or otherwise is a matter of real regret to me personally, for at the time of his election he was medical officer of health of St. Marylebone.

The fact that he was chosen to follow Simon, and although there were available such men as Buchanan and Stevenson to be the second to occupy a position for which there could not obviously be any other first choice than that which was made, suggests that, apart from his qualifications (he was M.D., M.R.C.P., and F.R.S.), Thomson was a person of distinction and held in high esteem. From reports submitted upon the health of St. Marylebone, from what he had to say with regard to the needs of the district, and the advice he tendered as to remedies to be applied and precautions adopted, it is clear that he had vision, was a great worker, cultured, thoughtful and capable. Any address he might have delivered it is certain would have been worth hearing and, even if it contained no prophecies, must have been suggestive and stimulating.

It is to be regretted that neither in the

Society nor in the public health department is there any pictorial or other record of his connection with or work for the body over which he presided for the four years 1861-64.

Unfortunately, this is the case also with more than one of those earliest in the line of presidents before Branches came to occupy a strong position and to adopt the practice of presenting portraits of such of their number as had passed the chair.

Though it has been found impossible to trace addresses delivered by Simon, Thomson and others who presided before 1888 and the incorporation of the Society and the publication of a journal, that is not to say that no addresses were delivered.

Actually, between 1856, the date of the foundation of the Society, and the year 1887, there were no fewer than fifteen addresses. This one learns from Dr. Lovett, medical officer of health of St. Giles, and one-time treasurer of the Society, who, on taking the presidential chair at the opening of the 1894-95 session, in accordance with the growing custom, made an address to his fellows, choosing as his subject, "A Retrospect of the Sanitary Legislation of the Present Century and its Effects on the Past, Present and Future of our Society."

So far as his main theme is concerned, I cannot say I find Dr. Lovett impressive, and in the matter of prophecy, so far even as the future of the Society is concerned, he took no risks whatever.

The one good and helpful thing he did was to give a summary of the topics which had formed the subjects of presidential address, among the more important of them being:—

"Sanitary Needs of the Day."

"United Action in Epidemic Cholera."

"Popular Customs, Prejudices and Morals in their Relation to Sickness and Mortality."

"A Practical View of Intemperance: Its Causes and Remedies."

"Sanitary Topics of the Day, showing the necessity of Improved Legislation."

"The Present Condition of Medical Officers of Health and their Prospects."

"The Sanitary Condition of Communities."

"Scientific Work by Medical Officers of Health."

"The Acquisition and Distribution of Sanitary Knowledge."

"Causation of Disease."

"Sanitary Condition and Laws of Mediæval and Modern London."

"The Relations between Meteorological Phenomena and Man."

"Metropolitan Sanitary Administration."

"House Sanitation."

"Disposal of House Refuse and Sewage."

Dr. Lovett, it is greatly to be regretted, neglected to indicate where the addresses might be found; also he failed to say which president was responsible for which address. Since between 1856 and 1887 there had been 32 sessions with only eleven presidents, it is rather difficult to hazard a guess, though it is not so improbable that Simon was responsible for that entitled "United Action in Epidemic Cholera," and my distinguished predecessor as medical officer of health of St. Marylebone, Dr. Thomson, for "A Practical View of Intemperance: Its Causes and Remedies." This I judge from the amount of attention he devotes in his annual reports to the discussion of water and water supplies and a careful calculation made in one of them showing that, by paying one shilling and one penny per week as from the age of fourteen as a premium of insurance, at 43 a person would receive "an annuity of £10 as long as he lived." "That this saving could be effected by working men is," he opines, "at once obvious, when we inquire into the amount of their wages which is expended in tobacco and fermented liquors."

In the list of the earlier addresses it is interesting, in spite of the view commonly held that health officers of that epoch were exclusively interested in drains and sewers and water-closets, to note how many deal with subjects other than pure sanitation. Some of the titles, indeed, suggest that the authors had formed some sort of idea with regard to the trend of progress and might have indulged in something of the nature of prophecy.

The individual who discussed the question of "The Acquisition and Distribution of Sanitary Knowledge," for instance, may have suggested the possibility of the creation of the Central Council for Health Education at the instigation of the Society.

Though it was full early for references to the possibility, for example, of vermin having some relation to the spread of infection, there were distinct openings in this direction for the prophetic president in such addresses as those on "Causation of Disease" and "Scientific Work by Medical Officers of Health."

Perhaps, however, it is asking too much of these early presidents to expect of them that

they should be able to foresee developments to which presidents made no prophetic reference whatever until long after the bright era that was marked by the publication of PUBLIC HEALTH had opened.

As a matter of fact, the general impression of the attitude and belief of the service at that time, gained from a study of addresses in which infectious disease is discussed, and any attempt made to envisage future happenings and discoveries, is that the lines of prevention and control then operating were the most satisfactory that could be devised, and that if they were persevered with there would be no increase in prevalence or in mortality.

In the period between 1888, when presidential addresses became readily accessible in the pages of the Society's own journal, PUBLIC HEALTH, and the end of the last century, there were, in fact, few that dealt with infectious disease, and fewer still in which much in the way of prophesying was done.

Even Dr. Armstrong, of Newcastle, whom I always regarded as something out of the ordinary when it came to taking long views, largely because in my young day he seemed always to be demanding the creation of a ministry of health, in the address delivered at the opening of the session 1889-1890, "On the Education, Training and Qualification of the Medical Officer of Health," failed entirely to be prophetic.

Indeed, so far as the infectious diseases were concerned, the things that appeared to trouble him most were the frequency with which practitioners attending infectious cases failed to make a correct diagnosis, and the failure of persons connected with the supervision of fever patients "to retain infective convalescents for a sufficiently long time in isolation and to recognise the requirements of proper isolation in infective cases in general"; these being among the undoubted causes of the spread of fevers. A hope he had to express in this connection was that "evidence of practical clinical instruction in the wards of a hospital for infectious diseases and of tuition in comparative pathology will before long form part of the education of every candidate for legal qualification in public health."

Inasmuch as to-day it is not only a requirement that the candidate shall have attended a course of instruction in fevers, additional to that taken as a medical student, but must submit to a practical examination in infectious diseases as well, it may be claimed for Dr. Armstrong that

he saw what was needed and what was about to occur; was, in fact, in this regard at any rate, something of a prophet and, what is more, unlike so many others, a true prophet.

Apart from Dr. Armstrong and Dr. Lovett in this first group of presidents in the post-incorporation era, to whose addresses reference has been made, there were such men as Professor Corfield, Sir Shirley Murphy, Dr. Vacher and Sir Arthur Newsholme.

Professor Corfield, who naturally, having regard to what I understand were his inclinations, dealt with certain questions relating to sewage disposal, had nothing much in the way of prophecy to offer.

Sir Shirley Murphy, who filled the office of president in the sessions 1891-92 and 1892-93, delivered two addresses, the first on "The Health Officer," and the second on "The Inspection of Animal Food Supplies," in both of which, it will be believed by all who knew him, he showed himself a master both of his subject and of its exposition. Though it is not easy to pick out from either of these papers this, that or the other statement and declare it a prophecy, it can be claimed quite readily that throughout he spoke in a prophetic vein.

This particularly in the case of the address on food inspection in which—this was in 1892—he showed that at that time a sufficiently serious view was not being taken by health authorities of their responsibilities in relation to the food supplies, and indicated the necessity for abolition of private slaughterhouses: for securing proper examination both of home-killed and imported meat: the creation of a sufficiently large and capable staff of meat inspectors to undertake this work, and securing that the veterinary profession should take a more active part in health administration. In regard to milk he claimed that the state of knowledge existing at that time justified a "larger power to require that the milk of cows having signs of ill-health should not be used for food unless precautions have been taken to destroy by boiling [these were the pre-pasteurisation and pre-vitamin days] any infective properties the milk may contain, but in the case of tuberculous udder of the cow we should certainly be in a position to demand that the milk should not be used at all."

Rather more than something of a prophet, Sir Shirley proved to be; as witness what has occurred, not only in relation to private slaughterhouses in London, at any rate, the 500 or 600 at 1891 having been reduced to 86 at 1933, but in connection with the system of meat

inspection and the provisions made in relation to milk generally, and that derived from cows suffering from tuberculous udders in particular.

Dr. Vacher, who, at the time he entered the chair in 1895, claimed to have taken office as a medical officer of health so early as 1873, to an extent adopted the rôle of prophet. As his model he chose Jeremiah, and in an address on "The Prevention of Epidemics" had little to say in praise of the way in which local authorities made use of what he describes as the "four principal means local authorities have for preventing epidemics:—

"(1) The rapid removal of decomposing refuse material.

"(2) Notification of infectious cases.

"(3) Isolation of infectious cases.

"(4) Disinfection of infectious persons and things."

None of these things was properly done, and therefore it seemed probable that matters would go from bad to worse and "the advance of epidemics be like a royal progress."

And further than that; we are all too ready to regard our system of public health administration in England as a brilliant success. "Perhaps it is, as a whole," said he. "Undoubtedly much has been accomplished under it. It is comprehensive and practical, and has many good qualities; but it would be fatal to allow these to lead us into blind optimism."

Then afterwards the members adjourned and partook of the annual dinner, toasting together, amongst others, "The Queen," "The Prince of Wales and Rest of the Royal Family" ("There is a mistake here," on one occasion said a Prince of Wales, "in the Royal Family there is no Rest"), "The Society," "The Honorary Officers" and the "Branches of the Society."

The last of the nineteenth century presidents was Sir Arthur Newsholme, and his presidential address was "A Contribution to the Study of Epidemic Diarrhoea." This occupies a vast number of pages in PUBLIC HEALTH and, as you will readily believe, was an extremely fine and valuable, if not, indeed, a monumental piece of work, in which every view and theory with regard to causation was exhaustively examined, and every suggestion as to prevention discussed. In it there is no indication given that, before the twentieth century was twenty years old, epidemic diarrhoea would have ceased to be a menace and in the mortality statistics occupy a position of negligible importance.

In failing to so prophesy, Sir Arthur had for

company another illustrious predecessor of mine, both in St. Marylebone and this chair, Dr. Wynter Blyth, but as the subject of his address was "Ventilation," he did little in the way of prophecy in any case.

Similarly in the address of Dr. Spottiswoode Cameron of Leeds, under whom I served for a time most happily and with great advantage, there is no anticipation, in what he said in regard to epidemic diarrhoea, that it was likely ever to show signs of slowly or otherwise and silently vanishing away. This is all the more strange since, in choosing as the title "Sanitary Progress during the last Twenty-five Years—and in the Next," and claiming, moreover, that the Anglo-Saxon mind was more prone to forecast than to retrospect, he definitely set himself up as a prophet.

Both in his retrospect and in his forecasting, Dr. Cameron gave a great deal of attention to sanitary matters and sanitation, which is perhaps not to be wondered at having regard to the fact that he was medical officer of health of Leeds; the year of his presidency was 1902; and it was not until some years later that he had the advantage of having me on his staff as, amongst other things, chief sanitary inspector.

In relation to sanitation, nevertheless, many of the matters to which he referred have received attention or are in course of being attended to on the lines he suggested: the sewer-drain question, for example, which no longer burns as at one time it did, and the prevention of nuisance from sewers. Alleging this last to be due very largely to the multiplicity of house intercepting traps and gullies which he condemned as nothing better than cesspools in which sewage fermented, he may be regarded as to some extent responsible for bringing into existence the provision under which local authorities may permit the omission of the interceptor, and for the introduction of the so-called "one-pipe" system of drainage.

In the matter of disease and the control of infection, Dr. Cameron was very much of his period and very much influenced by the conditions then existing in making his prognostications.

There was no possibility, it appeared from what he said, that the commoner infections were likely to show the marked diminution that they have done: there was no likelihood of change of view in regard to hospital isolation and "return cases" in relation to scarlet fever, or as to the value of disinfection. In his opinion, much of the improvement to be expected in the

twenty-five years succeeding 1902 "will depend upon our grappling thoroughly with the subject of infectious disease": he wanted, therefore, more and bigger fever hospitals, more and better disinfection, and sought to have school teachers so trained that they would be as familiar with the infectious diseases as they were with the multiplication table.

To some extent it was because he was so strong on what he called "educating the educators" that I was called upon to undertake the teaching of hygiene in the local training college soon after my arrival in Leeds, though as a matter of fact I had already provided courses of instruction in hygiene to teachers acting and in training in the sister city of Sheffield for some time before going on to Leeds.

Though he may not have been very successful in forecasting what was likely to happen in regard to disease, and was too pessimistic as to the effect of existing conditions and circumstances upon the death-rates, he was certainly more happy in this matter of the provision of health teaching for school teachers.

In respect of housing and slum clearance he was even more happy, offering suggestions some of which have been adopted already, and expressing views which would meet with the entire approval of the present Minister of Health. Discussing what appeared to him likely to happen to industry as a result of the extension of the use of electricity as a motive power, and particularly the erection of factories outside the boundaries of the cities, he said: "Factories of this kind, erected where land is cheap, will naturally attract a population around them, and it will be for the local authority to see that the houses built for this population, whether by private enterprise or by the mill-owner, are so arranged that fresh air and light shall be readily admitted to every dwelling. Even in our slums, the necrotic centres of our municipal life, the vigour of the authority must never slacken. It should be made impossible for any landlord to receive rents from overcrowded property. The Public Health Acts give us already sufficient power. It is for us to persuade our masters to exercise it. No department of progress is, perhaps, more active at present or exciting more attention than the housing of the working classes of our towns. It is probable that before many years have passed the Local Government Board will have extended to corporations building houses for the working class the length of time for borrow-

ing money. Is there any reason why, with proper safeguards, cheap money should not also be lent to builders for the same purposes? Is there any reason why some remission of rates—say, for five years, as in France—should not be made by the municipality to owners of property to supply the necessary wants of the poorer classes? It is the industry of our masses that has made it possible for corporations to borrow at cheap rates. Is there any reason why this privilege, which their work has earned, should not in some such way be turned to their advantage?"

It is not merely for reasons of affection that I have devoted so much attention to the address of my old chief. There are in the list of those who followed him, men for whom I have felt and feel a personal regard no less strong than that I had for him. The fact is, in the case of Dr. Cameron, that he set out to do and actually did much more of prophesying than practically anybody else, no matter how very much of promise there may have been in the title chosen for their address.

Moreover, there were few of them round about his own time who were any more successful in foreseeing or forecasting the wonderful improvements that were to take place in a number of directions.

None forecast, for example—did not dare to, indeed—that in regard to infant mortality the Ministry of Health report for 1932-33 would contain such a statement as this: "After the steady process of reduction in the rate (of infant mortality) during the last few decades, the variations now tend to reflect less the direct influence of maternity and child welfare work than the influence of climatic and related factors. This is shown clearly in the figures for the four quarters of the year (1932) which were 87, 58, 49 and 64, respectively, as compared with 94, 59, 46 and 66 in 1931."

They did not contemplate such reductions in the prevalence of scarlet fever and others of the commoner communicable diseases as are noted in the reports of Sir George Newman; or dream of the possibility of securing such control over tuberculosis as the returns show; or that it would ever come to pass that we would be told in the Society of the propriety of substituting a voluntary for a compulsory system in connection with vaccination against smallpox.

Certainly Dr. Davies, late of Bristol, president in 1906-07 did not when, in his address he contrasted the epidemiology of diphtheria and

smallpox, and found the latter easy of control, largely on account of vaccination. Even he, however, great authority as he was on smallpox—he never, for example, in my experiences with him, failed to ask candidates for the sanitary inspector's certificate a question on the subject—did not contemplate so great a change as has occurred in the nature of the disease, or, I am sure, the possibility that home isolation of sufferers would ever come to be regarded as suitable.

That any surprise would have been caused to the late Dr. Bostock Hill by any of these things I very much doubt, having regard to the astonishing up-to-dateness he manifested to the very end. President in 1911-12, Bostock Hill discoursed from the chair on "The Evolution of the Medical Officer of Health," a subject which he did not treat specifically on the lines of "The boy: what will he become?" and afforded little scope, therefore, for prophesying. Such scope as it offered he made use of as he did also of the opportunity to refer to the matter of health teaching, on which he was always so keen. Having regard to the prominence now given to food in relation to health, it is interesting to find him declaring his belief that "the great improvements in the hygienic conditions of the people are not solely due to what may be called hygienic efforts. The improved supply of food now available to all classes has been a far more potent factor in improving the public health than all the sewage works laid down in the country, while the introduction of tea and coffee should, no doubt, be accounted one of the most important steps ever undertaken in preventive medicine."

Dr. Hope, then of Liverpool, who succeeded Dr. Bostock Hill in the chair, curiously enough having regard to its title, did little of prophesying in his address on "The Expanding Scope of Sanitary Administration." Though he said nothing on the subject of pasteurisation or, indeed, heat treatment of any kind, I was interested to find him one of the first to devote much time to the question of a wholesome milk supply.

Having regard to the very important part he played as a young man in destroying the belief, so long held, as to the relation of the "three-foot earth temperature" to epidemic diarrhoea, it is rather sad and surprising to find that he has nothing to say or prophecy to make with regard to this condition. Or, indeed, as to infant mortality as a whole, of which he says nothing except to point out that, in spite of the cries of

the eugenists against the possible saving of the lives of weaklings and degenerates, infant welfare work was worth while.

After, in the matter of time, the address of Dr. Spottiswoode Cameron, that of Sir John Robertson is the one richest in prophecy, and it is very pleasant for me to be able to claim both of these men as chief.

Sir John Robertson was one of the war-time presidents, occupying the chair in 1916. Having regard to the tremendous amount of work he had to do (as a fact, I never met anyone who could work and did work so hard as he) it is wonderful that he was able to find time to produce so interesting and inspiring an address as that he read at his installation on October 20th, 1916. The subject chosen was "The Future of Preventive Medicine."

Practically the first words uttered in the address were prophetic and to the effect that advance not only of the Society but in relation to public health as a whole would be hastened rather than retarded by the war.

Of the truth of this there is abundant evidence to-day, just as there is further evidence of his foresightedness in what he said as to need for and advantages to be obtained from the work done at maternity centres. In pressing the claims of research and the researcher it is interesting to note that amongst the subjects he quoted as calling for investigation were bad teeth, appendicitis, the causation of fatal diseases of the heart, anæmia and ill-health.

Keen on research as always he has been, Sir John Robertson was probably one of the finest administrators our service has seen. For that reason it is not surprising that he should have had something to say on this also in his address; urging its importance and pointing out that in many cases the oversight of preventive work has been taken away from the medical and given to a lay officer simply because of lack of administrative ability on the part of the former.

To get the best results, in his view, all the methods needed for the prevention of disease must be in the hands of the medical administrator. In so saying it is probable that he foresaw what has happened and is happening to-day in consequence of the operation of the Local Government Act, another measure which he anticipated, as he anticipated also the coming into operation of the Ministry of Health Act in a remark with regard to the necessity for ensuring that both centrally and locally the responsibility for the prevention of disease should rest with one authority. Not the least

interesting of Sir John's prophecies has reference to the medical officer of health himself, his position and remuneration. "I have no fear," said he, "about the salary paid to officers being improved as time goes on, because undoubtedly the position of the chief officer in the public health service is improving very quickly." The accuracy of the forecast here is remarkable. At the same time, however, it may be claimed that had it not been for the Society, backed by the British Medical Association, and the efforts of one man in particular, Dr. George F. Buchan to wit, it is doubtful if in this instance Sir John would have proved to be so true a prophet.

Dr. George Buchan, to whom I have referred, was President in the session 1925-26, but in his presidential address he made no prophecies or promises with regard to the matter I have mentioned. The subject he chose—"Methods of Prevention in Diphtheria and Scarlet Fever"—indeed, did not lend itself to such things or, in fact, to public health prophecies either.

In any case, had he done so, he is so very close to the present that it would probably be both unfair and improper to consider his address from this point of view.

The same, as a matter of fact, is true of the other more recent addresses or such of them as contain prophecies. On that ground, if on no other, I excuse myself from doing more in regard to them than offering to the authors (vainly endeavouring to conceal my envy) very sincere congratulations on their excellence.

From this point, looking back on what I have read and written of prophecies, one thing that strikes me particularly with regard to them is their modesty. There is nothing of extravagance in any of the forecasts or promises made or offered, and possibly because of an unwillingness to trespass upon the preserves of the physicians, none referred to the likelihood of a finer British nation if sterilisation of the unfit were legalised, and information as to birth control broadcast to the people.

The only one who came anywhere near to making reference to a bright and glorious future was Sir Shirley Murphy, to whom the Society naturally and instinctively turned to make oration as president for the third time on the occasion of the jubilee of the Society in 1906. It was not directly that Sir Shirley suggested the possibility that, as the years went on and public health and preventive medical work became more and more efficient and effective, a time would come when there was no more sickness and no more disease.

Actually it was in quoting the words of Condorcet, who wrote somewhere about 1794 that "Perfectibility or organic degeneration in vegetables and animals is one of the general laws of nature. This law extends to the human race, and no one can doubt that the progress of preservative medicine [delightful phrase], the use of more wholesome food and dwellings, a method of living which will develop strength without destroying it by excess, that, in short, the destruction of the two most active causes of degeneration, poverty and excessive wealth, ought to prolong for man the duration of life, assure him more continuous health, a more robust constitution. One feels that the progress of preservative medicine, become more effective in consequence of reason and social order, ought eventually to make disappear transmissible or contagious maladies and those general diseases which owe their origin to climate, to food, and to occupation. It would not be difficult to prove that this hope ought to extend to nearly all other maladies of which we shall probably know how to recognise the remote causes." He asks whether this improvement of the human race may not be regarded as capable of indefinite progress? "No doubt," he says, "man will not become immortal; but may not the space ceaselessly increase between the moment when life begins and the period, common to all, when naturally, without disease, without accident, man experiences a difficulty in existing?" But, he adds, "We do not know what is the limit it can never pass, we do not even know if the general laws of nature have determined a limit beyond which it is impossible to extend."

And then, these being the cynical days of the revolution in France, they cut off Condorcet's head.

So far as I myself am concerned in the matter of prophecy, it is not the fear that such a fate as that might befall me that holds me back. The fact is that, to-day, public health prophesying is too simple. It is not necessary, as it once was, to be a president, to play the part of prophet. It is not necessary to be clever and gifted even.

The importance of health and the necessity of attending to it is so firmly grasped that even in the most backward areas steps will be taken to ensure it; to bring about improvements; to ensure reduction of disease, and postponement of death; and to secure such contentment and happiness as health can bring.

Better and better we are learning how to

adapt conditions, circumstances and surroundings favourably and suitably to the human organism and human life; more and more adaptable does the human being and his body become to the ever-changing artificial surroundings and conditions.

Mortality and morbidity rates keep tumbling down; and, thanks to Sir Hilton Young, so do the slums.

In these circumstances is it surprising that the people grow healthier and more contented and happier, and could anything be more obvious than that they will continue to do so?

It is true that the expectant woman, before she gets her child into her arms, has to face a 1 in 250—more or less—chance of death, and a somewhat greater risk of injury that may be enduring; nevertheless, once she gets her arms round her child she soon finds that she is not alone in embracing and working for the baby and protecting him from risks which are only about half as great as those to which she herself was exposed in infancy: because the infant mortality rate has been so greatly reduced; because risks of infection have diminished and disease rates are steadily falling, and because he has, or soon will have, better housing accommodation than she had, and receives better attention and protection so far as food and feeding and nutrition and immunising injections are concerned.

Such knowledge and the vision of her infant, full of contentment and safe clean milk from contented cows and pleasant pastures and pasteurisers, cannot fail to bring her contentment and happiness. And because the wife and his child have health, and are happy and contented, the father must be, and must grow and continue ever healthier and more efficient, fuller of contentment and of happiness.

All these feelings, in his case, and that of the woman who can appreciate it, must increase with the knowledge that there is a public health service ever watchful, ever active, ever desirous of securing that health conditions shall improve and contentment and happiness increase.

In this regard it is conceivable that better results even than those that are obtained would follow if the practitioner having medical charge of the family were more firmly linked with the health service. If he is not, and truly he is not, it is no fault of his. He is not to blame if he is so much given to thoughts of medicine bottles and operating tables and is so little of a preventatist—*ut ita dicam*.

It is the fault of his teaching. It is his medical

school that is to blame because it keeps its medicine and its medical teachers in one compartment, and its surgery, its obstetrics, its pathology, its ophthalmology, and the teachers of these and other subjects and -ologies, each in his separate compartment, all unco-ordinated and without a co-ordination of which the active principle is prevention.

It is true that, except perhaps in the London schools, the situation is not quite so completely and generally unsatisfactory as this description suggests. In certain schools there has been an attempt to import and to incorporate prevention.

The most recent and most attractive arrangement to be made along these lines of co-ordination is that in the medical institute of the University of Bristol. This is an experiment that should be watched carefully and adopted elsewhere if it proves successful, as it undoubtedly will.

In London, with its several schools, such an arrangement may not be possible. Possessing, as it does, however, the most modern and complete school of hygiene in the world, staffed by a body of energetic and ambitious men and women and a dean so tremendously capable and intensely influential as Professor Jameson, London is better situated perhaps than any other centre of education.

Given the opportunity, it is easy to believe the London school could put up such a scheme as would ensure that grasp of the preventive idea by the student that he is failing to obtain to-day.

Entering practice imbued with that idea and operating it for the benefit of his patients, he would, for one thing, assist any president of this Society who might drop into prophecy, as Silas Wegg did into poetry, to prove to be a true prophet when he forecast a continued fall in mortality rates, a practically complete disappearance of disease, steady improvement in the national health, and increase in contentment, comfort and happiness.

THE "Malcolm Morris Memorial" Lecture, on "Housing and Town Planning in relation to Public Health," will be given by Dr. R. O. Moon, on Tuesday, November 14th, 1933, at 5.30 p.m., in the Hall of the Royal Society of Tropical Medicine and Hygiene, Manson House, 20, Portland Place, London, W.1. The chair will be taken by Sir James Crichton-Browne, M.D., F.R.S., Chadwick Trustee.

Ut Ita Dicam.

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

The Annual Meeting of the Society.

The annual meeting of the Society at the opening of the session 1933-34, though not so largely attended as others within recent years have been, may quite safely be described as well attended. It presented quite a number of new and noteworthy features, not the least interesting of which was that it was graced by the presence of a number of Presidents of Branches and Groups, amongst them Dr. Macgregor, of the Scottish Branch, all the way from Glasgow, to support the new President of the Society at his installation; Dr. Ash, of the East Midland Branch, who had travelled from Derby; Dr. Kelf, of the Southern Branch, who had come up from Basingstoke; Dr. Orr, of the Home Counties' Branch; Dr. Stanley Banks, of the Fever Hospital Medical Service Group; and Mr. Doswell Wallis, of the Dental Officers' Group. Amongst other persons and personalities present was Dr. J. J. Buchan, of Bradford, who proposed the vote of thanks to Dr. Pearce, the retiring President, and made such references to his successor in the chair, Dr. Charles Porter, as it may be believed afforded him the utmost pleasure. Also there were Dr. McCleary, recently returned from the United States, Dr. E. W. Goodall, Professor Jameson and Sir Weldon Dalrymple-Champneys, most of whom took some part in the proceedings, which had concluded in something less than two hours. This might have been gratifying to the members generally. To the President, it could not be other than a pleasing feature of a meeting designed and carried through in such a way as to afford him the fullest possible degree of pleasure. As it could not have failed to be, as performed by Dr. George Pearce, the installation ceremony had a note of warm intimacy and friendliness commonly absent on such occasions; a note that, struck at the commencement, seemed to dominate the proceedings throughout and to affect even the reception of the report of the Hon. Treasurer, submitted by Dr. G. F. Buchan in person, and of the Editor. The presidential address also conveyed an impression of intimacy rather exceptional in such cases, possibly because of the effect produced by the opener of the proceedings. Conceivably this may have been due, however,

to the fact that it dealt with matters and people, many of them intimate to the bulk of those present, the subject having reference to past presidents of the Society and the declarations capable of being regarded as prophecies made by some of them.

The Presidential Address.

As a theme, "Presidents and Prophecies" was one that could not fail to provide opportunity for reference to the history of the Society, and to reveal something of the mind and personality of some of its makers, the conditions amid which they worked, and what they hoped, believed and expected might come to pass as a result of what they did. Many of the names that were mentioned, particularly amongst the earlier presidents, were practically unknown to most of the members present and since their addresses were not available it was not easy to provide much in the shape of information with regard to them. Whether or not they were prophets also it was impossible to say, and this again was unfortunate, as it would have been almost more interesting to know what the outcome of work done in the 'Fifties and 'Sixties of last century, in the view of those who did it, would be, than to learn what one who laboured in 1902 anticipated conditions would be like in 1927. That, in fact, as was shown, was what one of the presidents attempted to do but, like most of the others, seemed to limit his efforts to the infectious diseases. In regard to these, curiously enough, he did not seem to believe that much more of success would be secured than that they would be kept under control. Since nothing more than the methods then in vogue—disinfection and isolation—were to be relied upon, perhaps this is not to be wondered at. That there was a sort of atmosphere of acceptance, a kind of belief that things were more or less bound to go on as they were, was probably one of the most interesting things revealed by the address. None of the presidents, not even the more distinguished amongst them, seemed to contemplate the possibility of a time when there would be fewer cases of any of the commoner infectious diseases; less epidemic diarrhoea, and a lower infant mortality rate. That there might be a reduction in the amount

of tuberculosis was hinted at, but that it was likely to follow tackling of the milk problem along present-day lines was not suggested. Pasteurisation was not mentioned once in the address as having been referred to in any of the addresses quoted. In referring to opinions held and views expressed in an earlier day, it is very difficult to avoid giving the impression that what is said carries an air of superiority. So far as the presidential address was concerned, as one of those who supported the vote of thanks pointed out, such criticism as was offered was kindly. The attempt made was to maintain a respectful tone and, in general, it may be claimed the attempt was successful, and the vote of thanks so warmly accorded was deserved.

An Editorial Prophet.

One of the chief addresses referred to on the occasion to which reference is now made, was that of the late Dr. Spottiswoode Cameron, of Leeds, who took a backward look over 25 years and at the same time ventured to look forward over an equal number of years. The address he delivered appeared in Vol. XV of PUBLIC HEALTH, No. 2, November, 1902. In this same number, there appears an editorial under the title, "The Next Twenty-Five Years." This admittedly owes its inspiration to the address of Dr. Cameron. In it, the editor, having succumbed to a temptation "to assume the prophetic mantle and to attempt a forecast of what may, and possibly will, happen in the next quarter of a century, so far as the public health service and medical officers of health are concerned," proceeds to prophesy. Interesting as are some of the statements made from under the mantle, it seems doubtful if actually the editorial prophet was much more successful than the president. Like him and everybody else who wrote and spoke in this era, it was infectious disease all the time that was the subject. The future status of medical officers of health it was alleged, for example, would be improved only if they realised that "they are firstly and lastly physicians, and by their devoting themselves to the recognition of missed slight attacks of infectious disease, which continue to spread disease while the notified cases are carefully isolated in hospital." It was anticipated also that at the end of the 25 years there would be employed a large number of medically-qualified inspectors to investigate affected households, neighbours and school-fellows. Much progress towards prevention

of infection might be made, it was thought, by operating on adenoids and enlarged tonsils (there was no thought of a Ray Committee, then!) and by educating mothers in simple means for promoting the hygiene of the nasopharynx. Correctly, for a change, it was anticipated that "before the next 25 years are half-way through," cases of phthisis would be universally notified in this country. In forecasting with regard to the service itself, however, there was less of success, since the prophet refused to be sanguine that the next 25 years would see improvement either in regard to the financial position of the medical officer of health or his security of tenure, though it was possible that the key to the position was "the attempt to capture unrecognised and, therefore, unnotified, cases of infectious diseases." "In our opinion," in short, "on the measure of our success in this direction, we shall, in our opinion, be judged and rewarded." All of which rather goes to show that editors are not very much better at prophesying than are presidents, and that the safest course for them to adopt if they desire to retain their reputation for omniscience is to avoid prophesy and stick to "We told you so."

Public Health in a Tropical Town.

It is curious how difficult it is to get away from communications in which there is indulgence in backward or forward glancing or both. No sooner is Vol. XV of PUBLIC HEALTH closed and its prophesying editor hidden away with Dr. Spottiswoode Cameron, than there turns up a copy of a paper on "The Growth of a Public Health Service in a Tropical Town," by Dr. R. R. Scott, Senior Health Officer, Tanganyika Territory. The tropical town of which he speaks is, of course, Dar es Salaam, which he knew first about the end of the war. If all he says of himself may be accepted, what Scott possessed when he began to transform the town from what it was in 1919 into what it is now, and to build up such a service as it now possesses, was youth and enthusiasm mainly: "I was young, still active, had a fair knowledge of Kiswahili, and was on the spot." More important almost, from what he says, were the things he had not. Apparently, he had no committees, and he had no D.P.H., and no Acts of Parliament; he had not listened to lectures from hard-boiled health officers and

sanitary inspectors at home, or to advice as to the precautions to be adopted before initiating action of any sort. This is shown by the following remark which reveals also that the D.P.H. and the course he took as a preliminary thereto, though it may have increased his knowledge, made the pursuit of public health much less exciting and amusing; a more sedate kind of business altogether: "We did the best we could; and we learned to do our own clerking and typing, and I may say there was a great deal less letter-writing than takes place in government offices under more normal conditions! We were fortunate, however, in having assistance in our endeavours from the Bench; and it is interesting to look back at the old prosecution book and see what heavy fines were imposed on those who failed to carry out the provisions of sanitary notices:

such were served, I fear, somewhat more broadly and with less regard to detailed instructions than would now be required by the law. I well remember a certain soda-water factory being closed for several weeks for keeping a horse inside the actual factory!" From the description given of the department and the work done nowadays, it is difficult to see that it is very different from what exists here. That it has been built up in such a short space of time is a great credit to Dr. Scott himself, and says much for the wisdom of those who chose him for the job on the strength, as he would have us believe, of his youth, his activity, and his knowledge of Kiswahili. And talking of Kiswahili, it may be remembered that a few years ago Dr. Scott produced a Swahili dictionary which was reviewed in these pages shortly after it appeared.

The School Medical Service: Whence and Whither.

By OSCAR M. HOLDEN, M.D., D.P.H., School Medical Officer and Medical Officer of Health, County Borough of Croydon.

To this paper of Dr. Holden, which he delivered as his presidential address to the School Medical Service Group on October 19th, 1933, the description "timely" may most appropriately be applied. In it he has expressed feelings and voiced thoughts that have long been entertained by many of his fellows, and in doing so has not only helped them but the service generally.

IT is now nearly thirty years since the medical inspection of elementary school children became established in the social order. It has grown in many directions, and gained in public esteem; so much so that there is an inclination to concentrate on the results obtained and to overlook the enquiry, whether the same results could not be arrived at in future with less expenditure of labour and money.

In all public services, there can be discerned a rise in effectiveness to a certain degree and then, if there is not a constant progressive endeavour, for a level to be maintained. More especially, perhaps, is this the case in those social services upon which public money is spent, but concerning which balance sheets cannot be presented at the end of each financial year in a manner comprehended by the average layman. To the man in the street, it is an extremely difficult exercise to visualise the cash value of human life, and the extravagance

of avoidable sickness. He is unable to grasp the essential economy of wise expenditure on prevention. This is natural, for what is prevented does not happen and remains unknown except to those actually concerned, and not always is it realised fully by them. To demonstrate the unknown is a difficult proposition, and by their very efficiency the preventive services are most often assailed.

The school medical service was, in its conception, a preventive service. It originated as a measure directed to remedy the large amount of debility and unfitness which occurred among working-class school children, and militated against their education. The evil influence of ill-health on scholarship was the motive force behind the Education Act of 1907. This Act made it compulsory on all education authorities to make provision for the medical inspection of children attending public elementary schools. The findings of the inter-depart-

mental committee's enquiry in 1904, and a similar committee's enquiry, with a more specific reference to the medical inspection and feeding of children, in 1905, demanded a remedy. Prior to this the supervision of the health of school children was merely a haphazard affair, operated under the general provisions in various public health enactments, or dealing only with children already damaged, such as the blind, the deaf, the defective or the epileptic.

The principle of medical inspection was attained slowly, whilst its corollary, the following-up of ascertainment by some serious attempt to obtain treatment was slower still, and was not made compulsory until 1918. The ineffectiveness of examination alone to bring about any desired general improvement had been so clearly demonstrated that provision for treatment was incorporated in the Act of 1918. It was at this stage the medical profession as a whole seems to have missed an exceptional opportunity of becoming an indispensable part of the national scheme of school medicine. Doubtless the time was unpropitious for concerted action, but one of the most unsatisfactory features of school medical work has always been, and still is, the uncertainty that a child will receive recommended medical treatment if the disability happens to fall outside the scope of school clinic activities. The Education Act, 1921, marks the culmination of progress. By this Act, education authorities were empowered to provide for certain specialised services, such as orthopædics, dental, etc. A plateau seems now to have been reached. Since 1921, the school medical service has run along lines which are becoming, with the passing of time, dangerously like ruts.

Local government has been an irregular growth, and in no branch of its sphere of influence is this more noticeable than in education. The Education Act of 1902 abolished the old school boards, and divided education into "elementary" and "other than elementary." It provided that the authorities (Part III authorities) responsible for elementary education should be the councils of boroughs having a population in 1901 of over 10,000, the councils of urban districts with populations in excess of 20,000 and in all other places the county councils and the county borough councils. The councils of counties and county boroughs are, everywhere, the authorities (Part II) for higher education. The Act of 1921 codified

the whole machinery of administration, but the continued division of authority outside the county and county borough areas is liable to be a source of confusion, more especially in relation to post-primary or secondary and higher education. The Hadow report aimed at a complete re-organisation of educational administration, but more particularly elementary education. Though it was not able to recommend the abolition of all Part III education authorities, whose continued existence is advocated by the Association of Education Committees and the Association of Directors and Secretaries of Education, and the transference of their powers and duties to existing local authorities for higher education, it did recommend increased co-operation between local authorities for elementary education only and those responsible for all stages of education. The Ray Committee, however, in their economy report, did definitely recommend the grouping and absorption of Part III authorities according to their size or proximity to county boroughs. The division of responsibility has obvious effects upon certain administrative aspects of the medical side of education.

As one who has spent over twenty years in the public health service, I crave your indulgence whilst I endeavour to place before you a few somewhat random observations. Destructive criticism is notoriously easy and very seductive. Not for a moment do I imagine that the suggestions offered are immediately practicable. It takes time, patience and much toil to influence public opinion. The traveller in a waggon hitched to a star is, however, more likely to obtain a wide vista than he who trudges with bent head along the daily round and common task.

The results of routine medical inspection, and its indispensable adjunct, following-up, are patent for all who care to enquire. Sir George Newman, in his latest report, has emphasised what has been accomplished. On this the service can justly congratulate itself, but one or two doubts arise which require to be faced and explored.

First, has the service attained the highest results it might have obtained for the labour expended?

Secondly, are the lines followed now suitable for the future, or is further progress to be obtained only by modifications and additions?

Thirdly, is the service exerting its full influence on the general advance of social well-being and on preventive medicine?

Provision was made for the medical inspection and treatment of children and young persons in the Education Act of 1918. Circular 1119 issued by the Board of Education in July, 1919, asked for proposals for the medical inspection and treatment of elementary school children, and for children and young persons attending secondary schools, continuation schools, and other educational institutions not being public elementary schools, an extension of the principle enunciated in the 1907 Act. The Ministry of Health Act, 1919, altered these arrangements and under Section 3, transferred to the Minister of Health all the powers and duties of the Board of Education with regard to the medical inspection and treatment of children under the Education Acts. Power was given to the Minister to arrange for certain of his powers and duties to be exercised and performed by the Board of Education on his behalf, a power which was promptly applied, the only apparent re-adjustment being that the Ministry's Chief Medical Officer became also the Chief Medical Officer to the Board of Education. The Minister of Health retained the ultimate right to determine (a) what is necessary in regard to the work of medical inspection and treatment, and (b) the standards to be adopted from time to time in regard to the character, adequacy and efficiency of the provision made. These rights do not appear to have been exerted to any extent. Local inspections of school medical schemes are carried out by medical officers of the Board of Education who apparently have no connection with the Ministry of Health, and there has been no observable general linking up centrally of the school with the public health services. Inspections of private schools seeking recognition by the Board of Education are reported upon, as might be expected, by the Board's educational inspectors, and in these inspections the medical staff of the Board or of the Ministry of Health appear to take no part.

The Education Act, 1921 (Section 80) applied to both public elementary and higher schools. Local authorities were empowered not only to provide for the periodical inspection of children and young persons attending public elementary and higher schools but, with the sanction of the Ministry of Health, could arrange for the medical attendance of such children. In actual practice, medical attendance has only been sanctioned for certain specified conditions. Under Sub-Section 4 of this section, any

form of domiciliary medical attendance as a part of a local authority's medical scheme is expressly forbidden, and thereby the school medical service loses a part of its effectiveness owing to the uncertainty of such treatment actually being obtained. Any scheme of domiciliary treatment would, of necessity, entail considerable expense, but it is very probable it would in the outcome prove more economical than the present hit or miss methods. Although there is doubt about the economic depression having exerted any marked effect upon the nutrition of school children, most school medical officers could bring forward evidence that children are suffering through the reluctance of parents to call in a doctor. Children in need of regular medical supervision do not obtain it. School clinics do a little, but they are able to meet adequately only a fraction of the need. One of the objections raised is that there would be further encroachments by whole-time medical officers on the field of private practice. This objection is, in my judgment, a hasty one for I see no reason why such a scheme should not be worked by private medical practitioners if they are willing to keep the records found to be necessary. It could be done either under an extension of the Insurance Acts—a scheme for the inclusion of dependents is now being considered by the British Medical Association—with the co-operation of Insurance Committees; or practitioners could act in their private capacity on behalf of education authorities, receiving remuneration on a scale agreed upon between themselves and the local authority. This would necessitate a modification of the present legal position. No doubt initial difficulties would arise but they do not seem unsurmountable. The great advantage accruing would be that the general practitioner would become a part of the school medical service, with consequent benefit to all parties concerned.

The Ministry of Health Act brought about a degree of co-ordination at the centre, but analogous development has not yet spread to the periphery. There are still districts where the school medical service is a separate entity, and however closely the department may co-operate with their opposite public health department, there are bound to be anomalies and duplications.

One of the disabilities the school medical service labours under is that its work is under the education committee and not under the

public health committee. Education committees, as their name and their whole past history indicate, are primarily educationalists. Their chief executive officer is, quite rightly, invariably an educationalist, and the whole outlook of their deliberations is education. The child is a learner, a vessel for the reception of culture. The Hadow report is an educational report, admittedly of the highest value when studied from that aspect, but the putting into operation of its recommendations has, so far as my limited experience extends, already brought about medical problems of some moment. Junior schools will have more epidemic troubles than the former three-department schools owing to the segregation of large numbers of susceptible subjects. Previously there was a useful dilution, in a given space, of susceptibles with immunes. Again, the present three routine medical inspection groups are out of harmony with the revised educational grouping. The stages in school life when children should be examined should coincide with the big alterations or moves which take place. As the education committee of the London County Council has recently stated, many possible cases of admission to special schools are not considered in detail until a year after the enforceable age for mentally and physically defective children. A fourth medical examination is required with a re-arrangement of the age-groups dealt with, to avoid missing some of the transferred children. In towns where the medical records are filed at the schools, the transference of children from one school to another leads to confusion and the invariable loss of some of the records.

It is readily conceded that some education officers and directors of education give every consideration to the medical aspect and afford valuable help in its working. Some of you may, however, remember a remarkable pronouncement made a few months ago by a group of executive officers of education committees, which regarded the medical service with a deeply jaundiced eye, and questioned its utility in no measured terms. If this attitude is at all general, it is hardly likely the service will be able to achieve all it wants and ought to achieve. The small help obtained from the educational side is illustrated in Sir George Newman's memorandum on the teaching of hygiene in schools. Hygiene, a subject of vital importance to the well-being of future citizens, is either crowded out of the curriculum completely, or mixed up with the rather nebulous

nature study, and in practice, more time is spent in teaching children fragmentary botany, which they will never utilise, than in teaching the fundamentals of hygiene which they should practise every day until they become ingrained habits. This is not the fault of the teachers in the schools. They have to work to the time tables laid down. It is very rarely the school medical service does not receive most valuable assistance from the heads of schools. I have always held the opinion that systematic use should be made of school medical officers for teaching this subject. A frequent retort is that doctors are not teachers and consequently do not know how to teach, but in spite of any truth there may be in this statement, I find it difficult to believe a hygiene class conducted by a medical man or woman will not have a higher prestige in the minds of the children than one taken by a class master or mistress. A class conducted on these lines is yet to find its place in any elementary or higher school curriculum.

The attitude of the great majority of education authorities to nursery schools has a bearing on this subject. Power was given, under Section 21, Part III, of the Education Act, 1921, which is a re-enactment of Section 19 (1) of the Education Act of 1918, to local authorities to establish, or contribute towards the establishment of, nursery schools and the necessary medical arrangements incidental thereto. The number of nursery schools is very small, and the greater proportion of those established have not come into being through the agency of education authorities. The prevalent attitude is that, as these schools deal with children under 5 years of age, they are not educational but medical establishments, and, therefore, should be a part of the maternity and child welfare arrangements.

The educational mind naturally is focussed on the three R's, the more nearly-placed scholar as an individual is out of perspective. It was my privilege to serve as a member of a departmental committee which sat with reference to private schools and other schools not in receipt of grants from public funds. There were only two doctors of medicine in a committee of 16 members. One of the medical men was a distinguished and busy Member of Parliament who had so many other duties to serve that he only rarely came to the committee. I learnt a great deal about the educational work of this country, but the most valuable lesson, especially emphasised when listening

to witnesses, was the relatively small space which the medical aspects of a child occupied in the minds of those who taught him. Environment seemed to embrace the whole; the child, in the perspective of an agglomeration of multitudes of living units, and the possessor of a delicately-balanced, complicated metabolism, did not emerge.

If the whole medical work of a local authority was vested in one committee it appears reasonable to surmise that more would be done than is done now, to further the objects of preventive medicine in its applications to the school child. The Royal Sanitary Commission in 1869 warned the nation that the good administration of public health required that one, and only one, sanitary authority should be responsible for all the health services in each area. In recent years, there are signs that the wisdom of this advice is at last being recognised though many anomalies still await eradication.

The school medical service is the natural continuation of the maternity and child welfare service, and the precursor of national health insurance. At both ends of the term of supervision by the school medical service there are unfortunate gaps. The error of the gap between the school-leaving age, and inclusion of the adolescent under national health insurance has been so often commented on that it is only mentioned now in passing. Some school medical officers have an arrangement with clerks to insurance committees under which the school medical records are made available for the information of insurance medical practitioners, on demand. Very little use has been made of them. If medical practitioners carried out domiciliary attendance on school children under the school medical service, they would realise more fully that such records might be of value to them; as it is, it is doubtful if insurance practitioners or medical inspectors appointed under the Factory Acts, ever give a thought to the existence of these records. The only recent request I have had was from the secretary of a boys' club who said they would be a guide to him in selecting boys for his gymnasium class.

At the other end, the school medical service is a receiver of damaged goods owing to the wholly inadequate arrangements existing for the ordered supervision and treatment of the pre-school child. Nursery schools are a method of bridging the gap but their numbers are

totally inadequate. Up to the age of two years, the child is usually the close concern of both the mother and the local authority. Beyond that age, owing to the growth of self-reliance in the child and to the probability that the mother has another baby who takes most of her attention, the erstwhile centre of attention is now handed on to the care of an older brother or sister, or left to his own devices. Instead of exerting closer supervision at this stage the local authority also fades into the background. Systematic measures to correct this position would entail a fairly heavy financial outlay and, as is customary, this is made the reason for doing nothing. The economy of detecting incipient trouble and correcting maladjustments of parts of the mechanism before they cause breakdown is evident to business men when it concerns their motor cars, but the application of a similar principle to human life is not so evident.

A degree of linking up between maternity and child welfare and school medical work may be effected by the transference of welfare clinic and health visitors' records to be available at the primary routine medical inspection. My own experience of this has been only partially successful owing to certain difficulties. First, a mother seldom appears to know to what school her child is going. Secondly, when the two services are working with different medical officers, omissions happen. Thirdly, only a proportion of entrants have any welfare records. It has become fashionable to put forward the education of the parent as a panacea for present-day social evils, but in this instance it does really appear to be the most promising solution.

Medical inspection, when interpreted as the examination day after day of groups of school children, the majority of whom are apparently perfectly healthy, can become a soul-destroying routine. The lure of numbers, especially when it is a necessity for the completion of the prescribed groups by an inadequate staff is fatal to progress, for progress is dependent on thought and research. The possibility of some modification of routine medical inspection has been discussed, but it would appear that routine medical inspection of every school child at least three times and, better, four times during school life, is a necessity. Inspection must precede ascertainment, disability is not always apparent, and the doctor who discriminates between health and

ill-health on the strength of the cursory scrutiny of a march past, belongs to the race of supermen, and like them is liable to fall more heavily from his pinnacle than those who do not aspire to the heights. The ordinary sensible and careful parent profoundly distrusts such rapid methods. If practised on a large scale they will, I believe, lead to a diminution in the regard which the school medical service has gained by hard, detailed work. Refusals to allow children to be medically inspected, diminished now to vanishing point, will rapidly rise. For these reasons alone the abolition of routine inspections would be a mistake. In conjunction with routine inspections there should be conducted an inspection clinic for the more elaborate examination of suspects. Such a clinic could be fitted in as a part of routine medical inspection by shortening the time devoted to each child from the usual six minutes to four minutes, and lessening the clerical details. Otherwise, suspected children could be referred to a special session held at the termination of the examination of a group in any particular school. This has an advantage over *ad hoc* inspection clinics held on school clinic premises, as it does not necessitate possibly a tedious journey by the parent and child to strange premises, but it does, unfortunately, presuppose adequate facilities for medical examination on the school premises, a state of things by no means prevalent.

Everyone inveighs against the keeping of records, but however distasteful they are, they form the data on which accurate conclusions can only be reached. Probably the present records could be simplified, but as the school medical findings are national records, any modifications should emanate from the central authority. The carrying out of medical examinations without inviting parents has been suggested as likely to lead to greater expedition. The presence of parents is, however, a sign of interest, may be of valuable assistance to the examiner, and should be encouraged rather than the reverse.

Unless carefully guarded against, there grows a tendency towards some restriction of vision on the part of those whose whole time is spent on one particular speciality. The child should not be regarded as an isolated entity, but as a component of the wider issues which are, or should be, included in the sphere of school medicine. Opportunities should be more frequently given to school medical officers to follow up children whom they have recom-

mended for any form of institutional treatment. When the authority maintains its own specialised institutions no difficulties should arise, apart from the ever-present paucity of time; whilst in my own experience, the authorities of outside institutions, provided they are notified previously, place no obstacles in the way of such visits.

Another difficulty under which school medical officers labour, and this is peculiarly noticeable when dealing with mental deficiency or mal-adjusted children, is the lack of a personal impression of a child's home environment. Reports of school nurses are helpful but cannot replace personal observations. Certain ethical questions doubtless arise, and a broad measure of co-operation between the school medical staffs and private practitioners would be necessary to avoid misunderstanding.

Associated with environment is the great sphere of housing. Opportunities to study housing conditions should be afforded school medical officers. Though nurture and heredity are probably the dominant factors in child development, there is no doubt that environment plays an important part in the moulding of both physical and mental characteristics.

The hygiene of school premises, the intricate subjects of lighting and heating, the type of desks and their placement in classrooms, the provision of meals, are all subjects in which school medical officers ought to be interested. It is seldom, however, that they are consulted on these matters by education authorities, who tend to rely more on the advice of education officers, architects, domestic science teachers and physical training organisers. Any or all of these officials would, nevertheless, be able to put forward better suggestions if they made a practice, as some of them do, of consulting the views of their medical colleagues. Perhaps the medical officers are rather to blame for this position of affairs. Regarded as the Cinderellas of education, they keep modestly in the background, and when some fairy prince, in the person of an enlightened and liberal educationalist, decides to consult them, they may lose their sense of proportion and advocate measures which are beyond the limits of practicability or expediency. Ideals are estimable, but in a hard world, it is at times inadvisable to put forward the whole of one's ultimate aims in one grand gesture. The average layman recoils from the shock and dubs the proposer

an idealist—a term of the highest appraisal in theory but of damnation in practice.

To limit the activities of school medical work to the school and the clinic is, I venture to suggest, inimical to further progress. There are many agencies, voluntary and official, who take some part in the care of childhood. Some of these agencies may resent what they are pleased to call interference on the part of the school medical service, but there are very few who would not be assisted in their work by its tactful and intelligent interest. On all local and central voluntary bodies dealing with children, at least one representative of the service should have the opportunity of serving. Voluntary societies, in the main, do some work extraordinarily well, work probably much better to be done by this method; on the other hand, duplication and annoyance may arise through getting in one another's way. When this happens, the unfortunate child is likely to be overlooked.

The Children and Young Persons Act, 1932, by extending the term of supervision by local authorities of foster children, has brought its operations more within the scope of school medical officers. It is unfortunate that the authority exercising these rights may be other than the authority for education. Since the Local Government Act, 1929, in those areas where the public health staff also does the school work, this anomaly has been abolished. This Act has also, to a limited degree, linked up children under the care of public assistance committees more closely than before, as now, in county and county borough areas, all the powers are vested in one authority. Closer contact still could be obtained by a greater degree of co-operation between medical superintendents and masters of public assistance institutions, and school doctors. In a similar manner, when dealing with maladjusted or mentally-deficient children on child guidance principles, the close co-operation of the medical staff with their colleagues of the county or county borough mental hospitals would be an excellent combination. This has already been effected in a few areas.

I have not discussed several other important activities, such as the prevention of epidemic diseases and the care of the blind, deaf, or the mentally-deficient child, not because the present administrative methods for dealing with them will not admit of improvement, but because I do not wish to weary you further. The field is very wide and the labourers are few.

If the school medical service is to remain a living force it must extend. In doing this, there will be opposition both from members of our own profession and from laymen. The whole object of the work is prevention, the avoidance of unnecessary disabilities and the building up of a future generation better adjusted to their environment, with stronger resisting powers and greater physical energy to supplement, and work in harmony with, such mental properties which nature has implanted and which it is the province of the educationalist to develop. The physical and the mental cannot be separated in any rightful scheme of education. The results of past years of work are visible and the public have seen and approved; it is legitimate they should ask for better and bigger returns, and it is our duty to endeavour to see they are not disappointed.

DR. A. E. THOMAS, Medical Officer of Health of Finsbury, is to retire in March next.

DR. T. W. NAYLOR BARLOW, O.B.E., Medical Officer of Health of Wallasey, is retiring at the beginning of next year.

DR. F. E. BENDIX, Senior Assistant Medical Officer in the East Ham health department, has been promoted Deputy Medical Officer of Health for that borough.

"A REVIEW of Port Sanitary Administration" will be given by Dr. Charles F. White, Medical Officer of Health, Port of London, in a paper (illustrated by lantern slides) to be read at a sessional meeting of the Royal Sanitary Institute at 90, Buckingham Palace Road, London, S.W.1, on Tuesday, November 14th, 1933, at 5.15 p.m. Dr. George F. Buchan (Chairman of the Council of the Institute) will preside.

DR. CHARLES PORTER, President of the Society of Medical Officers of Health, and Mr. W. H. Draper, Drainage Inspector, St. Marylebone, will deal with "The One-Pipe System of House Drainage in Theory and Practice" in the "Bossom Gift" Symposium in the series of Chadwick Public Lectures, to be held at the London School of Hygiene, Keppel Street, Gower Street, W.C.1, on Tuesday, November 21st, 1933, at 8 p.m. The chair will be taken by Mr. Alfred C. Bossom, M.P. Admission to the lectures is free, and no tickets are required.

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 20th, 1933.

The retiring President (Dr. G. H. Pearce) 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, including those from the following Council members and Branch and Group Presidents: Sir Francis Fremantle, Drs. C. Killick Millard, James Fenton, P. H. Stirk, Cecil Herington, Cyril Banks, J. A. Charles, G. N. Anderson, W. B. Christopherson, J. W. Miller, J. O. Murray, A. E. Remmett Weaver, Gladys J. C. Russell, George Jessel, F. C. Linton, T. Y. Finlay, and D. Jenkin Thomas, all of whom offered their best wishes to Dr. Porter for his presidential year.

Dr. Pearce then announced that the Council, on the recommendation of the Branches, nominated Dr. Charles Porter, Medical Officer of Health for the Metropolitan Borough of St. Marylebone, for election as President of the Society for the session 1933-34, this nomination being accepted by the meeting with acclamation. Dr. Pearce said there could be no more fitting occupant of the Presidential chair; Dr. Porter had worked hard for a great many years for the benefit of the Society, and although he came from Scotland, he was an old member of the Yorkshire Branch and was associated in Leeds with Dr. Spottiswoode Cameron and with Sir John Robertson, both Scotsmen and members of the Yorkshire Branch. Apart altogether from his own worth, members of the Yorkshire Branch were particularly proud that Dr. Porter was to occupy this chair. The Society, in conferring the highest honour that it was possible for them to offer, not only honoured Dr. Porter, but did themselves a very good turn as well. He said that Dr. Porter would have the full support of every member of the Society, and that all wished him a happy year of office. Dr. Porter thereupon took the chair, and returning thanks to Dr. Pearce and his colleagues in the Society for the honour which had been conferred upon him, said that he would endeavour to follow

in his predecessor's footsteps, and to the best of his ability would uphold the traditions and dignity of the chair and, if possible, add to the honour and glory of this great Society.

Dr. John Buchan, in proposing a vote of thanks to the retiring President (Dr. G. H. Pearce), said that the heartiest thanks were due to Dr. Pearce for his work for the Society during the past session. Dr. Pearce was held in particularly high esteem by medical officers of health in that part of the country in which his work was carried out. He had had a year of very hard and important work at a difficult time, and he had conducted the affairs of the Society in a way that had earned the regard and esteem of everyone. Dr. Buchan also expressed his personal delight in seeing Dr. Porter in the presidential chair of the Society; it was a real source of joy to many old friends to see him occupying that position.

Dr. Pearce, in reply, expressed his affection for the Society and said he would look back upon his year of office not as work but as something which it was a delight to do. He asked the Executive Secretary to accept a little memento (silver cigarette case) of their association during the past year. Mr. G. L. C. Elliston offered his warm thanks for the kindly thought which prompted the offering of the gift.

The annual report of the Council (see PUBLIC HEALTH, October, 1933), was received and adopted and thanks accorded to the Council for their work during the past year.

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

There is little of special note to which it is necessary to direct attention. The total number of pages for the last twelve months (408) exceeded that of the previous year (384) by 24. This was due to the fact that on two occasions it was found essential, owing to exceptional demands on space, to publish an enlarged number. During other months the normal issue of 32 pages was printed.

It is presumably a sign of the times that in many of the Branches and Groups there is a tendency, instead of holding sittings at the meetings, to devote the time to visits to places of public health interest. This may have advantages, but one disadvantage is that it limits interchange of opinion and of experience and experiences. In addition, however, there is this fact, that it reduces the number of papers submitted for publication in the journal and the amount of space necessary to be devoted to contributions from particular members of Branches and Groups. In spite of this,

in practically each number throughout the year, room had to be found for two and occasionally more papers. The level of quality of these was as high as that attained in previous years, occasionally even higher.

As editor, in addition to offering congratulations to contributors, I have to express to them my appreciation of the readiness with which they accepted any decision I felt called upon to make in the matter of editing or setting out of what they had written. I should like also to convey thanks to the several who assisted by providing reviews or notes on special matters. Particularly I have to thank my colleague, Professor Ravenel, for his contributions and for making the American Letter one of the most attractive and noteworthy features of the journal. I desire to thank, too, secretaries of Branches and Groups for so promptly meeting my requests to send in reports of meetings, etc., in good time for publication. In several cases excellent summaries of papers read at meetings were given. These, it may be of interest to note, gave a great deal of pleasure and proved of assistance to many readers.

The Editor's report was received with acclamation by the meeting.

Dr. G. F. Buchan submitted his report as Hon. Treasurer for 1932-33, together with the report of the Auditor and Balance Sheet. Dr. Buchan's report was as follows:—

I beg to submit my report for the year 1932-33.

Revenue Account.—The income from all sources was £3,583 9s. 4d., as compared with £3,748 1s. 0d. in the previous financial year, being a decrease in income of £164 11s. 8d. This decrease is mainly accounted for by a decrease in subscriptions received of £152 12s. 6d. Efforts have been made by the Council and General Purposes Committee during the year with regard to the membership of the Society, and it is hoped that every member will continue to do his best to secure additional members in the general interests of the Society. The expenditure was £3,449 1s. 4d., as compared with £3,297 12s. 7d. in the previous year, being an increase in expenditure of £151 8s. 9d. The increase in expenditure is mainly due to increased travelling expenses of £77 0s. 6d., and an expenditure on the dinner account of £44 18s. 3d., there having been no dinner during the financial year 1931-32. The result of the year's working shows a credit balance of £134 8s., as compared with a credit balance of £450 8s. 5d. in 1931-32.

Balance Sheet.—The balance sheet discloses a satisfactory position. The Society has invested a total sum of £5,900, the present value of which is £4,871 0s. 5d. (including Paignton loan, £1,000). Apart from these investments, the balance sheet shows liabilities amounting to £1,255 0s. 7d., made up of furniture and library, £451 10s.; provision for doubtful debts, £25; increase of lease redemption, £250; sundry creditors, £107 9s. 6d., and £421 1s. 1d. being accrued credit balances from the revenue accounts. This sum of £1,255 0s. 7d. is represented in the Society's assets by sundry debtors £100 0s. 4d.; telephone, £1; furniture and library,

£190; purchase of unexpired lease, £838 0s. 8d., and cash balance, £125 19s. 7d.

It will, therefore, be observed that the total assets of the Society are: The market value of investments, £4,871 0s. 5d. (including Paignton loan, £1,000), and assets of £1,255 0s. 7d., less £107 9s. 6d., representing sums owing to sundry creditors, making a total of £6,018 11s. 6d.

In these circumstances, I think the Society can congratulate itself on the present state of its finances and its ability to face the expenditure which will occur when the lease of the present premises expires in 1939. This happy position has been built up over a large number of years, and it is very difficult to say to whom credit is mainly due, but the Society are greatly indebted to Capt. G. S. Elliston, M.P., who guided the Society through many years of difficult finance.

I desire to record my very great appreciation of the manner in which the Executive Secretary, Mr. G. L. C. Elliston, has assisted me at all times during the year in the discharge of my duties as Treasurer.

On the proposition of Dr. A. S. M. Macgregor, 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 1933-34.

The following candidates, being duly nominated, were elected to the Society:—

As Fellows:—

Ashcroft, George Vincent, M.D., VICT., M.R.C.P. (LOND.), D.P.H.; Bamber, Margaret, M.B., B.CH., B.A.O. (BELF.); Bennett, Helen Gwendolen Mary, M.B., CH.B., CH.M. (ABER.); Brander, William, M.D., CH.M. (ABER.); Buck, Helen R., M.B., B.S. (LOND.); Burn, John Lancelot, M.D., D.P.H., B.HY. (DUNELM.); Francklyn, Agnes B., M.R.C.S., L.R.C.P., D.P.H.; Hirst, Katherine Mary, M.B., B.S. (LOND.), D.P.H.; Kershaw, John Dunkerley, M.B., B.S., M.R.C.S., D.P.H. (LOND.); Kin, Simon, M.D., M.R.C.P., D.P.H.; King, Mary, M.R.C.S., L.R.C.P.; Lawson, William Arthur Donald, M.D. (LEEDS), D.P.H.; MacCormick, Alexandra Mary, M.B., CH.B. (GLAS.), D.P.H.; McMath, William Frederick Twining, M.D., F.R.C.P. (LOND.), D.P.H., L.M.; Martin, Walter Mitchell, M.C., M.D., CH.B. (GLAS.), D.P.H. (MANCH.); Millar, Gavin, M.B., CH.B. (GLAS.), B.HY., D.P.H.; Morrell, Clayton Conyers, L.R.C.S., L.R.C.P. (EDIN.), D.P.H. (LOND.); Munro, Archibald Campbell, M.D., CH.B. (GLAS.), D.P.H. (CANTAB); Petrie, John, M.B., CH.B.; Pierce, William James, M.B., CH.B., D.P.H. (LIV.); Taylor, Dorothy, M.A., M.B., B.S., M.R.C.S., L.R.C.P. (LOND.); Walker, Robert Septimus, M.R.C.P. (EDIN.), D.P.H. (LOND.); Wilkinson, Gladys Elizabeth, M.R.C.S. (ENG.), L.R.C.P. (LOND.); Watt, John Morrison, M.D., CH.B. (EDIN.), D.P.H.; Wood, James Leslie Miller, M.R.C.S., L.R.C.P., D.P.H., M.M.S.A. (LOND.); Young, W. A. Bruce, M.D., CH.B. (VICT.), M.R.C.S., L.R.C.P., D.P.H.

A number of nominations were received for the November election.

Dr. Porter, before delivering his presidential address, expressed pleasure at being supported by several Presidents of Branches and Groups. Dr. Porter said he had taken it upon himself to write to the President of each Branch and Group and ask them if they would be prepared to come on this occasion and afford him their support. He was very delighted to receive replies, both from those who signified their intention of being present, and those who regretted they were unable to come. He desired to thank those Presidents of Branches and Groups who attended and supported him, and mentioned that those who could not come had sent him the warmest and kindest of wishes.

Dr. Charles Porter then delivered his presidential address (published in this number) on "Presidents and Prophecies." A hearty vote of thanks to the President for his address was moved by Prof. W. W. Jameson. Sir Weldon Dalrymple-Champneys warmly seconded the vote of thanks, which was also supported by Dr. G. F. McCleary and Dr. R. H. Wilshaw. The vote of thanks was passed with acclamation, and the President briefly returned thanks.

THE METROPOLITAN BRANCH.

President: Dr. James Fenton, M.O.H., Kensington.
Hon. Secretary: Dr. Vynne Borland, M.O.H., Bethnal Green.

A meeting of the Council of this Branch was held at the house of the Society on September 22nd, 1933, Dr. Fenton occupying the chair. Nineteen other members were present.

The Council decided to recommend the Branch to nominate Drs. G. Millson and A. Wellesley Harris as Honorary Life Members of the Society; and to nominate Dr. Dart as Honorary Treasurer in place of Dr. Keith, resigned.

The Honorary Secretary submitted information obtained as to the advisability of protective measures against cancer by municipal workers in tar. In the opinion of the Council the information submitted was insufficiently definite to warrant any action being taken in the matter.

A meeting of the Branch was held subsequently. The chair was taken by the President, who was supported by twenty members.

The Branch adopted the Council's recommendation with regard to nominations for Honorary Life Membership of the Society, and

for the office of Honorary Treasurer of the Branch.

The Branch Byelaws are under revision, and any members having suggestions are asked to forward them to the Honorary Secretary without delay.

THE MIDLAND BRANCH.

President: Dr. G. N. Anderson, Deputy S.M.O., Staffs. C.C.

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

The first meeting of the session was held at the Medical Institute, 154, Great Charles Street, Birmingham, on October 5th, 1933. Thirty-three members were present, and apologies for unavoidable absence were received from seven members.

Dr. D'Arcy Ellis referred to the recent death of Lady Newsholme, and also to the passing of Dr. Arthur Hawley, one of the senior members of the Branch. Those present expressed their sympathy by standing in silence, and the Hon. Secretary was instructed to send letters of condolence to Sir Arthur Newsholme, and to Mrs. Hawley.

The retiring President, Dr. Ellis, introduced the new President, Dr. G. N. Anderson, and offered him the best wishes of the Branch on his election. Dr. Anderson briefly thanked the members for the honour they had bestowed upon him, and congratulated Dr. Ellis on his very successful year of office. After Dr. Ellis had made a suitable reply, Dr. Anderson delivered his presidential address on "**The Future of the School Medical Service.**"

After outlining the steps by which the school medical service had been built up, and detailing the extent of the scheme now obtaining in the county of Stafford, Dr. Anderson emphasised the necessity for regarding the school medical service as a link in a chain and not an end in itself. He considered that one of its aims should be to join with the curative and preventive agencies which guard the health of the individual, both before and after school life. The scope of the school medical service should not be "cribbed, cabined and confined," but should be an integral part of a larger whole, namely, the public health service. At the conclusion of the paper, Dr. Anderson made an appeal to the younger members of the Society to express their ideas and opinions of current public health matters through the medium of papers and

addresses, thus deepening their own impressions, whilst keeping those officers whose duties were mainly administrative, in touch with recent advances in clinical work.

A cordial vote of thanks to the President for his extremely interesting address was proposed by Dr. Massey, and seconded by Dr. Auden.

The Branch considered the two memoranda drawn up by the Tuberculosis Group which had been referred to them for their opinion.

(a) The memorandum on clerical assistance for tuberculosis officers was approved.

(b) The memorandum on the employment of tuberculous staffs in tuberculosis institutions was generally approved, but the Branch, by a large majority, decided to amend the resolution at the conclusion of the memorandum, so as to read as follows:—

"That local authorities be encouraged to employ tuberculous ex-patients on their tuberculosis staff wherever possible, but that special precautions be exercised in the selection of ex-patients and of the occupations which they should follow. The precautions to be exercised must be determined by the medical conditions of each individual case, and cannot be laid down under any hard and fast rules."

THE MATERNITY AND CHILD WELFARE GROUP.

YORKSHIRE SUB-GROUP.

President: Dr. J. Johnstone Jervis, M.O.H., Leeds.
Hon. Secretary: Dr. Helen M. Gall, Asst. M.O.H. (M. & C.W.), Bradford.

A meeting of this Sub-Group was held in the Tuberculosis Dispensary, Leeds, on October 18th, 1933. Twenty-two members were present. In the absence of the President, the chair was taken by Dr. G. H. Pearce.

The following officers were elected for the session, 1933-34.

President.—Dr. J. Johnstone Jervis.

Vice-President.—Dr. Gladys Russell.

Hon. Secretary and Treasurer.—Dr. Gall.

Committee.—Drs. Blackwood, Eeles, Miller, Standring and Miss Thom.

Representative on Branch Council.—Dr. Gall.

Representatives on Committee of Main Group.—Drs. Gall and Russell.

A most interesting and instructive address on "Tuberculosis in Childhood" was given

by Dr. Tattersall, Chief Clinic Tuberculosis Officer, Leeds. He described the three principal types of disease found in childhood—the tracheo-bronchial gland type, the miliary and broncho-pneumonic type, and chronic pulmonary tuberculosis resembling the adult form of the disease—and illustrated his remarks by showing the clinical histories of cases and their X-ray films. He also dealt fully with the different points in diagnosis, and discussed the Memorandum on Tuberculosis in Childhood which is shortly to be published.

At the conclusion of an interesting discussion, a vote of thanks to Dr. Tattersall was proposed by Dr. Mair, seconded by Dr. Russell, and carried by acclamation.

BIRMINGHAM AND MIDLAND SUB-GROUP.

President: Professor Leonard Parsons, Physician, Children's Hospital, Birmingham.

Hon. Secretary: Dr. G. I. Brodie, Asst. M.O. (M. & C.W.), Birmingham.

The annual meeting of this Sub-Group was held in the Carnegie Institute, Hockley, Birmingham, on October 21st, 1933, Dr. Balsillie occupying the chair.

The following officers were elected for the session 1933-34.

President.—Professor Leonard Parsons.

Vice-President.—Dr. Morris Jones.

Hon. Secretary and Treasurer.—Dr. Brodie.

A most interesting paper on "Sensitisation and Its Problems" was read by Dr. George Bray, of the Asthma Research Council, and a discussion followed. A cordial vote of thanks to the speaker was accorded on the proposition of Dr. Tate, seconded by Sir John Robertson.

Prior to the meeting a luncheon was held in the Three Counties Club, Birmingham, when Dr. Bray was the guest of honour.

The first award of the Andrew Balfour Studentship at the London School of Hygiene and Tropical Medicine (University of London), has been made to Mr. G. M. Balfour, B.A., M.B., CH.B., who is taking the course of study for the Diploma in Tropical Medicine and Hygiene. The first award of the Fishmongers' Company Studentship in the Public Health class has been made to Mr. D. D. Payne, M.R.C.S., L.R.C.P., M.B., B.S. The new Chadwick Prize for the best student in the Public Health class has been divided between Mr. J. M. Henderson, M.B., CH.B., and Mr. B. O'Brien, M.B., B.CH.

The Literature of Preventive Medicine.

Tuberculosis: Its Cure and Prevention.

By GORDON TIPPETT, M.B., London: Methuen and Co., Ltd., 1933. pp. 242.

Price 7s. 6d. net.

This book aims to place before lay and medical readers the truth about tuberculosis, and any writing likely to direct attention to this important subject is welcome.

The preface, unfortunately, tends to antagonise the medical reader. The statement is first made that Robert Koch demonstrated fifty years ago that early tuberculosis was easily cured by tuberculin. Yet that is not the impression of those who remember the days of Koch's treatment. The author goes on to state that the medical profession has not yet advocated any measure that has had the slightest effect in reducing the number of persons infected, and that the present national scheme has failed; whereas some consider that the tuberculosis results are among the bright spots of public health work. A public enquiry is advocated, some other comments are made, and the preface concludes with almost a Spahlinger touch: "In this book I have attempted to show how tuberculosis can be cured and infection prevented."

No field of medicine presents a wider choice of inaccurate and unconfirmed statements than tuberculosis, and quite a few of these are presented by Dr. Tippet. Some, indeed, he himself immediately controverts. He declares in italics that tuberculosis is not hereditary, and that "it is not reasonable to think that because a human being has tuberculosis he must have been predisposed to infection or that he must transmit the tendency to his children." Then he goes on to point out the racial susceptibility to the disease, and later again asserts that the most important condition tending to lower resistance is "the inheritance of a low degree of immunity."

But it must be admitted that some of the excerpts—and the book is mainly excerpts—are quite good. Moreover, the author lays no claim, except by inference, to any great knowledge of the subject, and many would agree with him about the advantage of a public enquiry, and that Mantoux testing should be more widely employed.

To borrow a film expression, Dr. Tippet is a tuberculin fan and would stamp out the

disease by Calmette-Guérin inoculation, of infants and wholesale tuberculin treatment of patients. Modern methods of dealing with the disease, such as artificial pneumothorax, are ignored. Some twenty or thirty years ago the book would have appeared more up-to-date, but nowadays, tuberculin and vaccine treatments have largely, though not entirely, been abandoned, while the value of the Calmette method remains unproven. When tuberculin treatment was the height of fashion it was disturbing to encounter cases that had received long courses of inoculation so that they no longer reacted and were regarded as cured, who yet succumbed to the disease. Inunction with tuberculin in the form of santuben is extolled in the book, as well as treatment with calcium, but nothing is said of gold.

Dr. Tippet stresses the importance of discovering incipient phthisis and deplores delay, then quotes some wise remarks of Fishberg: "There are cases which are 'advanced' soon after active symptoms manifest themselves, while others, though remaining active for years, never pass beyond the stage which has been considered incipient traditionally."

An interesting case is reported on page 132, of a boy under observation since 1909, who then had multiple surgical tuberculous lesions, and was in 1910 intensely sensitive to tuberculin, yet now, from 1917, has failed to react to cutaneous tests; he remains at work and is in good general health. The author also quotes some valuable work by Austrian, who found that 10 per cent. of children who gave a positive cutaneous reaction in 1915 were negative in 1920. In 1923, three of the ten had become again positive.

These observations provide food for reflection upon the reliability of cutaneous tests, and call for further research upon the numerous children tested in recent years, and also for some effort to ascertain if it is possible to associate prognosis with the extent of reactivity. Dr. Tippet has, too, some interesting remarks on variations in the permeability and reactivity of the lymphatic system at various ages.

The author's enthusiasm deserves the fullest praise, and his challenging statements

merit forgiveness if he succeeds in captivating lay readers and impelling thereby a wider interest in this prickly and many-sided problem.

Handbook of Tuberculosis Schemes. Published by the NATIONAL ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS, Tavistock House North, Tavistock Square, London, W.C.1. Price 5s. post free.

This book forms a complete directory of tuberculosis activities throughout the country. Each administrative area in England, Wales, Scotland, Channel Islands, Northern Ireland and the Irish Free State is dealt with separately, and details as to such matters as general and tuberculosis death-rates, provision for treatment under tuberculosis schemes, and the administrative staff, are included. In addition to a list of tuberculosis officers and of residential institutions for tuberculosis, there are valuable charts showing the comparative rates for counties and county boroughs, the fall in the tuberculosis death-rate, etc.

It is felt that the new edition (the seventh) will meet the needs not only of those engaged in the tuberculosis service itself, but of workers in other branches of public health and social work.

Feet in Health and Disease. By R. R. HAYHOW, M.B.S.CH.(LOND.). London: John Bale, Sons and Danielsson, Ltd., 1933. pp. 48. Price 2s. 6d. net.

The hope of the author of this brochure is that it may be the means of spreading some useful information regarding the "ambulating organs," and lead to appreciation of the important functions the feet perform in the maintenance of good health. As he truthfully points out, there is a surprising lack of information displayed even by well-informed persons on the subject, and in his effort to give such hints as will enable his readers to take reasonable care of their feet, and to recognise that in certain circumstances it is advisable to consult a chiropodist, he has been remarkably successful. What he has to say he says very plainly, avoiding technicalities as far as possible, and as he is an enthusiast he writes convincingly and interestingly.

A Student's Manual of Birth Control. By LILY C. BUTLER, M.R.C.S., L.R.C.P., D.P.H., Medical Officer, Walworth, East London and Lambeth Women's Welfare Centres (Society for the Provision of Birth Control Clinics). London: Noel Douglas, 1933. pp. 39. Price 1s. 6d. net.

The overworked medical student and the harassed practitioner having, as the author truthfully points out, too little time to devote to the study of the infinity of publications dealing with the subject, she has thought it helpful to produce this little handbook for their information and guidance. In it she indicates as the most satisfactory method the use, in combination with a rubber pessary, of a chemical spermicide and a douche, and she devotes one chapter to a discussion of pessaries, another to chemical methods, which she admits to be the most difficult of all contraceptives to discuss, and a third to the sheath, for which she claims advantages as well as disadvantages. Other methods, such as *coitus interruptus* and sponges, are also referred to, and there are sections also on the "Graefenberg Ring," and on clinic management. Dr. Butler has done a great deal of work on this subject, and there is information in this book that may be found useful by those for whom it is intended.

Aids to Public Health. By W. G. AITCHISON ROBERTSON, M.D., D.S.C., D.LITT., F.R.C.P.E., Barrister-at-Law, late Lecturer on Forensic Medicine and Public Health, Surgeons' Hall, Edinburgh; late Examiner in these subjects, Universities of Edinburgh, Glasgow and St. Andrews; etc. London: Baillière, Tindall and Cox, 1933. pp. 208. Price 3s. 6d. net.

This is the third edition of this member of the "Aids" series, and as it is five years since the second appeared, and preventive medicine has made remarkable advances in the meantime, the author has "taken the opportunity to revise, alter, and extend much of what appeared in the previous edition." Certain portions appear to have escaped or not to have been completely dealt with: that on condemned property, for example, and close on malaria and on ventilation.

expenditure was rather less than on public health, being something like 1½ million dollars. The greater part of this sum went to various laboratories and universities throughout the world, the McGill University in Montreal benefiting perhaps to the greatest extent. Social science research received support, especially in the three following specific fields: (1) economic planning and control; (2) international relations; and (3) social organisation and procedure, with special reference to problems of community organisation and planning. Substantial grants, some of them new, were made to "investigative organisations," including Harvard University and the Universities of Pennsylvania and Minnesota.

The report of the Foundation is a deeply interesting and stimulating publication, and shows how seriously the responsibilities are taken by the Trust, and how carefully a selection of bodies and individuals to be assisted is made, so that the greatest possible value to the peoples of the world will be secured.

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The Chemistry of Flesh Foods and their Losses on Cooking.

ANYONE who has done anything in the shape of educational work, by way of leaflets and lectures amongst the poorer people in any district, knows how very thankless a business it is, and the unpleasant nature of the criticism liable to be evoked. At the lectures the female members of the audience find nothing said that they can approve, and sit throughout the entire period of any discourse openly sneering, or adjusting and re-adjusting rather derisive smiles. As for the male members, it is generally perfectly obvious that the majority would dearly love to break the meeting up altogether, and only refrain from doing so in the hope of being able to get in a bit of heckling at question time. Most of the questions put reveal the reason for the desire to spoil the meeting: the existence of a feeling that the audience is being patronised, and that it is entirely ridiculous, if not indeed an insult, for a person who always knows where food in plenty is coming from, and can pick and choose, to talk of dietetics and nutrition and show diagrams illustrating the value of cheese, herrings and the cheaper cuts of meat, to individuals who know all there is to know about cheap foods, and yet never have a really decent meal. In circles such as these, the old political

cry of "hands off the people's food" would appear to apply, though in a somewhat different sense. But not in these strata alone is it unsafe to have too much to say about food. This, at any rate, would appear to be a conclusion proper to draw, judging from the violence of the outburst from chefs and teachers of cookery and such like experts, following the issue by the Medical Research Council of a report by Dr. R. A. McCance and Mr. H. L. Shipp on "The Chemistry of Flesh Foods and their Losses on Cooking."* As a matter of fact, the number of persons, bodies and organisations displeased by the findings of the investigators must have been very large. This in spite of the commendation and recommendation, innocently enough no doubt, conveyed by the Council in the preface, where it is opined that the "final section of the report will be welcomed by all who are interested in the science or teaching of cooking, or in the sale of ovens and other cooking appliances." The final section of the report, indeed, is the most important of all from the practical point of view, as it deals with the losses brought about by cooking and, incidentally, appears to upset most of the traditions and beliefs of cooks and housewives. As far as can be made out, not one of the foundations upon which kitchen science is based, in relation to roasting for example, is left standing, and so far as apparatus is concerned, the only one that comes through is the gas-oven or the old-fashioned kitchen range and the roasting-jack. In spite of all this, it is impossible but to agree that there are many sound reasons why such an investigation as that carried out by Dr. McCance and Mr. Shipp is of the utmost value, and that gratitude is due to them for the painstaking analytical work they carried out. They have provided analyses of articles, such as some of the common edible fish, for example, that have never been analysed before, and have provided much needed and accurate information with regard to the mineral constituents of foodstuffs, and particularly flesh foods, in the cooked as well as in the uncooked state. The report from the scientific and analytical point of view, and that of the individual, other than the chef and the teachers of cooking, concerned with nutrition and its many attendant problems, is probably one of the most interesting that has been issued for a very long time, and is sure to stimulate research by others.

* Special Report Series, No. 187. H.M. Stationery Office, 1933. Price 2s. 6d. net.

The One-Pipe System of House Drainage.

THERE is a certain amount of propriety in making reference to this matter here, not only for the reason that it was recently chosen for discussion by the President of the Society, but because it is not so long since the Society expressed readiness to join with the British Medical Association in a deputation to the Ministry of Health in support of a claim for simplification of domestic sanitation somewhat on the lines of the one-pipe system.

As pointed out by the President (Dr. Charles Porter), who opened the symposium which he and Mr. W. H. Draper (Drainage Inspector of St. Marylebone) contributed to the series of Chadwick Lectures, this system, though commonly described as new, has actually nothing particularly new about it. Actually also, since in its construction there are many more than one pipe, it is doubtful if the description "one-pipe" applied to it, though convenient, is quite accurate. In tracing the history of the development of the system, which is coming to be more and more frequently employed in the drainage of large buildings such as hotels and blocks of flats in the metropolis, Dr. Porter showed that in all probability it was the only system in the early days of sanitation. Largely it was because defective drainage was accounted responsible for outbreaks of enteric and other fevers that demand for improved sanitation was made. The schemes devised sought to keep drain emanations from entering buildings by insisting that all drains should, as far as possible, be outside the premises; that the different classes of wastes should be kept separate, and a complete and complicated scheme of trapping employed. In this way there grew up what he described as the British Standard Multiple Pipe System.

With increased demand for sanitary appliances of all sorts, and, in the case of hotels and more expensive flats, for bathrooms *en suite* with sleeping rooms, the older system was inapplicable. In America, certain European countries and the East, this was recognised many years ago, and to-day practically nowhere else but in Britain is anything but the one-pipe system or some modification of it seen in hotels and flats, and even ordinary dwelling-houses. Climate may have had something to do with this development, but undoubtedly also it

implied recognition of the need for sanitary advance, much of which had been based upon research and experimentation.

In London, the London County Council, as byelaw-making authority, have in course of preparation byelaws approving the introduction of the system. Already, however, certain London borough councils, and conspicuously the St. Marylebone Borough Council, had waived existing requirements and had permitted the adoption of the scheme for hotels and large blocks of flats. From the point of view of hygiene there appeared to be no question that the system had advantages, and on grounds of economy there seemed a certainty that it had very real claims also.

This was an aspect of the subject dealt with by Mr. Draper, who discussed the question from the technical and practical side. Describing in detail the various parts of the system in a typical lay-out, Mr. Draper stressed the importance and necessity of sound workmanship. The choice of material for the various pipes and the trapping and ventilation of the several fittings were fully discussed. The increasing preference shown for copper was referred to and reasons for this preference were offered. Mr. Draper exhibited a number of models of the system, and to illustrate and elucidate his remarks and descriptions, showed a number of interesting slides. Several of these indicated the practice in relation to this system, and to plumbing generally, followed in the United States and Canada, where much greater importance appears to be attached to sanitation in general than is the case here, largely because Sanitation and Plumbing are given a separate Division recognised and ranking with the other Divisions (Epidemiology, Child Welfare, etc.), in all properly constituted Health Departments in the various cities and states. As a further result, sanitation is placed on something of a scientific basis, and research into problems connected with it is considered worth while and is continually being carried out.

The symposium was held at the London School of Hygiene on November 21st, 1933, and was presided over by Mr. Alfred C. Bossom, M.P. This was particularly appropriate and a great advantage, since it was the generosity of Mr. Bossom that made the lecture possible, and out of his great knowledge and practical experience of the one-pipe system, he was able to add most usefully to the discussion.

The Dental Public Health Service.

IN the valedictory remarks pronounced by Mr. Grantley Smith (Municipal Dental Surgeon, Bermondsey), in vacating the presidential chair of the Dental Officers' Group at the annual general meeting held on October 26th, 1933, he touched on a number of points affecting the conditions in the whole-time public dental service which he described as causing considerable dissatisfaction.

It is over ten years since the British Dental Association scale of salaries was established, and during this period the minimum scale has been enforced to a great extent, but the increments and the increased pay, according to position and responsibility, contained in the scale have not been, and possibly cannot be, enforced but remain rather as a pious hope. Posts are advertised at the minimum and with small increments it is true, but the dental officer with 15 to 20 years' service expects something more than a senior clerk's wage, and is apt to get disgruntled, especially when he compares his position with that of the private practitioner.

In the medical side of public health there are opportunities for promotion, and for the assumption of greater responsibilities with the concomitant increases of pay. In the dental services of the defence forces there exists increased pay with higher rank: in dental public health, however, there is practically no promotion, very little opportunity to assume greater responsibility, and an almost stationary salary.

As time passes, the public dental officer's family responsibilities increase, but there is no corresponding increase of his small income. He has spare time and it is natural that he should wish to utilise it, but he is not permitted to do so. If he engages in private practice or undertakes any other form of work, as occurred recently concerning police treatment, he arouses the ire of his colleague in private practice, although the latter has no restrictions, no matter what appointments he holds so long as they are not whole-time.

The problem, as Mr. Grantley Smith indicates, is a serious one; and to advance his cause the whole-time officer must take his share in the work of his professional organisations, and not be content to leave it in the hands of a few.

One suggestion offered by Mr. Grantley Smith was to the effect that the view of the whole-time officer should be kept before the British Dental Association, and this, he urges,

can only be done by attendance at the Dental Officers' Group which that Association has established. Further, members of the Dental Group within the Society of Medical Officers of Health should take their share in the proceedings of the British Dental Association Group. In maintaining contact with the medical side in the Society a most useful purpose is being served, but it is only the persistent airing of grievances, to which the dental officers feel they are subject; that will result in an increase of the attention given to them, and in this way help towards the securing of a remedy.

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Public Health Administration on Merseyside.

THE most recent report of the Social Survey of Merseyside, undertaken by the Liverpool School of Social Sciences and Administration (University of Liverpool), relates to Public Health Administration, earlier papers in the series having dealt with Housing Conditions in Liverpool (No. 1); A Study of Migration to Merseyside, with special reference to Irish Immigration (No. 2); Poverty on Merseyside—Its Association with Overcrowding and Unemployment (No. 3); Domestic Service (No. 4); Social Factors in Secondary Education (No. 5); and Local Government on Merseyside (No. 6).

The present report discusses the co-ordination of the various branches of public health work, the effect of the Local Government Act, 1929, the relations between public authorities and voluntary agencies, the value of the published statistical material bearing on public health work, the committee and departmental organisation of a health authority, and includes a review of the maternity and child welfare, school medical and tuberculosis services in the four Merseyside boroughs (Liverpool, Bootle, Birkenhead and Wallasey), as well as an account of the interesting Merseyside "Penny in the Pound" Fund established by the voluntary hospitals.

While the whole series of reports will be found of interest to those concerned in public health and social questions, this latest pamphlet on Public Health Administration (No. 7), will prove particularly valuable and instructive to members of the health service. Copies of the reports may be obtained, price sevenpence each, post free, from the Secretary of the Survey, 19, Abercromby Square, Liverpool 7.

The Training and Outlook of the Public Health Officer.

By E. COLSTON WILLIAMS, M.D., B.S., F.R.C.S., L.R.C.P., D.P.H., County Medical Officer of Health, Glamorganshire.

In this address, which was delivered at a meeting of the Assistant Medical Officers' and School Dentists' Sub-Group of the Welsh Branch, speaking out of a wealth of experience and of kindness and humanity, Dr. Colston Williams offered advice and guidance to younger members of the health service that might very well receive attention by many who have been engaged in the work for a measurable period of time.

IN speaking to you this evening, some of you, who are my colleagues, co-workers or old pupils, know me sufficiently well to believe that there is nothing that gives me greater pleasure than to see in you the emergence of capacity, the acceptance of responsibility, the growth of personality and character, the performance of good work, your happiness and success. In suggesting what may be helpful and what is desirable, I remember how few hints came my way about training or the orientation of my mind to the future of our work. In the hope of being of use I have seized this opportunity of saying certain things which one may not say without the risk of being misunderstood.

In some things which are commended to you as possible and necessary, do not think that I do other than rank myself with you as a learner, or am unmindful of what it feels like to be a junior viewing the uncertainties of one's future and the chances of promotion. Those who are prepared to fit themselves for wider opportunities, to work and to wait, will have their reward, for it is a true saying that anyone who proposes to do something and is willing to pay the price in training, working and waiting, will be able to do it.

During my time in the public health service I do not remember ever encouraging any *man* to enter it, and but few women. If, however, they showed that they were determined to take up our special line of work, I endeavoured to point out what the road in front of them was like and suggested what preparation was likely to be most useful.

A generation ago the conditions and prospects of the health service were very different. The number of whole-time posts was fewer, the financial rewards were more modest even for the best paid, and pensions were rare. The aspirant took his D.P.H. examination—then a simpler examination than it is now—waited for an assistant's post (most usefully in those days

as a resident in a fever hospital) and, once in a department, hoped for promotion by succession or otherwise. At that time, as there were none of the modern personal services in existence, his work was mainly concerned with infectious diseases, sanitation and housing. In those days also the competition for senior posts was less keen.

To-day there is a changed and changing scene. Those who in the future will hold the most responsible posts in the country need different training and a wider outlook upon the problems with which they will be concerned, particularly in county boroughs and counties.

Let us assume that John Smith proposes to enter the public health service and that he has the necessary personal qualities—industry and capacity—to take him ultimately to a post of senior rank, and to hold it to the satisfaction of the local authority and with not too much dissatisfaction to himself. What might we suggest as to his training and his outlook?

Junior members of the service should remember that for many of them there will be restricted opportunities of learning the administrative work of a large department; indeed, the larger the authority the less chance there is of it, until they have attained some seniority. The advantage of working in the smaller departments with only one or two assistants may be that they will have the chance of dealing with several groups of public health work and, perhaps, the occasional opportunity of deputising. When joining a large department as tuberculosis officer or taking a post in an isolation hospital of a large authority, there is the risk of remaining attached to the particular branch which gave them the opportunity of entry. The work of most juniors is likely to be clinical for some time, and if their interests are essentially clinical they may decide to commit themselves to a special branch, e.g., tubercle, fevers, etc., and seek promotion in the senior posts of their

specialty with their own local authority or elsewhere. Well and good; they may be making what is the best choice for themselves and give excellent service.

For those, however, who wish to hold the senior administrative posts, variety of experience is desirable and should be sought with their own authority or by a change as opportunity offers. It is unlikely that a junior clinical officer can pass, without preparation, to administrative work without risk of many unnecessary mistakes and perplexities. It is certain he will make mistakes and find difficulty in solving many problems when his responsibilities increase, however fortunate he may be in opportunities of previous administrative experience. His outlook on his own future and the development of the service is the crucial point.

Let me illustrate this. Any junior officer who wishes to know how things are done will be on the watch to learn how things are being done and what qualities enable a man to get things done. If he is content to jog along in his restricted sphere, leaving all decision and initiative to others, and fails to keep abreast of current knowledge and opinion on all matters affecting the service, he is neglecting preparation for the future. It may be objected that he will have little opportunity for decision or initiative, and that to keep abreast of current knowledge and opinion in public health matters is asking a good deal. I agree, but I am considering the future of men who are entering on a lifelong training for responsibilities which have grown wider and more onerous with the growth of social services and which are still likely to widen in scope. Self-training in decision and initiative cannot begin too early. Any junior officer's suggestions for administrative improvement, if courteously tendered, may be welcomed and, though as regards decisions he may not be asked to decide, he can train himself for decision by always forming his own conclusion after weighing the circumstances and seeing what is done by those who make the decisions. He will notice that any decision was good or bad, by the outcome of events. If he is one of the minority who seek responsibility and its risks, as he must be if he is to be seriously considered, he must make his seniors aware of the fact by willingness to volunteer for new tasks after impressing them by his capacity and soundness of judgment. There is only a very limited place in the service for "smiling images pushed from behind."

For those who are in associated work, such

as the dental service, the conditions have changed from the treatment of children to the treatment of persons of all ages and the inclusion of all types of treatment, so that even orthodontic work is likely to be done in the near future. This means in a large service the delegation of responsibility to some officer to whose knowledge of technique and organisation will be entrusted the expansion and oversight of an extended service.

In maternity and child welfare for example, considerable delegation of responsibility is inevitable to women with the requisite knowledge and capacity who can manage a large section efficiently and smoothly.

There are some whose thoughts may turn to the opportunities of service with central departments, such as the Ministry of Health. They may ask themselves whether they are secret or open fighters. If inspectorial work or the prosecution of special lines of investigation attracts them, and they think that the sheltered life is what they want, this type of work may suit them. If, however, they are prepared for the life of open fighting, with its criticism and blame, such will not be their choice, but they will take with a "frolic welcome, the thunder and the sunshine" of a harsher and more strenuous life.

A sound training gained by holding resident hospital posts is the best foundation for obtaining a good scientific knowledge of one's profession, with an excursion into the world where the practitioner deals with his patients as best he may, amid the handicaps and limitations of general practice. This will be invaluable if he is to understand how the greater number of one's own profession look out on the world while competing with their neighbours. It is astonishing, if one does not come from a medical home, to see how different disease seems in practice, where there is a mass of minor ailments, chronic and sub-acute disease, and no longer that interesting and selected group of cases that one used to see as out-patients and in the hospital wards. Why did it not dawn upon us at hospital that there are long continued and painful maladies which will demand every reserve of ingenuity, perseverance and cheerful encouragement to convince the sufferer that our resource and interest in him are not exhausted. But it is rather in learning how our least fortunate fellow citizens live, feel and think, and how the majority of our own profession are limited in their work by the present social conditions, the present state of hospital and

domiciliary nursing provision, that the most useful harvest of that experience is reaped. There are certain choice spirits who are specialists, not from their mothers' but their hospitals' womb, who, having an eye fixed on their goal, choose their path delicately towards it and who know little of life's rough and tumble. These birds have perched too early on their special tree. We may have cause to wish in later years that their field of vision was not so restricted.

There must be many men in our branch who wish that they had been able to see the end from the beginning and had ordered their ways of early professional life more strictly to utilitarian ends, so that they might have studied special branches which would have been of greater use and given them a better record of experience than we possess. We have had as a rule to take such opportunities as served even if our end was clear, and there is no use in regret unless it saves us from repeating mistakes. My own belief is that no acquired knowledge, technical or social experience, has ever failed to be of direct or indirect use in application to the many and varied aspects of preventive medicine. For instance, in my time in general practice, work as a volunteer in the ophthalmic department of a local hospital for several years—though my present knowledge of ophthalmology is dim and scanty—has proved of value in the administration of the Blind Act; some extended experience of obstetrics and orthopaedics has left some useful residual data for administrative purposes. But the fact remains that things which are necessary for our work can be learnt if one is bent on learning them: for example, someone may remember that his knowledge of fevers is very limited and fears the day when, in his first independent post, he may be in sole charge of a fever hospital. No junior who wants to learn that or any similar subject can say that, with the necessary sacrifice of his leisure or holiday time within the next two years and the use of local or other opportunity, the obtaining of a good working knowledge of the subject is beyond him.

For those who are to be the administrators of the future here are some obvious suggestions. You will have to learn and practise certain things as part of your personal equipment. One is to *write*, another is to *speak*, in a style or styles suitable to various needs. Correspondence is an art in itself, requiring clearness,

conciseness and courtesy. Report writing requires logical presentation and accuracy. While by care and application these things can be learnt up to the required minimum, there is no limit to an art. *Speech* is required for committee work, where clear enunciation and knowledge of the facts are the basis, and understanding of the psychology of men and women, with sensitiveness to atmosphere and handling suitable to the occasion are all-important. One may have to answer a question or make a debating reply—shrewdness and mother wit may save many a blunder. There is speech for lecturing; having suffered much from lecturers you should all know how *not* to do it. There is speech for propaganda purposes, the popular lecture, the intervention in technical discussions or other occasions. A lot can be learnt by practice, and some initial courage is required to begin. It is essential to have something to say and to endeavour to say it clearly and pleasantly. John Hunter's phrase about scientific enquiry was "do not think but try" (experiments). Here we may say: do think and *do* try to learn to use this essential tool, for you cannot imagine any senior administrative post in the rough and tumble of local government work adequately filled by anyone who cannot write and speak more or less suitably for its varied needs.

It may be superfluous perhaps to suggest that you should learn to think. It is supposed to be a painful process. Administration is always requiring the adaptation of means to an end, a search, if the best be not possible, at any rate for the most *practicable* way of doing things. A certain imaginative quality has to be applied in weighing the probable outcome of procedure along various lines, and certain problems require a lot of consideration—as you will find out. Think before you act, but do not let thought paralyse action; for example, in the heavy and unusual burden of work necessitated by the transfer of the poor law to the public health authority, action has had to be taken quickly about many matters, while others will require much time for their proper solution. Responsibility involves decision, and if you wish to undertake responsibility you must think and decide.

Administration requires some art in dealing with one's fellows, both in bulk and in detail. Facts have to be presented to committees to ensure consent for new or continued action.

This assumes some power of conviction or persuasion, and the creation and maintenance of confidence in the official responsible for execution of work. The same man or woman has to work with official superiors, equals or subordinates to secure assent, co-operation or obedience. You can tell me as well as I can tell you how to do this with a minimum of friction and a maximum of effective results. As a matter of fact, I doubt if I can tell you how to do this. There is something of many things about it, personality, goodwill, energy, example and so forth. How to create and maintain a large department doing a great deal of work efficiently and contentedly is a subject of continuous exposition by the advertising syndicate of a well-known Oxford Street firm. There is a lot of grain mixed with their chaff, and they have much sound advice to offer on the subject of human nature.

Some day you will be responsible for the internal organisation and supervision of a large office and the control of considerable expenditure. Do you know how the work is assigned, the records filed, what cross-checking there is for items of supply, and the detail of all those matters which are comprised in the activities of a department? Contacts are made with all the other departments—how are these best maintained and how is the latent ability of your own inside staff best elicited? These are a few of the many points which are worth consideration in office detail.

What is the essence of sound judgment, how is character developed, how does one learn adaptability without sacrifice of principle, how does one learn the art of persuasion, the instinct that is tact, perseverance and fortitude? These and many other things which are elements in a successful career in preventive medicine or anything else, are difficult and necessary matters for your personal attention.

The last twenty-five years comprise the period of what we may term the new public health era. It has achieved results which to those who have lived through it and worked in it have been beyond our wildest hopes a generation ago. If I had been told by a prophet in 1908 that our national effort by 1933 would have effected the present results in prolongation of life, reduction of infant mortality, diminution of tuberculosis, improvement in housing, child nurture and national medical service so familiar to all of us, I could not have believed it; the potentialities of life are so much greater for the mass of our fellow citizens. In this time it has

been our good fortune to live and work and to take an impersonal satisfaction.

In the future the unification of medical and allied services will probably be a leading feature. You will see the inclusion of dependents in the Insurance Act, the correlation of many forms of hospital provision, reformed maternity and general nursing services and official medical services modified and changed. If there be any probability in this forecast, those who wish to hold the administrative helm should make the statesmanship of national medicine their constant concern. You will need to understand the different phases of all the medical world, of central and local government, the complex and varied aspects of institutional provision of different types. You will see that a partial knowledge of sanitation or your own clinical sphere will not be sufficient. If you mean to be a helmsman and steer a local or central government boat you will have to learn the geography, the shoals and reefs of this uncharted sea. If you mean business, begin now. What do you know of hospitals, their construction, management, staffing and supply? What do you know of the ramifications of the poor law, the insurance medical service, the plans and policy of the British Medical Association, or the essential facts of finance of local and central government upon which the *how and when* of new legislation for change and reform depends? Begin then with the improvement and broadening first of your technical and clinical knowledge, the self-discipline in anything that may have been mentioned that you may require, and if you wish to administer, learn constantly about the things which have to be administered and the medium in which they have to be administered. You should be a good mixer in the professional societies and take your part, observe and wait. It may not be without use to remind you that if you neglect your general culture you will have occasion to regret it for your outlook and appreciation will suffer.

What then is my hope for the responsible leaders in administrative medicine of the next generation? It is that they will be sound men and women in their knowledge of professional work, that they will have the instinct of leadership, that they will be practical and shrewd in their political intuition. It will be their good fortune to be engaged in work and exercising power for ends that are, at least in intention, entirely beneficent. When their day's work is done they will have made some contribution to the progress and the welfare of mankind.

Ut Ita Dicam.

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

The Health Conference.

A conference—the sixth annual meeting of the Central Council for Health Education; an annual dinner; the first meeting of the Council, and the first ordinary meeting of the Society of the session, all within the space of forty-eight hours, was the programme many members negotiated during Thursday and Friday, November 23rd and 24th. All of these activities are fully reported elsewhere. They are referred to here in order, partly, that tribute may be paid to those who faced and shared in all the events. The conference of the Central Council, if less well attended than on previous occasions, was nevertheless a good meeting. More than that, it was a distinguished gathering, and dealt with a subject as important as, if not more important than, any yet set down for consideration. Education of the public in regard to the housing problem is, to a remarkable degree, necessary, although the lines to be followed and the methods adopted are, perhaps, less obvious. Regarded as the starting-point of an educational campaign, the meeting may be counted a great success and to have received a real cachet through the association with it of such names as those of Sir Francis Dyke Acland, who acted most acceptably as chairman, Lord Balfour of Burleigh, whose efforts in relation to housing and housing legislation are so well known, and Mr. H. R. Selley, M.P., who is Chairman of the Housing Committee of the London County Council. The afternoon session was devoted to a discussion of another aspect of housing, namely, the management of house property provided by municipalities or private enterprise for occupation by members of the working-class. To this, Dr. Fenton, as Chairman of the Central Council, contributed most usefully, as did also Miss Alford, who acts as housing manager for the Kensington Borough Council, and described at length the Octavia Hill system. Opportunity was taken at this session also of detailing some of the works done by the Central Council, more particularly in relation to health weeks and health exhibitions. The description given by Mr. G. L. C. Elliston of activities in this connection was very full and clear, and was warmly received and appreciated. As in previous years, an exhibition of propaganda films was one of the features of the conference. On this

occasion, two talkies were chosen, one on milk, the property of the National Milk Publicity Council, and one produced for the National Baby Week Council and entitled "Rules for Jim." That there was a rather marked falling off in the number of delegates is a matter for regret. Having regard to conditions generally, it is, perhaps, not to be wondered at, and next year, when the effects of financial strain have further worn off, no doubt there will be a tendency to return to the larger figures shown in the earlier years of the existence of the Council.

The Annual Dinner.

Talking of figures, it may be noted, as the first fact relating to the annual dinner of the Society, that those of attendances at this function were rather larger than last year and the average generally. That Her Royal Highness Princess Louise and the Minister of Health (Sir Hilton Young) had promised to attend may have had something to do with this. Whether it had or not, it is a certainty that the function attracted a very large attendance, and the individual who did not enjoy it and vote it a success was very definitely the exception. Somehow it gave the impression that it was more of a party than an official dinner, and this in spite of the fact that the Minister used the opportunity for making a statement on the slum clearance drive, and countering the allegations that are being so widely made as to the effects likely to be produced, if the drive is persisted in, so far as regards the number of houses needed to replace those destroyed and to house the persons dishoused. Though very full of quite solid and important matter, the speech was so delivered by the Minister as to give an adequate impression of lightness suitable to the occasion, and to provide opportunity for complimentary reference to the medical officer of health, his work and his position in relation to slum clearance and the housing problem generally. Other speakers were very little, if at all, less acceptable to, or less successful in satisfying, those present at the dinner, either as members of the Society or as guests, the contributions by Society representatives (the President, the Editor and Mr. George Elliston) being regarded as in all respects adequate.

H.R.H. Princess Louise and the Society.

An interesting feature of the reply made by the President to the toast of "The Society," as proposed by Sir Hilton Young, was the reading of a letter from H.R.H. Princess Louise, Duchess of Argyll, regretting her inability to attend, and containing messages of congratulation and expressions of sincere goodwill. From the letter it was gathered that the regret of Her Royal Highness was very real, and her sympathy with the Society, and desire for its continued success, entirely sincere. Speeches at once witty and warm-hearted were that of the Mayor of St. Marylebone, acknowledging the toast of "The Guests," as proposed by Dr. James Fenton, and that of Mr. George Elliston, M.P., who gave the toast of "The Chairman" (Dr. Charles Porter, the President). By way of entertainment—in addition to the speeches which, as so rarely, unfortunately, happens, actually were entertaining, some of them, this time—there was a conjuror in attendance who mystified everybody with his card tricks, and revealed certain personages at the top table as no mean performers, under guidance, at the ancient game of nap. And so, regretfully on the part of some, from the table to dancing till a late, or rather early, hour.

The Council Meeting.

In spite of this, however, the Council assembled in goodly numbers at two o'clock on the afternoon of Friday, to consider, as is shown elsewhere, a rather full agenda, and to settle some matters of moment. Being the first meeting of the session, there were several newly-elected members, and to these, including Dr. Vynne Borland, Dr. Thompson, Dr. Orr, Dr. James Ferguson and Dr. Ethel Cassie, a warm welcome was extended by the Chairman. A well-deserved tribute paid by the Minister of Health to Dr. G. F. Buchan, for his services on the Advisory Committee on Nutrition, in the course of a letter requesting the nomination of a representative for a further period of three years, gave great gratification to the Council. In conformity with the wishes of his colleagues, Dr. Buchan agreed to accept re-nomination. Two very old members of the Society, now retired, on the unanimous recommendation of the Metropolitan Branch, were elected Life Fellows of the Society. These were Dr. George Millson, well known to many of the older Fellows as first Treasurer and later Trustee of the Society,

and Dr. Wellesley Harris, who gave yeoman service as Secretary of the Metropolitan Branch for a great many years. As usual, the General Purposes Committee had dealt with a number of matters of urgency, and prepared several others for submission to the Council. Amongst these may be noted a recommendation, which was adopted, that the Neech Prize regulations should be altered to allow of the admission of any paper read at any Branch or Group meeting to consideration for the prize, and to permit of the carrying over of the amount of a prize not awarded in any one year to the next. Also there was a report that Professors Jameson and Picken had been invited to prepare a memorandum on the methods of making appointments in the public health service. A very suitable choice this, since neither is likely again to be an applicant for a position in the service, though both have been officers and both are engaged in the preparation and training of the persons who will apply for and hold health officer posts in the future.

Drs. Barlow and Stirk.

Following adoption of the Committee's report, the Council devoted some time to the question of revision of the Society's constitution, and re-consideration of matters referred back from the extraordinary general meeting held on May 19th. These references back related to the item in the draft in which the Society is named, and that in which the constitution of the Council is set out. In the end, it was decided to report to a further extraordinary general meeting that, following detailed consideration, the Council had resolved to adhere to the original recommendations and it was referred to the General Purposes Committee to arrange for the calling of an extraordinary meeting. Because of their long association with the Council, it is right that at this point reference should be made to the severance of connection with the service of two well-known medical officers of health, to wit, Dr. Naylor Barlow of Wallasey, and Dr. Stirk of Exeter. Dr. Barlow, fortunately, is still a member of the Council, which will continue to benefit from his experience and wisdom. Dr. Stirk was absent from the last meeting and may not attend again. Most regular in attendance during all the time he represented the West of England Branch, he put in most useful work, and could always be relied upon to give of his best. It is gratifying to learn that his services to Exeter have been recognised by the local authority, and he may

be sure that with him, as with Dr. Barlow also, there go all the best wishes of their colleagues that they will be long spared to enjoy such rest as retirement may bring.

The Ordinary Meeting.

Considerable as the amount of business, and full as the consideration given to each item had been, the meeting was concluded in something less than two hours. In some ways this was unfortunate, since it permitted of a number of members catching earlier trains, and reduced the attendance at the ordinary meeting. The main object of this meeting was to hear a paper by Dr. Macdonald of Stockport, on "The Responsibility of the Local Authority towards the Blind." This subject had actually been down for discussion at the May meeting, but because

of difficulties in connection with the adoption of the draft constitution, the time available appeared inadequate. The Society is greatly indebted to Dr. Macdonald for agreeing to attend a second time to read his paper, and this the meeting tried to show. In the Society, there are few who know so much of the law and procedure relating to the care of blind persons, and few who have had so much practical experience of its working as Dr. Macdonald. The paper he gave was admirable, therefore, in every respect, and it is unfortunate that the numbers present to hear and discuss it were so small. The opportunity that will be given of reading it in the pages of PUBLIC HEALTH is one that should be welcomed by all engaged in the service, or concerned for the welfare of those afflicted with blindness.

Neo-Natal Mortality.

By GLADYS J. C. RUSSELL, M.B., CH.B., D.P.H., Assistant Medical Officer of Health for Maternity and Child Welfare, City of Leeds.

Dr. Russell, who is the first woman member of the service to be elected to the Presidency of a Branch of the Society of Medical Officers of Health, chose as the subject of her address one on which, because of her experience, there is none better fitted to speak than she, and upon which information and guidance are sought by her colleagues in every branch of health work. The address, which was greatly appreciated by the Yorkshire Branch, will be no less warmly welcomed by readers of PUBLIC HEALTH.

ONE of the greatest achievements of modern preventive medicine has been the extraordinary decline in the infant mortality rate. This rate has actually been halved since 1910, that is, in a single generation. In 1931 the infant deaths in England and Wales were 100,000 less than in 1900. There can be no doubt that the inauguration of systematic child welfare work has to a great extent been responsible for this fall.

It is a significant fact, however, that the death-rate in the first four weeks of life—the neo-natal period—has been little affected during the period of the falling infant death-rate. The decrease has been, not in the first month, but in the subsequent eleven months. The Leeds figures for infantile and neo-natal mortality since 1905 show that although the former rate has fallen from 152 in 1905 to 88 in 1932, the very rate has only decreased from 1905 to 36.4 in 1932, and similar findings are the experience throughout

the country. The deaths in the first month of life have decreased very little as compared with the quite decided fall in the number of deaths in the first year. The deaths under one year of age have been greatest in the first month of the first year, and highest among infants at delivery and within the first 24 hours of life.

Of the large number of children who survive the liabilities of the pre-natal and intrapartum periods, it is said that 3 to 4 per cent. die within the first month of life, and about 6 to 7 per cent. during the first year. In this country alone, the number of such deaths in 1931 amounted to 19,966 and 41,939 respectively. A consideration of requisite care before birth, during birth, and in the first month of life is, therefore, highly pertinent, for this factor alone regulates the outcome in a large measure, and is one of the most practical phases of preventive medicine. It should be remembered, however, that a certain proportion of deaths occurring during the first month are referable to con-

genital abnormalities and, therefore, are susceptible to little or no improvement.

One of the chief obstacles in the reduction of neo-natal mortality has, to some extent, been the ignorance of the cause of death in these young infants, and the problem of the newborn infant has been the subject of study for some time. As far back as 1828, M. Orfila, the celebrated medico-legal authority, described with accuracy the normal and pathological characters of the newborn. Priestley, in his Lumleian lectures in 1887, on the Pathology of Intra-Uterine Death, made the first adequate attempt in this country to systematise the various researches which had appeared at home and abroad up to that date. Shortly after this, J. W. Ballantyne completed his "Notes on the Anatomical and Pathological Conditions of the Newborn Infant with reference to Obstetrics," and published a case-taking scheme for foetal diseases and deformities, and a paper on the investigation of foetal diseases. He published in 1891 an "Introduction to the Diseases of Infancy," containing numerous anatomical data relative to the newborn infant; and from 1902 to 1904, "Ante-Natal Pathology and Hygiene," "The Foetus," and its companion volume, "The Embryo." These contain references to continental literature and are classical text-books on the subject.

During the last 20 years, the three main lines of work in this direction have been statistical investigation into the general causes leading to neo-natal death, investigations dealing with the relationship between maternal syphilis and foetal mortality, and investigations especially concerned with intracranial injuries and hæmorrhages, and asphyxia as factors in neo-natal death.

The general causes leading to neo-natal death can be attributed to maternal states, and foetal and infantile states. The maternal conditions which influence neo-natal mortality include toxæmias of pregnancy, syphilis, acute maternal disease such as influenza and pneumonia, or chronic maternal disease such as cardiac, renal, or pulmonary disease, hæmorrhages of pregnancy and labour and complications of labour. The foetal and infantile states include deformities and congenital defects, prematurity, post-maturity, intracranial stress, pulmonary lesions, such as atelectasis and pneumonia, visceral hæmorrhages, infective conditions, and idiopathic foetal disease. Abnormalities of the placenta also influence the life of the foetus.

The maternal, foetal and infantile states are intimately connected with each other, the maternal conditions in the majority of cases having a profound influence upon foetal and infant welfare. This is especially marked in the case of premature birth, which is by far the most common cause of neo-natal death. Although in many cases of prematurity no cause can be found, it can often be explained by maternal disease, such as heart or pulmonary lesions, or it may be attributed to the effects of toxæmia of pregnancy, or caused by some complication such as antepartum hæmorrhage, or hæmorrhage due to placenta prævia. Again, it may be caused by ecboic drugs or accidental or intentional violence or exertion. Although it is said that an infant is viable from 28 weeks onwards, yet its chances of survival are very poor under 34 or 36 weeks. The greatest number of deaths among premature infants occur within the first week after birth. During the first 24 hours the premature death-rate is high, after the first week the chances of survival are good. During labour a premature infant stands less chance of survival than an infant at term. It is much more liable to injury. Its difficulties also continue after birth, as the organs are not fully prepared to perform their functions. Prematurity is also a potent factor in accentuating the effects of asphyxia and atelectasis.

Cruikshank of Glasgow, in his report on 800 autopsies on cases of neo-natal death, divided the causes of death into two main groups; the first group, where the infants died as a result of conditions due to birth asphyxia, birth injury, or prematurity, accounted for 540 or 67.5 per cent. of his total; the second group, consisting of those who contracted some illness or infection, amounted to 238 or 29.7 per cent. of the total. There remained in his series a small group of 22 deaths due to gross developmental defects.

There have been 2,968 neo-natal deaths in Leeds during the last ten years (1923-32). Of these, 1,337 or 45 per cent. were certified as due to prematurity, 270 to atrophy, debility, marasmus, 207 to congenital malformations, 179 to injury at birth, 179 to convulsions, 177 to atelectasis, 117 to diarrhoea and enteritis, 104 to pneumonia, 86 to suffocation, including overlying, and 55 to syphilis.

Of those 2,968 deaths, 1,910 or 64.4 per cent. occurred in the first week after birth, 489 or 16.5 per cent. in the second week, 327 or 11 per cent. in the third week, and

242 or 8.1 per cent. in the fourth week, showing that the highest mortality occurred in the first week of life.

Almost all deaths in newly-born infants are due either to effects of birth injuries, or to infections acquired during or shortly after birth, the stage of maturity acting often as a determining factor. Recent pathological and clinical studies show that many deaths which are certified as congenital debility, asphyxia, and atelectasis of the lungs are in reality the result of intracranial or visceral injuries. The injuries may be caused by trauma with actual solution of continuity in bone, nerve, muscle, and other tissues, or by rupture of blood vessels leading to internal hæmorrhage. The injuries are not necessarily due to prolonged or instrumental delivery, but may also occur in quick precipitate labour. This is especially true of intracranial hæmorrhage where the mere moulding of the skull, under the influence of stresses or strains as it passes through the genital canal, may lead to tearing of the tentorium cerebelli. The tentorial tearing in itself has no intrinsic significance, except in the cases where the tear actually opens into one of the venous sinuses. It is the associated hæmorrhage and congestion that matter. The subject of intracranial injury and hæmorrhage has been carefully studied by clinicians and pathologists during the last few years, and they consider it to be an important cause of neo-natal death, accounting for at least 20 per cent. of all deaths occurring in the first four weeks.

Complications of labour also give rise to the syndrome known as asphyxia livida neonatorum, and asphyxia pallida neonatorum, which are the causes of many cases of neo-natal death. The first of these is really an exaggeration of the normal state of asphyxial congestion which is present to some extent in all infants at birth. The second is essentially a state of shock, and is frequently associated with some form of birth injury, especially intracranial damage. Failure to establish full respiration leads to a persistence of the airless and unexpanded state of the lungs. There thus arises the very common syndrome of asphyxia and atelectasis. This condition gives rise to further danger, for with a lung in such a state, secondary infection and pneumonia easily occur.

Apart from causes of death which are associated more or less directly with the dangers and difficulties of birth, there is a group due to diseases acquired by the infant. These are for the most part infections, but it is often difficult

to determine when the infection occurs, and what is its mode of entry. Cruikshank, in his investigations, concluded that "while the skin and respiratory tract are frequently the portal of entry, the gastro-intestinal tract, and the umbilical stump are relatively rarely the source of infection" (umbilical sepsis was recognised as the cause of death in only seven of his series of 800 cases). He also states that the organisms show a tendency to produce a generalised septicæmia in the infant. Prematurity and the persistence of asphyxia and atelectasis are important predisposing factors in the development of these neo-natal infections.

Developmental anomalies and congenital syphilis are not common causes of death in the neo-natal period. The children of syphilitic mothers, however, are often born prematurely and appear to be particularly prone to the development of sepsis neonatorum.

In the past there has been a good deal of misconception with regard to the effect of environmental conditions on the development and nutrition of the child before birth and in the neo-natal period. In comparing the rates of infant mortality in different groups classified according to the social conditions of the parents and their environment, the general conclusion has been that the death-rate among infants during the first month of life differs but little in different social classes, and in different types of environment, but as the child gets older the mortality rate in the unfavourably situated classes becomes progressively higher. W. A. Brend (1917) in comparing the rates in Hampstead and Shoreditch—boroughs of widely differing yearly rates of infant mortality—found that the death-rates of infants under one week were practically identical, and that Shoreditch showed an excess of only 25 per cent. by the end of the first month; by the time the period of 7 to 9 months was reached, the rate in Shoreditch was more than four times that in Hampstead, and at 10 to 12 months it was more than six times as high. Dr. Forbes, in Brighton found that the death-rate of babies under one week per 1,000 births was 20.4 in the poorer class, and 20.5 in the well-to-do class, the rates for the whole year being 144 and 67 for the two classes respectively.

The figures for Leeds give similar findings. In 1932 the average density of population per acre in the City was 12.73. In one poor overcrowded ward, Burmantofts, with a density of population of 84.4 per acre, there was an infantile mortality rate of 136 and a neo-natal mortality

rate of 40; another similar ward, Richmond Hill, with a density of population of 94 per acre, had an infantile mortality rate of 126 and a neo-natal mortality rate of 41.4. On the other hand, Roundhay, a better-class residential ward, with a density of population of 3.9 per acre, had an infantile mortality rate of 76 and a neo-natal mortality rate of 47.1. The figures for the wards of the City with birth-rate, infantile mortality rate, neo-natal mortality rate, and density of population per acre, give further interesting statistics.

It would appear that the better feeding, the better housing, the freeing of the mother from

The contrast between male and female mortality is also of interest. Possibly due to the fact of the preponderance of female over male persons, it is not generally realised that there are more male children born each year than female. In Leeds the excess of male over female children born in a year is, as a rule, from one to two hundred. The vital statistics in this city show that males succumb more than females during infant life.

The following table gives particulars for the last five years in Leeds of the infant mortality, persons, males and females, in different periods of the first year of life.

TABLE.

YEAR.	Under One Week.			Under One Month.			Under One Year.		
	P.	M.	F.	P.	M.	F.	P.	M.	F.
1928	26.2	30.6	21.5	37.3	44.1	30.1	79	97	60
1929	28.3	34.6	21.8	42.3	51.1	33.2	97	119	75
1930	27.5	30.6	24.3	38.5	45.7	31.0	68	78	57
1931	23.8	26.1	21.4	32.3	34.8	29.6	76	84	68
1932	27.0	15.8	8.2	36.4	46.7	25.6	88	100	75

anxiety and the necessity for manual work before the birth of the child, have no effect upon the health of the child at birth and in earliest infancy. After the first few weeks of life, post-natal environmental influences obviously come into play rapidly and the rate goes up in the poorer districts. In the past, the effects of poverty and bad environmental conditions were considered to have important contributory effects upon the nutrition and development of the child before birth and in the neo-natal period, and to be the cause of stillbirth and neo-natal death, because of the maternal malnutrition produced. Recent work tends to minimise the importance of such external conditions as malnutrition and unhealthy surroundings before birth. Leonard Findlay, in his study of this matter, failed to find any connection between maternal health during pregnancy and the condition of the child. Mrs. Bruce Murray came to the same conclusion, as she found that mothers with insufficient resources did not produce children appreciably inferior in development to those mothers who were better off. These conclusions correspond closely with the results of German and Austrian observations, that the social conditions and nutrition of the mother have no influence on the weight and length of the child at birth.

PREVENTION.

Consideration of the facts enumerated above helps to indicate the general lines upon which preventive measures should run. In view of the large number of neo-natal deaths which are due to prematurity, asphyxia neonatorum, and birth injuries, increased efforts should be made to deal with maternal complications, preventable accidents and injuries incidental to delivery. This means that the necessity for ante-natal care of every expectant mother must be urged, and must commence as early as possible in pregnancy and continue right up to the time of delivery. Adequate facilities for this ante-natal supervision must be provided, and a sufficient number of hospital beds for pre-natal indoor treatment supplied. Every mother must also have skilled obstetrical care at the time of the delivery and rational after-care, and all procedures carried out in the interests of the mother will be of equal benefit to her infant.

Medical students, graduates and midwives should have improved education in obstetrics and extended instruction in the care needed during the first hours of life, especially for those infants who are premature and feeble. Every midwifery nurse should receive, as part of her training, instruction in mothercraft, that is, the handling, feeding, and caring for the

newborn infant, the methods of establishing lactation when difficulties occur, and special teaching in the care of the premature baby.

A considerable number of infant lives are lost by failure to establish and maintain respiration at birth, and this subject, therefore, warrants careful consideration. If there is any difficulty in the commencement of respiration, mucus and fluid should be sucked from the mouth and pharynx by means of a mucus catheter and a mixture of CO₂ (5 per cent.) and oxygen (95 per cent.) should be given by means of a mask attached to a pressure-gauge and a cylinder, as advocated by Dame Louise McIlroy in this country. The old methods of artificial respiration and peripheral stimulation, formerly employed to encourage respiration in the newborn, are dangerous in the extreme and have now been abandoned, because it is realised that the necessary stimulus is almost certainly chemical rather than physical. But it is still by no means certain exactly what this stimulus may be. Yandall Henderson in America has consistently and eloquently pleaded the value of CO₂ in stimulating respiration in the newly born. He maintains that the administration of a mixture of oxygen and CO₂ (7 per cent.) to all newborn babies prevents partial atelectasis, and thus diminishes the incidence of pneumonia. He advises the use of a simple mask to which a compressible bag is attached, and he goes so far as to suggest that this treatment is sufficiently important to demand legislation similar to that for prophylaxis of blindness in America.

Intra-tracheal suction and insufflation with the same mixture of CO₂ and O₂ is advocated by Flagg. The method of Drinker and Shaw consists in mechanical prolonged artificial respiration by means of a respirator employing differential negative pressures. This latter method, associated with O₂ and CO₂ inhalation, can render important service in cases where long continued artificial respiration is necessary, especially those associated with cerebral hæmorrhage.

Inflation of the lungs of the newborn baby by mouth to mouth insufflation, after removal of any obstructing agent, may be useful at times, but always presents the danger of rupture of the alveoli, a complication which is generally fatal. Also the teeth and tonsils of the accoucheur are not always free from sepsis, and there is, therefore, the added danger from infection in this method.

The inhalational method of resuscitation at birth is not only the most effective for dealing with primary asphyxia at birth, but it can, in addition, achieve a far larger saving of life from amongst those with unrelieved atelectasis resulting in secondary asphyxia and neo-natal pneumonia. It is highly pertinent, therefore, that this should be treated in the most efficient manner.

Neo-natal infections can be dealt with to some extent by educational measures, but improved hygienic and housing conditions are likely to be more effectual in reducing this cause of neo-natal disease and death. Although congenital syphilis is a relatively unimportant cause of death in the first four weeks of life, maternal syphilis is undoubtedly an indirect cause of loss of infant life, from prematurity and debility in the infant. Venereal disease clinics will, therefore, play their part in the reduction of neo-natal mortality.

Finally, as our knowledge of the causes of neo-natal deaths is still very limited and imperfect, more research in this direction, and efforts to improve this knowledge, must be continued.

As recent advances in physiological technique applied to the study of disease in older children have helped in the diagnosis and treatment of conditions affecting them, similar methods of investigation for the newborn, with co-ordination of the work of the obstetrician, pediatrician, physiologist and pathologist, will naturally lead to considerable advance in the diagnosis and treatment of neo-natal disease, and in the prevention of neo-natal death.

The grave reproach of a stationary neo-natal mortality rate must be removed, and our greatest hope lies in the development of ante-natal supervision, careful delivery, and a wider knowledge of infant hygiene.

MR. BEN DAVIES (Director of Laboratories, Processing, Inspection, etc., United Dairies Limited), will open a discussion on "Practical and Scientific Problems of the Milk Supply and their Laboratory Control," at a sessional meeting of the Royal Sanitary Institute, to be held at the Institute, 90, Buckingham Palace Road, London, S.W.1, on Tuesday, December 12th, 1933, at 5.15 p.m. The chair will be taken by Professor W. W. Jameson, M.A., M.D., F.R.C.P. (Member of Council of the Institute).

AN AMERICAN LETTER.

Our Correspondent discusses mainly the Annual Meeting of the American Public Health Association, and the Outbreak of Encephalitis Lethargica in St. Louis.

Honouring the Memory of Walter Reed.

The American Public Health Association held its sixty-second annual meeting in Indianapolis from October 9th to 12th. It had been thirty-three years since it last met there, and that occasion was made memorable for all time because Walter Reed gave the first announcement of his work in Cuba regarding the transmissibility of yellow fever by the *stegomyia* mosquito. It was fitting, therefore, at this meeting to hold a memorial session in memory of Dr. Reed and his associates. It was a brilliant occasion. Four of the volunteers who offered themselves to Reed for experiment were present, including Dr. Robert P. Cooke, one of those who spent twenty-one nights in a cottage at Camp Lazear, sleeping on sheets and in night clothes used by patients who had died of yellow fever, some of which were stained with black vomit, at that time believed to be one of the most dangerous sources of infection. The principal address was given by Major-General Robert U. Patterson, Surgeon-General of the United States Army. He was followed by General F. F. Russell (retired) of the Rockefeller Foundation. The survivors were presented to the audience, who greeted them by standing and giving them a long round of applause. The complete roll of honour was read by Dr. William F. King, the local chairman. Every attempt was made to have present all those who were members of the Association in 1900, and especially those who attended the session of that year. Only nine could be found who were alive and able to travel. Needless to say, there was a touch of sadness in the occasion for the old members.

A Symposium on Epidemic Encephalitis.

Another feature of great importance was the symposium on epidemic encephalitis in St. Louis, Missouri, led by Dr. J. F. Bredeck, Health Commissioner of that city, Dr. James P. Leake, Senior Surgeon of the United States Public Health Service, in charge of the investigation, and Dr. Josephine B. Neal, Secretary of the Matheson Commission, whose reports on the disease throughout the world are so well known. All of those who have taken part

in the investigation and experimental work spoke in the discussion. (The papers are published in the November issue of the *American Journal of Public Health*.) We may say here that the disease has been successfully transmitted to rhesus monkeys, and several strains of the virus have been carried through four generations. The inoculated monkeys contracted a disease which clinically, as well as at post-mortem, showed the characteristics of that seen in human subjects. It is felt that material has been obtained which at least carries the causative virus, and high hopes are entertained of being able to carry out studies with it as to transmission, prevention, etc. The mode of transmission is still a mystery, though most are inclined to the view that it is by personal contact, and that the disease is kept alive by carriers or mild unrecognised cases. Three of the officers from the Public Health Service, Drs. Leake, Williams and Mayne, submitted themselves to bites from mosquitoes which had been fed on patients suffering from encephalitis. The results were entirely negative, but could not have been conclusive one way or the other since these officers were more exposed to the disease than the average run of citizens, in the investigation of cases, post-mortem examinations, surveys of territory, etc. An experiment is now going on in the state penitentiary of Mississippi which may lead to some results. Convicts have been asked to volunteer on the promise of clemency. Some twelve men have volunteered and they are being bitten by mosquitoes which have been fed on patients suffering from encephalitis. There is no encephalitis in Mississippi and the inmates of the penitentiary are necessarily isolated to an unusual degree.

Clinical Features of the Disease.

The epidemic may be said to be at an end, though a few cases are still being found, and now and then a death occurs. In a former letter it was explained that St. Louis County is politically separate from St. Louis City. Fortunately, at the beginning of the epidemic a Metropolitan Health Council was established, including the health officials of the area affected,

and they have co-operated wholeheartedly with the Health Commissioner of St. Louis and the members of the Public Health Service from Washington. What was said at that time remains substantially true. The death-rate was very much greater for the higher age-groups than for the lower. More than a fourth of the cases were over sixty years of age; less than one-third were under three years, and 8 per cent. of the total number were under ten years. Very few uncomplicated cases have proved fatal. The two chief causes of death have been broncho-pneumonia and nephritis. After-effects have been almost negligible. The patients that do not die recover rapidly and apparently permanently, though they will be watched for some months. Indeed, the health authorities state that the rapidity and completeness of recovery affords a distinguishing feature for differentiating this outbreak from the better-known forms of encephalitis. To date the cases reach approximately 1,100. The death-rate in St. Louis County has been 16.6 per cent., or 35.4 per hundred thousand, while that for the city proper has reached 21 per cent. or 11.4 per hundred thousand. Only 7 per cent. of the cases occurred among negroes. Needless to say, the City Health Commissioner and others in authority have been deluged with letters giving theories, methods of prevention, cure, etc. Many of these came from persons who were genuinely interested. Too many came from those who had some sure cure they were trying to exploit and sell. It has been said of Americans that one of their chief characteristics is lack of reverence. Disaster and death do not seem to deter those who would exploit their fellow men. Some years ago when seven criminals were to be executed in Chicago at one time, a comic paper came out with a picture of a gibbet with seven men hanging from it, and the legend, "The Popular Game in Chicago: Seven's Up!"

Diphtheria Immunisation.

In a programme contributed by ten sections, which contained many articles of scientific as well as practical value, we hope it will not seem invidious to select immunisation against diphtheria, to which the English journals have given considerable space, especially during the past year, as the most interesting subject discussed. Only a few years ago toxin-antitoxin was universally used. This has been superseded by Ramon's toxoid, so that now approximately

three-fourths of the work is done with that material. In turn this bids fair to be eclipsed by the alum-precipitate which was brought to our attention in this country through the work of the late Dr. Leon C. Havans, of the Alabama State Board of Health. Some municipalities are using what is really only a mixture of alum and toxoid, giving two doses. One of the chief values of alum-precipitate is that a single injection suffices. It is understood that only two biological houses have been licensed by our Public Health Service to put out this material. There is little reaction, and immunisation reaches a high figure. Park, of New York, still insists that the dose should be measured in immunity units obtained by flocculation. The Public Health Service does not require this, apparently preferring animal tests. The results, judged practically, as well as by the Schick test, are highly satisfactory. Requiring only one injection, large numbers of children can be immunised in a short time and with fewer operatives, so the method bids fair to become generally used over those now in vogue.

MAZYCK P. RAVENEL, M.D.

MR. H. F. METCALF, L.D.S., has been appointed Dental Officer to the Hendon Borough Council.

THE Royal Institute of Public Health will hold its next Annual Congress in Norwich from Tuesday, May 15th, to Whit Sunday, May 20th, 1934, on the invitation of the Lord Mayor and Corporation of the City. The Congress will be presided over by Alderman Henry N. Holmes, J.P., ex-Lord Mayor of Norwich. The inaugural meeting will be held on the morning of Tuesday, May 15th, and the scientific work of the Congress will be conducted in the following sections:—Section I, "State Medicine and Industrial Hygiene"; Section II, "Women and Children and the Public Health"; Section III, "Tuberculosis"; Section IV, "Veterinary Medicine and Agriculture"; and Section V, "Pathology and Bacteriology." Governments, municipalities, universities, and other public bodies of Great Britain and Ireland, the British Dominions and continental and foreign countries, are being invited to send delegates, to whom will be forwarded full particulars and programme when finally arranged. Enquiries regarding the Congress should be addressed to the Hon. Secretaries, Royal Institute of Public Health, 23, Queen Square, London, W.C.1.

The Society.

Reports, Proceedings and Announcements.

ANNUAL DINNER.

The Annual Dinner of the Society was held in the Garden Suite of the May Fair Hotel Berkeley Square, London, on Thursday, November 23rd, 1933, when the President (Dr. Charles Porter) and Mrs. Porter received over 150 members and guests. Her Royal Highness the Princess Louise, Duchess of Argyll, who, with the Minister of Health (Sir E. Hilton Young), was to have been a principal guest of the evening, unfortunately was prevented, by reasons of health, from being present. A message sent by Her Royal Highness to Dr. Porter, will be found later in this report.

The President was supported by the following:—

Past-Presidents.—Dr. G. H. Pearce, Dr. G. F. Buchan (Hon. Treasurer), and Dr. J. J. Buchan.

Members of the Council.—Dr. Vynne Borland, Dr. R. Veitch Clark, Dr. James Fenton (President, Metropolitan Branch), Sir Francis Fremantle, O.B.E., D.L., M.A., F.R.C.P., F.R.C.S., M.P., Dr. R. P. Garrow, Professor W. W. Jameson, F.R.C.P., Dr. R. H. H. Jolly, Dr. James Mair, Dr. H. J. Milligan, M.C., Dr. E. H. T. Nash, Dr. Thomas Orr (President, Home Counties Branch), Dr. W. Paterson, Dr. T. N. V. Potts, Dr. H. Gibbons Ward, Dr. R. H. Wilshaw, and Dr. F. T. H. Wood, O.B.E.

Branch and Group Presidents.—Dr. W. M. Ash (East Midland Branch), Dr. George Jessel (Tuberculosis Group), Dr. H. D. Kelf (Southern Branch), Dr. Gladys J. C. Russell (Yorkshire Branch), and Dr. A. E. Remmett Weaver (West of England Branch).

Mrs. Ash.

Dr. Marjorie Back, Lord Balfour of Burleigh (President, Royal Sanitary Institute), Dr. Cyril Banks, Mrs. Banks, Miss Bates, Dr. Agnes Bernfeld, Dr. E. J. Boome, Frederick Breese, Esq., L.D.S., Mrs. F. Breese, W. Leigh Breese, Esq., L.D.S., Mrs. W. L. Breese, Mrs. J. J. Buchan, Dr. H. A. Bulman, Mrs. Bulman.

Dr. A. F. Cameron, R. Chase, Esq., L.D.S., Dr. Stella Churchill, Dr. May Clarke, Dr. F. Garland Collins, Mrs. Collins, Dr. W. J. Coughlan, Dr. G. Lissant Cox, Mr. T. Crew, Mr. H. E. Curtis.

Dr. W. Allen Daley, Mrs. Daley, Sir W. Dalrymple-Champneys, Bt., M.D., Lady Dalrymple-Champneys, Dr. L. Meredith Davies, Dr. Helen P. Dent, Lt.-Col.

J. A. Dixon, M.R.C.V.S. (President, Society of Veterinary Officers).

J. C. P. Elliston, Esq., Dr. Margaret Emslie.

J. S. Fairbairn, Esq., M.A., F.R.C.S. (President, British College of Obstetricians; Chairman, Central Midwives Board), Dr. H. A. Fawcett, Mrs. Fawcett, Mrs. Fenton, Alderman J. Fettes, J.P. (Mayor of St. Marylebone).

L. J. Gill, Esq., A.S.A.A., R. C. Graves, Esq., LL.D., W. H. Green, Esq., J.P., L.C.C.

Cecil Hanbury, Esq., M.P., Dr. J. A. Harbison, Maj.-Gen. P. H. Henderson, D.S.O., A.M.S., Dr. T. W. Hill, Mrs. Hill, Sir Frederick Hobday, K.C.M.G., F.R.C.V.S., F.R.S.E. (Principal, Royal Veterinary College), Dr. J. B. Howell, Mrs. Howell, Dr. R. N. Hunter, K. H. Hunter, Esq., Dr. A. F. Hurst.

Miss Jackson, Maj. R. W. H. Jackson, R.A.M.C. (ret.), Mrs. Jolly.

Dr. F. Leonard Keith.

Dr. G. Quin Lennane, Henry Lesser, Esq., Lt.-Col. Mrs. Lesser, Dr. W. A. Lethem, M.C., Mrs. Lethem, The Countess of Limerick, Warren Low, Esq., F.R.C.S. (President, Royal Society of Medicine), Sir Henry Lunn, M.D., J.P.

Dr. E. K. Macdonald, Mrs. Macdonald, Dr. G. W. McIntosh, Mrs. McIntosh, Miss McMullen, Mrs. Milligan, Miss E. M. Musson, C.B.E., F.R.C., LL.D., S.R.N. (Chairman, General Nursing Council).

Mrs. Nash, Dr. Agnes H. Nicoll.

Lt.-Col. G. S. Parkinson, D.S.O., Dr. R. H. Parry, Mrs. Parry, Mrs. W. Paterson, Van Delden Paterson, Esq., Mrs. V. Paterson, Mrs. G. H. Pearce, Councillor Miss E. M. Pennefather, O.B.E., Dr. A. Pollock, Miss Maire Porter-Porter, Miss Sheila Porter-Porter, Dr. C. R. D. Porter, Arthur Purkis, Esq.

Dr. Maitland Radford, Mrs. Radford, Councillor G. B. Ramsay (Chairman, St. Marylebone Public Health Committee), Dr. J. Rhys-Herbert, Sir Arthur Robinson, G.C.B., C.B.E. (Secretary to the Ministry of Health), J. W. Dudley Robinson, Esq., M.Sc., Ph.D., A. E. Rowlett, Esq., L.D.S. (President, British Dental Association).

Lt.-Col. C. T. Samman, J.P. (Deputy Master, Society of Apothecaries), Dr. E. V. Saunders-Jacobs, Dr. W. G. Savage, Dr. R. W. Scarff, W. G. Senior, Esq., L.D.S., Dr. A. J. Shinnie, Mrs. Shinnie, Dr. R. J. L. Sladen, W. H. Smeaton, Esq. (Deputy Master, Worshipful Company of Plumbers), F. B. Smith, Esq., W. L. Swain, Esq.

George Thomson, Esq., L.D.S., Dr. I. S. Thomson, Mrs. Thomson, Arnold Thorne, Esq., Mrs. Rosa Thorne, D.P.S., Dr. Mildred Thynne, Dr. A. A. Turner, M.C., E. E. Turner, Esq., L.D.S.

Dr. J. Sim Wallace, Mrs. Wallace, Dr. W. H. S. Wallace, Sir Holburt Waring, M.S. (President, Royal College of Surgeons), F. Webster, Esq., B.A., LL.B., Mrs. Webster, Dr. C. F. White, Mrs. White, Dr. A. B. Williamson, Mrs. Williamson, Miss Wilshaw, Dr. J. Greenwood Wilson, Mrs. Greenwood Wilson, Dr. C. Isobel Wright.

Sir Hilton Young, P.C., G.B.E., D.S.O., D.S.C., M.P. (Minister of Health), Lady Hilton Young.

Captain G. S. Elliston, M.C., M.A., J.P., M.P. (Consultant Secretary, Society of Medical Officers of Health), and Mr. G. L. C. Elliston, M.A. (Executive Secretary).

Letters of regret for unavoidable absence were received by the President from Dr. T. W. Naylor Barlow, O.B.E., Mrs. Harold Kerr, Dr. A. S. M. Macgregor, O.B.E., Dr. A. B. McMaster, Dr. H. Leslie Oldershaw, Professor Ralph M. F. Picken, Sir John Robertson, C.M.G., O.B.E., and Dr. V. T. Thierens.

The loyal toast, proposed by the President, was enthusiastically honoured.

The Rt. Hon. Sir E. Hilton Young (Minister of Health), in proposing the toast of "The Society of Medical Officers of Health," said that it gave him very great pleasure to do so, and to share in the celebration of the year's work in the field of preventive medicine. It also afforded an opportunity of expressing his deep sense of the utility of such a clearing-house of ideas as that provided by the Society, and of gratitude for past work and that gratitude which consisted of a lively sense of favours to come in the direction of the efforts of medical officers of health on behalf of the health and well-being of the people of this country. In particular, he had in mind the work of the Central Council for Health Education, and in connection with the activities of that body referred to the poster frames, recently the property of the Empire Marketing Board, which local authorities now had an opportunity of utilising for the display of health propaganda posters. In a two years' tour of the country, nothing had impressed him more than the high personal qualifications of those called upon to discharge the office of medical officer of health, and to be a guide, philosopher and friend, not only to local authorities but to the citizens generally. The national campaign against slums was more than any personal fad of a Minister or a Government. It was the demand of a nation. In such a national campaign, medical officers of health were looked upon as the spearhead in the attack, and he emphasised the important services which they could render in the drive for slum clearance now in progress. Little headway had been made in the past, and no more than 20,000 slum houses had been cleared hitherto in the 14 years since the work was undertaken with State help. Now they were embarking on a programme for clearing 200,000 houses in five years and rehousing over 1,000,000 people. That represented an effort 70 per cent. greater

than that contemplated by local authorities when the Act of 1930 was passed. It would need the best energies of the local authorities and their medical officers to accomplish it in the appointed period. They must not allow their attention to be distracted and their efforts disheartened by the publicity that had been given to statements that it would require the demolition of a million houses to get rid of the slums. Such estimates were exaggerated and they had been made without adequate knowledge or investigation. Such a figure could be obtained only by including with houses which ought to be cleared, houses that could be dealt with by re-conditioning and whole classes of others that were in no sense slum houses, that were fit for habitation, but failed to agree with theories as to what a house ought to be. The country must first concentrate on the business of getting rid of the gross evil of the undoubted slums—houses that were unfit for human habitation and could not be made fit at a reasonable cost. Local authorities, as the Society was well aware, had already submitted a programme of some 200,000 houses—a very striking programme which would cost £95,000,000 as a capital sum. Most of the condemned houses would be cleared away without compensation, except as to the value of the site. In truth, the programmes which had been framed by the local authorities at the request and with the support of the Government and an overwhelming public opinion, were by far the best, the most accurate and the most scientific estimate of the size of the slum clearance problem that the nation had ever had. The work of medical officers of health must be of the first importance in the campaign: theirs must be the initial stimulus and the continuing stimulus throughout the conduct of the five years' work. Under the Housing Acts there was power to represent to the local authorities the needs for dealing with slum properties by clearance or by securing the repair and reconditioning of all unfit houses. While fully conscious that such a national task would add greatly to the work of medical officers of health, he was confident that they would be proud to perform a work of such high service to the community. In conclusion, Sir Hilton Young said: "It is, I think, a tribute to the importance of your Society that to-night, in connection with this great national effort, I should feel it a duty to place so high the services which you can render towards the achievement of that effort. I toast

your Society, coupling with it the name of your President, Dr. Charles Porter."

The President, in response, said that it would be the wish of those present to say how proud the members of the Society felt to have Sir Hilton Young with them that evening, and to accord both Lady Hilton Young and himself a very warm welcome. As all were aware, it had been hoped that there would have been present two distinguished guests. Her Royal Highness the Princess Louise, Duchess of Argyll, who had never been to a public dinner, had looked forward to making that occasion her first appearance, but on medical advice had been compelled to remain away. He assured the guests that no one regretted that absence more than the Princess herself. She would have appreciated fully the moving words which had fallen from the Minister of Health on the subject of housing. Before entering the room Miss Pennefather, who would have been in attendance upon Her Royal Highness, had handed to him a message. The communication, addressed to Dr. Porter, read as follows:—

KENSINGTON PALACE,
W.8.

DEAR DR. PORTER,

I was expecting to be with you this evening, but have, alas, now to resort to sending you these lines instead, as I am advised not to undertake any official engagements for the present.

I have for many years past watched the enormous strides the Society of Medical Officers of Health has made, and it is with much pleasure that I have done so.

I would wish, had I been present to-day, to propose the health of the Society, and congratulate it and its members on their wonderful achievements.

There was no organised body for the assistance of the people until in Queen Victoria's and my father's days they first insisted on the formation of a Society, and in accordance with their wish, a Society was instituted.

The wonderful power which your Society has now obtained for the health of this country has extended to bring about co-operation with the Dominions, and all over the world for the promotion of hygiene and preventive medicine.

You have been entrusted with the establishment of the school medical service and the maternity and child welfare service, and other measures securing the health and happiness of the people.

In fact, we now live in the new era of preventive medicine. And I feel I may most heartily congratulate you all on your wonderful and extensive work.

I do not enumerate all your aspirations and achievements towards this end, as they are so universally evident.

One thing I would venture to lay stress on is the enormous importance of *thoroughness* in the training of the teachers, and of *their power thoroughly* to imbue the children—the parents of the people of the future—with the advantages of hygiene for their own sake and those who are to follow.

I want to congratulate you, Dr. Porter, who hold the office of President of a Society which has within its ranks such famous sanitarians and benefactors of our nation's health, and who have all the various branches of hygiene so near at heart.

May He who guides your efforts ever bless your work.

Ever yours truly,

LOUISE.

November 23rd, 1933.

The President said that the members would doubtless wish him to ask Miss Pennefather to take back with her their sincere thanks for the very kind and heartening message which Her Royal Highness had sent to them. Their other chief guest was their chief—the Minister of Health. He had found that the housing of the people needed attention, and had put his hand to the plough, and was going to see that the slums were cleared. Medical officers of health were with him in the task. It was doubtful if the Minister realised just how important the medical officer of health was in that connection, and what that official had to go through in the process of attempting to rid his area of slum property. The members of the Society were proud to bear a share in the campaign, and he asked them to drink to the health of Sir Hilton Young, the Minister of Health, and to the success of the work of slum clearance into which he had thrown himself so whole-heartedly.

The toast was accorded with great enthusiasm.

Dr. James Fenton, in proposing the toast of "The Guests," said that the Society had complimented itself on having elected as President, Dr. Charles Porter, who had been able to attract to the dinner, and to take part in the affairs of the Society, so many distinguished visitors prominent in public affairs. The Society extended a specially warm welcome to Sir Hilton Young, who had gained a great reputation at the Ministry of Health and in other high offices he had held. He was to be congratulated on the enthusiasm and the energy he had displayed in launching his great slum clearance campaign. He had said that medical officers of health were the spearheads in that drive. If, at the end of the five years'

programme, the Minister was not completely satisfied with the results, it would not be for want of effort on their part. There was no less pleasure in seeing Lady Hilton Young present. In an entirely different sphere she had won a high place in their hearts. A cordial welcome was assured to the Countess of Limerick and to Lord Balfour of Burleigh, who attended in his capacity as President of the Royal Sanitary Institute, a sister body with which the Society of Medical Officers of Health worked in close co-operation. The Countess of Limerick and Lord Balfour of Burleigh happened to occupy the chair of the public health and housing committees, respectively, in Kensington. Both were known to be ardent workers in the realm of social welfare and on behalf of the public health, though they regarded their work from different angles. Lord Balfour of Burleigh aimed at an unlimited supply of new houses at low rentals: the Countess of Limerick believed in a limited supply of new babies at long intervals. As medical officer of health of the borough, he was in the unenviable position of umpire in the struggle of rent control *versus* birth control, and such was the keenness of both protagonists that he scarcely knew which side was winning. The Society delighted to welcome once again Sir Arthur Robinson, who had honoured the members by coming to the dinner year after year. Medical officers of health were particularly happy in the knowledge that if they had a good cause to put forward, they were sure of a fair and sympathetic hearing at the Ministry. They placed great confidence in Sir Arthur's guidance. It was a great privilege also to have present the recognised leaders of the art of healing, amongst them Sir Holburt Waring, whose magnificent work in connection with the London School of Hygiene and Tropical Medicine had done so much to make it the foremost institution of its kind in the world; Mr. J. S. Fairbairn, F.R.C.S., F.R.C.P.; Mr. Warren Low, F.R.C.S.; Lieut.-Col. C. T. Samman; Sir Frederick Hobday; and Miss Musson, who attended the dinner for the first time, and to whom the Society owed thanks for her work in relation to the training of nurses and health visitors in particular. Another group of visitors heartily welcomed were those from St. Marylebone, headed by the Mayor (Alderman Fettes) and including Councillor Ramsay, Dr. Reginald Graves, and others. Their presence was interpreted as evidence that in St. Marylebone their President was held in esteem as high as

that entertained for him in the Society. Dr. Fenton finally extended a warm welcome to the ladies who had honoured the Society by their attendance, and paid a graceful tribute to Mrs. Charles Porter, whom they delighted to see in a position which they all knew she would occupy with distinction and honour to the Society.

Sir Holburt Waring (President, Royal College of Surgeons), in the course of his reply, referred to the London School of Hygiene and Tropical Medicine with pardonable pride. He considered it the finest built and best equipped, both as regards plant and personnel, of any professional educational institution in this country. With the frequent mention of preventive medicine, it had occurred to him that certain types of operation might well be considered in the light of preventive surgery. In regard to the housing question, he suggested that it was the duty of the Minister of Education to provide, in the elementary schools, adequate instruction for the youth of the nation who were the householders of the future, in order that full and proper use might be made of the new housing accommodation. In the schools very little had been done to inculcate the basal principles of health, *i.e.*, an understanding of biology in its widest sense, and in the application of such principles to personal hygiene.

Alderman John Fettes (Mayor of St. Marylebone), in thanking the Society for its hospitality, referred to the extraordinarily good work that Dr. Porter had done in St. Marylebone ever since his appointment as medical officer of health of the borough. The public health committee had been greatly impressed by his admirable views on many subjects affecting the public health, and his efforts on behalf of the health of the people had received wide recognition. Indeed, in every district the ratepayers owed a great debt of gratitude for the valuable work of the public health department. St. Marylebone had been proud that the Society had elected Dr. Porter to the important office of President.

Miss E. M. Musson (Chairman, General Nursing Council), said she regarded it as a great honour to be invited to join in the response to the toast. The General Nursing Council were most anxious to help in the provision of well-qualified health visitors. In connection with the re-organisation of large numbers of hospitals it was impossible to turn out

nurses trained in one speciality only. The medical officer of health of one county borough had tried an amalgamation between the general hospital and the fever hospital, so that nurses could obtain fever experience during the course of their training. She suggested two ways in which hospital authorities could help the nursing profession: (1) by tightening up the standard of education of entrants; and (2) by redressing the balance between trained and untrained personnel.

Captain G. S. Elliston claimed that he was exceptionally well qualified to propose the toast of "The Chairman." Very few people had been associated with Charles Porter so long as he had. Almost 25 years ago they had worked together, and since that time they had been constantly associated in every movement connected with the public health service. Although Dr. Porter might reproach in public, he never bore malice afterwards, but often contrived to work in a little paragraph in one of his journals in the form of a compliment to the person reproached. In the Society, Charles Porter had a reputation as a die-hard, and was averse to changes of a reactionary nature. Yet in his own health department he had always been a pioneer, and had shown the way to his colleagues in the public health service on a dozen different occasions. It was a great privilege for the Society to be honoured by a man of the calibre of Charles Porter, who now held a position which any member of the service must be proud to occupy. The Society was over 75 years old, and had had as President many distinguished men, amongst them Sir John Simon (Medical Officer of Health of the City of London), and, in later years, Shirley Murphy, John Robertson, Hope of Liverpool, Chalmers of Glasgow, and a host of others from all parts of the country, who had done much to establish preventive medicine in the position it held to-day. There was no doubt whatever that in 10, 20, 30 years' time, members of the Society would be talking of Charles Porter as one of the great figures in public health; of his work as a teacher, not only at the Royal Sanitary Institute, but at the London School of Hygiene and Tropical Medicine; as examiner and lecturer, orator and writer. He had been delighted to hear Dr. Fenton refer so kindly to Mrs. Porter. No man could be a good President unless he was well supported in his work. As mentor, editor, teacher, examiner, "real" doctor and

good fellow, he asked the guests to drink to the health of "The Chairman."

The President, who, on rising, received a great ovation, replied in a graceful little speech. Twenty-five years ago, George Elliston and he had embarked on a journalistic enterprise in Leeds. The publication—now well known throughout the public health service—appeared weekly at first, but in a wave of enthusiasm it was decided to make it a daily journal. It came out regularly each morning that week, but reverted to a weekly appearance, and since then had not looked back. Dr. Porter warmly thanked Captain Elliston and the many members of the Society who had supported him that evening.

Some excellent card tricks performed by Mr. Lionel King provided entertainment and amusement for the company, and contributed to the success of an enjoyable evening.

COUNCIL MEETING.

The first meeting of the Council appointed for 1933-34 was held at the house of the Society on Friday, November 24th, 1933, at 2 p.m.

The President (Dr. Charles Porter) was in the chair, and there were also present Drs. T. W. N. Barlow, Vynne Borland, G. F. Buchan, Ethel Cassie, J. A. Charles, R. Veitch Clark, James Fenton, James Ferguson, C. E. Herington, W. W. Jameson, Alex. Joe, R. H. H. Jolly, G. W. N. Joseph, James Mair, H. J. Milligan, W. A. Muir, E. H. T. Nash, Thomas Orr, G. H. Pearce, R. M. F. Picken, T. N. V. Potts, E. H. Snell, V. F. Soothill, J. A. Stirling, D. J. Thomas, A. G. G. Thompson, Ernest Ward, H. Gibbons Ward, R. H. Wilshaw and F. T. H. Wood.

Before proceeding to business, the President welcomed as new members of the Council Drs. Borland and Thompson (Met. Branch), Dr. Orr (Home Counties), Dr. Cassie (M. and C.W. Group), and Dr. Ferguson (elected under Article 19).

The minutes of the last meeting having been approved and signed, apologies for absence were received from Sir Francis Fremantle, Drs. J. J. Buchan, A. S. M. Macgregor, W. Paterson and P. H. Stirk.

The Advisory Committee on Nutrition.—A letter was received from the Secretary to the Advisory Committee on Nutrition, conveying

the thanks of the Minister of Health for the valuable services rendered by the Society's representative, Dr. G. F. Buchan, since the setting up of the Committee. The Minister had decided to reconstitute the Committee for a further period of three years, and requested the Society to nominate a representative for this period.

The Council warmly thanked Dr. G. F. Buchan for his service on the Committee and unanimously nominated him to continue as the Society's representative for the next three years.

Direct Presentation of Cases by Local Supervising Authorities before the Central Midwives Board.—A letter was received from the Association of Municipal Corporations stating that representations had been made to the Ministry of Health in accordance with the following recommendation adopted by the Association's Council:—

"*Midwives. Conduct of Cases.*—We have received a communication from the Society of Medical Officers of Health in reference to the procedure before the Central Midwives Board on the consideration of charges made by local supervising authorities against midwives. The Society are of opinion that the rules of the Central Midwives Board should be altered so as to permit local supervising authorities, should they so desire, to undertake the direct presentation of cases to the Board. The County Councils' Association concur in this opinion, and we recommend the Council to express their concurrence therein and to make a representation to the Ministry of Health accordingly."

Life Membership.—The Metropolitan Branch unanimously recommended the Council to accord to the following members the status of Life Fellows, namely, Dr. George Millson, O.B.E., a former Hon. Treasurer and Trustee of the Society, and Dr. A. Wellesley Harris. Both these gentlemen had been subscribing members for more than 40 years.

The Council unanimously accepted the recommendation of the Metropolitan Branch.

Report of the General Purposes Committee.—Dr. G. F. Buchan, presenting the report and recommendations of the General Purposes Committee, asked the Council to note that the meeting held on November 3rd, had been constituted of members elected for the previous session, there having been at that time no meeting of the Council for the current session, and to confirm the validity of the report and recommendations now submitted.

The Council agreeing to this request, the report was received and adopted as follows:—

Society of Veterinary Officers.—A letter was received from Mr. L. E. Perkins, F.R.C.V.S., Hon. Secretary of the newly-formed Society of Veterinary Officers appointed in a whole-time capacity by local authorities, setting out its aims and objects and expressing the hope that there would be co-operation with the Society of Medical Officers of Health in matters of mutual interest.

The Committee instructed the Executive Secretary to send an invitation to the Annual Dinner to the President of the new Society and ask the Council to confirm their action. In view of the facts that the Executive Secretary had in May last suggested to public health veterinary officers that they form a Group within the Society of Medical Officers of Health, and further that 17 veterinary officers in the West Riding of Yorks are already Associates, the Committee also recommend that the President, the Chairman of the General Purposes Committee, Drs. John J. Buchan and Ernest Ward and Major Rabagliati be authorised to discuss the question of a Group with the President and Hon. Secretary of the new Society on an early suitable occasion.

Maternal Mortality.—The following resolution was received from the National Council of Women who request the Society's favourable consideration of it:—

"The National Council of Women consider that all possible action should be taken throughout the country to reduce further the rate of maternal mortality and to lessen the ratio of maternal morbidity. It urges all Branches and Affiliated Societies to persuade expectant mothers to avail themselves of the facilities for ante-natal treatment, and, later, of post-natal medical advice, where provided by their Local Authorities or otherwise, and to report to the Ministry of Health and to the Local Authority where facilities for either ante-natal or post-natal care are not available in their areas.

"And this Council further requests His Majesty's Government to have the rate of maternal mortality in each locality printed in the Quarterly Return of the Registrar-General."

The Committee recommend that the Council reply that they support the views expressed in the first paragraph, but that the second suggestion is not of any real value, e.g., in towns of less than 100,000 with less than 1,500 births annually, quarterly figures of maternal deaths would give a misleading impression to the public.

Complaint regarding a matter of Professional Etiquette.—The Committee considered a correspondence which had passed between two Fellows and which had been referred to the Society by the complainant.

The Committee think it undesirable to assess the responsibility for an unfortunate incident. As it would be most regrettable that such a matter should cause ill-feeling between colleagues they recommend that the President be asked to meet the medical officers of health concerned and to promote a friendly settlement.

Termination of the Appointment of a Fellow of the Society.—An Assistant Medical Officer in a health department, wrote to report that she had been asked to seek another appointment, and was informed that

she would be expected to leave on December 31st, even if she had been unsuccessful in finding another post. The only reason given was strained relations amongst the hospital staff, of which the lady in question is resident medical officer. She stated that she had placed the matter before the local Division of the British Medical Association, the Medical Defence Union and her own solicitors. The Executive Secretary was instructed to reply to this lady that the Society thought it better not to take any action except at the request of her own legal advisers, and so far there had been no communication from them.

It was now reported that a satisfactory solution to this case was hoped for.

Training Courses for and Supply of Health Visitors.—The Committee received memoranda drawn up by the Joint Committee of Training Institutions for Health Visitors as follows:—(1) Report on Supply of and Demand for Health Visitors, (2) Survey of Syllabuses of Courses of Training for Health Visitors. The first memorandum set out figures comparing the numbers of Health Visitors and the posts available for them over a period of years, leading to the conclusion that there was at present an over-supply. The second memorandum surveyed the present syllabuses and included a recommendation that the Minister of Health be asked to consider (1) the relative value of the various types of training now in existence with special reference to duration and allocation, and arrangement of time for practical and theoretical work and to the various subjects in the syllabus; (2) the possibility of interpreting the words "previous education" in Memorandum 101/M.C.W. as to the possession of an educational qualification not lower than that of the school leaving certificate. The general suggestion of the memorandum was that the number of entrants to this calling should be reduced by increasing the educational standard demanded and the difficulty of the examination.

The Committee recommend that the Joint Committee of Training Institutions be informed that the Society are of opinion that there is not yet sufficient experience of the working of the present system to justify representation for alteration being made to the Minister of Health.

Teaching of Obstetrics.—A letter was received from the British Medical Association asking if the Society had yet the information which had been asked for in regard to the above. In this connection, the Executive Secretary reported that the College of Nursing had been considering the midwifery aspect of the training of health visitors since their conference with the Society. The College now replied that they could not see that it was desirable that there should be any modification of the rule by which public health nurses hold the certificate of the C.M.B. They still, however, had the matter under consideration, in view of the possibility of the C.M.B. introducing a lengthened course. We have deferred further consideration of this subject pending receipt of the draft new Rules of the Central Midwives Board.

Refund of Loan to North-Western Branch.—The Hon. Treasurer reported that he had received a cheque for £13 7s. 1d. from the Hon. Treasurer of the North-Western Branch in payment of the balance

of a loan of £23 7s. 1d. made to the Branch during the session 1923-24. The Hon. Treasurer stated that he had expressed thanks for this repayment, which the Committee heartily endorsed.

Questions in regard to the Salaries Memorandum.—A letter was received from the Eastern Branch drawing attention to the fact that medical officers of health who do not accept and support the salaries' recommendation memorandum are still permitted to remain members of the Society. It was pointed out by our Committee that this statement only applies in very few instances where there has been a special arrangement made between the authority concerned and the B.M.A.

The Hon. Secretary, Eastern Branch, also inferred that the medical journals accepted from local authorities, who already have in their employ medical officers of health receiving salaries below the scale, advertisements for new posts which do not conform to the scale. The Executive Secretary had already replied that he was not aware that this had happened and that he would be glad to have information of any such case. The medical press always refused advertisements even if the salary offered was according to scale if any serving officer of that local authority were not receiving the agreed scale.

A letter was also received from the Yorkshire Branch pointing out that the action of the Society and the B.M.A. in blacklisting certain appointments might eventuate in officers who had previously accepted irregular appointments and had not been admitted to membership of the Society or the Association for that reason, receiving the benefits of the scale. The Committee discussed this point at some length, but felt that there was no alternative method of pressing recalcitrant authorities to accept and apply the memorandum of recommendations.

Draft Medicines and Surgical Appliances (Advertisement) Bill.—The Committee considered the new Draft Bill which was forwarded by the Parliamentary Committee on Food and Health, and recommend that Dr. Charles Porter (President) and the Executive Secretary, who attended the previous conference, be asked to represent the Society at any further conference convened by the Parliamentary Committee.

Food Law.—The Committee had before them Dr. W. G. Savage's memorandum with regard to the present Food Laws; also a memorandum of evidence presented by the Scottish Branch of the Society to the Departmental Committee. Further communications in this connection had been received from the Association of County Medical Officers, the Association of Municipal Corporations, and the Federation of Grocers' Associations.

The General Purposes Committee appointed Drs. W. G. Savage, Charles Porter, James Fenton and Prof. R. M. F. Picken as a Sub-Committee to go further into the question of the Society's memorandum and concurrently to report on the question of moisture in bread, referred to the Society by the Association of Municipal Corporations.

Hygiene of Ships.—The Executive Secretary reported that he had referred the letter forwarded by Dr. J. Howard-Jones to the September meeting of the Council to the Secretary of the Association of Port

Sanitary Authorities, who had replied that the Association had been dealing with the hygiene of crews' spaces for some years and had been in constant communication with the Board of Trade, with the result that various improvements had been brought about. He would send further details of the Association's efforts in this direction towards the end of November.

Recruitment and Resignations.—The Executive Secretary reported that there were 26 elections to the Society at the last general meeting and that 7 were awaiting election at the November meeting.

With regard to resignations, analysis of the last 53 received showed the following reasons:—Retirement from public health work (19), ill-health (1), financial (5), inability to attend meetings, appointments overseas, etc. (14), no reason given (19). As a matter of routine a letter is sent to every resigning member asking him to reconsider his decision.

Payment of Expenses of Public Health Service Representatives at the Annual Representative Meeting of the B.M.A.—The Committee considered the proposal referred to them from the last Council meeting that the Society should pay part at least of the expenses of the above. The Committee regret that they are unable to recommend any action in this matter in view of the fact that the Society's travelling expenses are already high, and also that the public health service representatives are not direct representatives of the Society of Medical Officers of Health.

Neech Prize Regulations.—The Committee recommend the following amendments to the regulations for the Neech Prize (see page 9, ROLL OF MEMBERS):—Rule 2—include the words "and Group" after Branch; Rule 3—No such paper shall be eligible for award unless it appears in PUBLIC HEALTH or two printed or typewritten copies are sent to the Executive Secretary of the Society; Rule 4—to include "and if in any one year no prize shall be awarded all or part of the amount may be added to the prize in any following year or years at the discretion of the assessors"; Rule 10—"The successful paper if it has not already been published shall be offered," etc., etc. The Executive Secretary was instructed to write to Dr. Neech reporting the suggested modifications of the rules.

Case of Deputy M.O.H. asked to seek another appointment.—(See Minutes of Council, PUBLIC HEALTH, October, page 23.) The Executive Secretary reported that the Deputy M.O.H. in question was still in residence at the borough hospital pending consideration of a letter from the solicitors of the London and Counties Medical Protection Society asking what compensation would be offered him for the loss of emoluments.

Methods of making appointments in the Public Health Service.—Prof. R. M. F. Picken in collaboration with Prof. W. W. Jameson, was asked to prepare a memorandum for consideration by the Committee on this subject.

Sub-Committee on the Cost of Hospitals and Institutions.—Dr. Barlow reported that the Sub-Committee had held a meeting and were considering the material presented by various members.

Appointments of M.O.H.—Portsmouth and County M.O.H., Dorset.—It was reported that an agreement

had been reached with the Portsmouth Council regarding the terms of appointment of the Medical Officer of Health. It was also reported that the Dorset County Council had decided to apply the memorandum of recommendations both to their Medical Officer of Health and to all the medical staff in the department. The advertisement had, therefore, been revised and would be accepted by the medical journals.

Society's Securities and Accounts.—The Hon. Treasurer reported that a meeting of the Trustees had verified the Society's securities and the Auditor's certified copy of the Balance Sheet for 1932-33. They also recommended for confirmation accounts paid by the Hon. Treasurer since the statement made on July 7th, and these were passed by the Committee.

Election of General Purposes Committee, 1933-34.—The following were elected members of the General Purposes Committee for 1933-34: The President, Vice-Presidents, Hon. Treasurer and Editor (*ex-officio*), Drs. T. W. N. Barlow, R. H. H. Jolly, G. W. N. Joseph, James Mair, H. J. Milligan, Prof. R. M. F. Picken, Drs. Ernest Ward, H. Gibbons Ward, F. T. H. Wood.

Representation of the Society.—The following were appointed to represent the Society for the year 1933-34:—

Central Council for Health Education: Dr. James Fenton, Prof. H. R. Kenwood, Drs. G. F. Buchan, Ethel Cassie, W. A. Daley, Prof. W. W. Jameson, Dr. J. Macmillan, Lt.-Col. G. S. Parkinson, Drs. C. Porter, Maitland Radford, W. G. Savage, E. Ward, H. Gibbons Ward, F. T. H. Wood, Capt. G. S. Elliston, M.P.

R.S.I. and Sanitary Inspectors' Joint Board: Drs. T. W. N. Barlow and R. H. Wilshaw.

The Executive Secretary was instructed to refer enquiry regarding the representative on the Public Health and Child Welfare Committee of the National Council of Women to the M. and C. W. Group.

The Advisory Committee on Salaries of Public Health Medical Officers.—Dr. H. J. Milligan reported concerning the last meeting of the above Committee.

Revision of the Society's Constitution.—The Council gave consideration to the position with regard to the Society's constitution arising from the decisions of the Extraordinary General Meeting of May 19th last, to which had been submitted the amended Articles of Association. The Extraordinary General Meeting had adopted the Articles submitted with the exception of Articles 3 and 19 (paragraphs c and d).

The Council had before them the following resolutions passed on May 19th:—

"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."

"That paragraphs (c) and (d) of Article 19 be referred back to the Council of the Society for further consideration."

On the submission of these resolutions to the Extraordinary General Meeting a prolonged discussion had taken place. The Council were of opinion that in the present name of the Society there had been established, through long usage, an interest which a new name could not immediately acquire for the Society. The Society of Medical Officers of Health was founded in 1856, and the Council did not consider that to change the name at this date would give any corresponding advantage to the Society.

It was further pointed out that the Medical Officership of Health was generally regarded as an office of importance which carried considerable prestige. The use of the name "Medical Officer of Health" in the title of the Society, in the opinion of the Council, gave prestige to the Society which they did not think would be given by any other name yet submitted.

It was also pointed out that nearly all departmental officers, whether actually Assistant Medical Officers of Health or not within the meaning of the memorandum of agreement on salaries, actually used the title Assistant Medical Officer of Health in their applications for posts as Medical Officers of Health, and that generally the utilisation of the name "Medical Officer of Health" appeared to be one which was favourable to the Society and its members.

With regard to the matter of increasing Group representation and omitting general representation as provided for in Article 19 (paragraphs c and d), the Council were of opinion that the Articles as drafted were eminently fair to all members of the Association, and that the implied suggestion that members of Groups should have a multiplicity of votes is not in the general interests of the Society.

In all these circumstances, the Council

resolved to report back to a further Extraordinary General Meeting in favour of the retention of Article 3 and Article 19 (c and d) as originally presented.

The Council subsequently instructed the General Purposes Committee to make the necessary arrangements for the submission of these Articles to a further Extraordinary General Meeting.

Memorandum Circulated to Local Authorities by a County Branch of the B.M.A.—The Council instructed the General Purposes Committee to report on a memorandum *re* Staffing of Public Medical Services circulated by a Branch of the B.M.A.

The meeting then adjourned.

ORDINARY MEETING.

An ordinary meeting was held at the Society's house on Friday, November 24th, 1933.

The President (Dr. Charles Porter) was in the chair, and there was an attendance of about fifteen members.

Minutes of the last meeting having then been approved and signed, the following candidates were duly proposed and seconded and elected to membership of the Society.

Fellows.—

Anderson, Christine Main, M.B., CH.B. (GLAS.), D.P.H.; Becker, Rosie Beatrice, M.D., D.P.H. (LEEDS); Emslie, Ethel Richmond, M.D., D.P.H. (ABERD.); Fulton, Annie A., M.B., CH.B., D.P.H. (ST. AND.); Goodman, Neville Marriott, M.D., CH.B. (CANTAB.), M.R.C.S., L.R.C.P.; Orr, Enid Anne Campbell, L.R.C.P. & S. (EDIN.), D.P.H.; Slater, Walter Sunter, M.B., CH.B. (MANCH.), M.R.C.S., D.P.H., L.R.C.P.

An application by Mr. J. Sim Wallace, D.Sc., M.D., C.M. (GLAS.), L.D.S. (ENG.), an Associate of the Society, to become a Fellow, was unanimously accepted by the meeting.

A number of names was received for the next election.

There followed a discussion on "The Responsibility of the Local Authority towards the Blind," opened by Dr. E. K. Macdonald, Medical Officer of Health, Stockport C.B., who read a concise, interesting and comprehensive paper on this subject. Among those who took part in the ensuing discussion were the President, Drs. T. Ruddock-West, V. F. Soothill, R. Veitch Clark and Prof. R. M. F. Picken, of whom the two latter moved and seconded a very hearty vote of thanks to Dr. Macdonald. A full report of the paper and discussion will appear in an early issue of PUBLIC HEALTH.

Central Council for Health Education.

SIXTH ANNUAL CONFERENCE.

THE Sixth Annual Health Education Conference, arranged by the Central Council for Health Education, was held on Thursday, November 23rd, 1933, in the Lecture Theatre of the London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C.1, where there assembled delegates representing county councils, county borough councils, municipal corporations, metropolitan borough councils, urban and rural district councils, education committees, insurance committees, friendly and approved societies, affiliated health associations, and other bodies engaged in the work of health education.

"THE EDUCATION OF PUBLIC OPINION IN REGARD TO THE HOUSING PROBLEM."

The Right Hon. Sir Francis Dyke Acland, Bt., D.L., M.P. (President of the Conference), in his opening address, said he was glad, as Chairman of the Dental Board of the United Kingdom, to be associated with the Central Council for Health Education, whose work he fully appreciated. He also welcomed the opportunity as a member of the Moyne Committee and Chairman of the Housing Committee of the Devon County Council, which had carried out a fifth of the whole work in the country in the matter of reconditioning of rural cottages, of being present at a discussion of the housing question. After referring to the present shortage of something like 850,000 houses, he said that local authorities should be able to charge a rental considerably less than that of houses provided by private enterprise, owing primarily to the fact that the councils could spread borrowed money over a much longer period than was the case with building societies. Whereas private enterprise could provide houses at 11s. 6d. per week, excluding rates, local authorities should be able to let at 10s. per week, including rates, provided, amongst other things, they had access to money on the cheapest terms available to the government. He was glad to see reference to reconditioning of property in the King's speech, which it was to be hoped would mean that the government were going to legislate on the lines of the Moyne Report. In the education of public opinion it had to be borne in mind that the housing problem was not in any way a uniform one. Not only was there a difference between town and

country, but between London and most other great towns and cities, and even in the different parts of a rural county. The question of transport also entered largely into the problem. The Devon County Council had succeeded, before the subsidy was withdrawn, in building cottages to let in some villages at 4s. 6d. per week, thus bringing them reasonably within the reach of the ordinary agricultural worker. That had been possible only because in other villages, where there were industrial activities, a rent of 7s. could be charged.

Lord Balfour of Burleigh also referred to the danger of generalisation in regard to housing. Differential rents, to the discussion of which a whole session could be devoted, afforded a method possessing many advantages in the provision of housing accommodation in an area. Public opinion on the question of housing was only now waking up, and the value of such opinion could be taken for granted. As Chairman of the Housing Committee in Kensington, he referred to the determined way in which the problem was being tackled in that borough, where it was proposed to rehouse more than 4,000 people. Close co-operation existed between the borough council and the local housing societies, and great assistance was also rendered by the London County Council. Though beset with many difficulties, the work of the medical officers of health was largely responsible for the enlightened public opinion of to-day, and to them the nation would look for the continued education of the people. He held that it was a mistake to show undue leniency to the small owner, whose property frequently became worthless through neglect. If the local authority were firm at the outset, he would be pushed out before he had lost all the investment value of his property. The small owner was not a suitable person to own working-class property. There had been a good deal of experience in Kensington with regard to work under Section 17 of the 1930 Act. Before resorting to that Section, however, many conditions could be dealt with adequately under the Public Health Act. At the same time, owners were given to understand that if they continued to botch and patch up property, they would eventually receive a comprehensive notice under Section 17. Action along those lines had tended to raise to a remarkably high

level the standard of working-class property in Kensington. He shared the hope of the Chairman that legislation on the lines of the Moyne Report would be passed. There was a real gap in the government's housing programme which could be filled by work through machinery such as that recommended by the Moyne Committee. It should not, he thought, be assumed that such action would cut across the local authority. On the other hand, the whole scheme would be operated through and with the co-operation of the local authority, and the medical officer of health keen on housing would find in it a weapon to enable the local authority to proceed with the provision of decent homes at rents which poor people could afford to pay. Any doubts as to the value of reconditioning, if done on the right lines, would be dispelled by a visit to certain streets in Kensington.

Lord Balfour of Burleigh added that he could find no more fitting conclusion to his remarks than by quoting from an early edition of "Oliver Twist," in the preface of which Charles Dickens, himself a great social reformer, said:—

"I was as well convinced then as I am now that nothing effectual can be done for the elevation of the poor in England until their dwelling places are made decent and wholesome. I have always been convinced that this Reform must precede all other Social Reforms; that it must prepare the way for Education, even for Religion; and that, without it, those classes of the people which increase the fastest, must become so desperate and be made so miserable as to bear within themselves the certain seed of ruin to the whole community."

Mr. H. R. Selley, M.P. (Chairman of the London County Council Housing Committee) said that during his ten years on the housing committee of the London County Council, there had been spasmodic starts and stops, but no continuity of policy in regard to housing due mainly to altered conditions of finance and the operations of various Acts and subsidies. Conditions were, however, gradually being stabilised, and he would not say that the money spent in the past on housing schemes had been wasted. While the great estates of the London County Council had been a substantial contribution to the housing needs of the people, they had not cleared the slums, and it was improbable that satellite towns ever would do so. Referring to the registration of tenement houses and the failure of certain metropolitan boroughs to register a single house, it was urged that the borough councils would have to do their job and see that over-

crowding did not recur in houses where it had once been relieved. There would probably be no difficulty in clearing up all the condemnable property in the south of London, but the problem in boroughs in close proximity to the City appeared to be almost insoluble. A certain proportion of the population would insist on living in a certain area for occupational or other reasons, and they refused to move from it. The human factor came largely into the question here, and if those people insisted on living in a particular area it would be necessary for them either to go up or get out. It might be found essential to build blocks of flats ten storeys in height. The east end of London presented a difficult problem also and, as in the case of certain other districts, not altogether a rent problem. Differential rents in London did not appear to be a practical proposition.

Dr. R. A. Glegg (Medical Officer of Health, East Sussex County Council), in an appeal from the æsthetic point of view, stressed the need for adequate control in regard to the type of house erected by private enterprise, in order that the countryside should not be disfigured by ugly and unsightly buildings.

Dr. Maitland Radford (Medical Officer of Health, Shoreditch), said the time had arrived when mobility should be regarded as a social service. The Shoreditch Borough Council had passed a resolution regarding the formulation of a scheme under which fares should be paid, wholly or in part, for people working in central districts and living in outer areas.

Mr. W. T. Creswell, K.C. (Royal Sanitary Institute), in referring to the valuable work of the public utility societies in providing housing accommodation for poorer people, explained that the societies were handicapped by the difficulty of obtaining money. In order to secure assistance from the London County Council it was necessary for the societies to go to one of the Council's cleared areas. The societies believed, however, that if the worker were displaced it was necessary to build for him on the spot, but it was useless to do so merely to make another slum in the immediate neighbourhood. That had been the tendency too long. Provision always seemed to be made for the working classes, but little had been attempted for the labourer and the "down and out." If consideration were given to the sanitary requirements of a building; to privacy between the sexes; to the provision of a good sitting or living room, and communal arrangements with regard to laundering, bathing, etc., a rent much less than 10s. per week could be charged. Much of the work of that kind had been carried out by public utility societies, but should have been done by the local authorities. Section 17 should be made use of to a greater extent because in many instances it was most difficult for the medical officer of health to prove that bad conditions were actually a nuisance or injurious to health.

Lord Balfour of Burleigh said that he agreed with Mr. Creswell that local authorities had not done enough to help the public utility societies. That was the very thing it was necessary to do, and the Moyne Report aimed at encouraging the movement throughout the country. With regard to rents it was not always possible, where land was so dear, to get them as low as they ought to be. Rent for the poorest meant a figure of not more than 3s. per room. As one solution of the difficulty he suggested that the London County Council should try the method of differential rents, which had been so successfully used in some districts. The London County Council estates were not satellite towns, but admirable suburbs. A satellite town implied the getting out of both industry and labour, and the making of a completely new town. If the London County Council had arranged a marriage between Becontree and Hayes, then there would have been an example of a satellite town. In the east end of London it was found impossible to rehouse entirely on the spot. In one area in Kensington, however, 191 families had been housed where 179 families previously resided, and without any overcrowding, thanks mainly to the work of women property managers.

Dr. J. T. Macnab (Medical Officer of Health, City of Stafford) dealt with the difficulties connected with overcrowding, and claimed that a legal standard, based preferably on floor space instead of cubic space, would strengthen the hands of the medical officer of health in dealing with the problem.

Dr. Norman Macfadyen (Medical Officer of Health, Hitchin Urban and Rural Districts), said that the decentralisation of the metropolis was necessary to the solution of the housing problem, and there was sufficient land round London on which to build ten good satellite towns. The people wanted a place to go to where they knew their needs would be met.

Alderman P. Bond (Borough of Willesden) enquired what was meant by education, whose opinion required educating, and who was going to do the educating. Housing legislation was far too complicated and hedged about by obstacles, and placed heavy burdens upon the local authorities. With regard to overcrowding, the main difficulty, once it was relieved, was to prevent a recurrence of the evil. The excessive cost of land in some instances emphasised the necessity for an alteration of the conditions governing the acquisition of sites for housing purposes.

Mr. A. E. Ruel (Assistant Administrative Officer, Public Health Department, Lambeth) disagreed with Alderman Bond's views on housing legislation, and referred particularly to Circular 1,138, relating to the 1930 Act. In Lambeth, 6,000 houses had been dealt with under the repair sections of the Housing Acts, and many improvements had been secured under Section 17 which could not have been obtained under the Public Health Act. Very few prosecutions had been found necessary. Instances of gross overcrowding were quoted but, it was pointed out, no magistrate would grant an order for abatement. At one enquiry it had been argued, unsuccessfully, that the infestation of premises by vermin was not injurious to health.

Dr. R. Veitch Clark (Medical Officer of Health, Manchester) urged the importance of spreading out the population horizontally as well as vertically. Though the provision of flats or tenements was a very essential part of the solution of the housing question, it was not the whole solution, and to refer to dwellings of ten storeys as rehousing was to deny to the occupants the ordinary reasonable domestic facilities and amenities. In Manchester, slum-dwellers had a choice of district to which they could transfer, and it was found that 96 per cent. of the people voluntarily removed into the estates, and that 70 per cent. of slum-dwellers were able to pay municipal rents.

Dr. J. H. Harley Williams (Medical Commissioner, National Association for the Prevention of Tuberculosis), dealt with the transport problem in relation to housing, and gave details of a system in which a car resembling a monoplane travelled with perfect safety at great speed on a single steel bar suspended above the existing railway line.

Mr. Selley, in reply, said that a question had been asked as to why, in the case of the Clarendon Street (Paddington) area, there could not have been a clearance scheme instead of an improvement scheme. When property still had a useful life of, say, 30 years, a great disservice would be done to housing if a clearance scheme were put into operation, the object being to secure better conditions at once. In regard to satellite towns, the London County Council had taken a long view where there was a possibility of industry following. In the case of the Becontree estate, for example, 8,000 people were engaged in the Ford motor-car works. The question of the mono-rail system of transport had been investigated by the County Council, and would continue to receive the closest attention.

Dr. Charles Porter (President of the Society of Medical Officers of Health) proposed, and Mr. Ernest C. King (Urban District Councils' Association) seconded a vote of thanks to the Chairman, to Lord Balfour of Burleigh, and to Mr. Selley, for the prominent part they had taken in a discussion of outstanding importance.

The expression of thanks was accorded by acclamation.

"THE MANAGEMENT OF WORKING-CLASS DWELLINGS."

Dr. James Fenton (Chairman of the Central Council for Health Education), in an opening address at the afternoon session, dealt with working-class dwellings and their management. He pointed out that the provision of satisfactory housing accommodation for the working classes became an acute problem in the middle of the last century. Amongst the reasons could be mentioned the country's commercial prosperity at that period, the grow-

ing demand for the nation's manufactured goods, and the development of the railways. Those factors brought workers in large numbers from the country districts to the towns. Hitherto, such local authorities as existed had not concerned themselves with the housing of the labouring classes, but public opinion now demanded action, and the first measure which enabled local authorities to deal with the problem was the Shaftesbury Act of 1851, which was called the Labouring Classes Lodging Houses Act. Further Acts were passed in 1866 and 1868. The later one was known as Mr. Torren's Act, and enabled local authorities for the first time to secure closure and demolition or repair of houses unfit for habitation. In 1875 and 1879, the two Richard Cross Acts were passed. These contemplated dealing with whole areas in which the houses were so structurally defective that nothing but demolition and reconstruction would suffice to secure a remedy. Further amending Acts were passed, but for various reasons failed to produce the results anticipated, and some were practically never put into operation. At first this was largely due to the apathy of local authorities; but later the mass and complexity of housing legislation contributed to that failure. Eventually the law was consolidated in the Housing of the Working Classes Act of 1890, which laid down the principles of slum clearance by local authorities. That Act was amended by others in 1899, 1900, 1903 and 1909. In the year after the war there were two Housing Acts, and further Acts were passed in 1923 and 1924. Housing law had again become extremely complicated and difficult to follow, with the result that all administrators welcomed the consolidating Housing Act of 1925. In recent generations the birth rate had decreased, but there had also been a considerable decline in the death rate, with the result that the population had continued to grow. Moreover, in the post-war period emigration figures had declined, and consequently there had not been that relief of congestion in this country which had existed previously. In addition, agricultural depression had brought more and more people to the towns. During the war all available men were engaged on active service, with the result that there were no new houses built, except in a few munition areas, and the repair and redecoration of working-class property was almost entirely in abeyance. In 1918, there were thousands of houses completely unfit for human habitation, but it was impos-

sible to close them because there was no alternative accommodation for people who would have been displaced. Thousands of other houses were rapidly reaching a state of dilapidation which would render them unfit. It might have been anticipated that on the termination of the war many new working-class homes would have been provided by private enterprise, but it was soon realised that the high cost of materials and labour would not enable an economic return to be obtained from the outlay of capital on the erection of working-class dwellings. Small owners who relied on the rents of working-class property for their incomes found repairs so costly, especially in houses neglected during the war, that proper attention would have absorbed their entire incomes. The government were compelled by those circumstances to encourage local authorities to provide dwellings for the working-classes. They accomplished this by offering to defray losses beyond a certain figure which local authorities might incur over a period of years in providing such accommodation. Subsequently, the government altered their system of grants in aid to an annual contribution of a fixed sum over a number of years in respect of each new house built for the working classes. That system of grants had the effect of inducing many local authorities to concentrate for the first ten or eleven years after the war on the provision of new housing accommodation; and the absence of grants in respect of demolition of insanitary houses, together with the shortage of housing accommodation, resulted in the problem of insanitary areas being to a large extent ignored. It had become clear three or four years ago that the houses provided by local authorities since the war were reducing the pressure on existing accommodation; and the government was able to introduce the 1930 Housing Act, which abolished grants in respect of the provision of new housing accommodation unless at the same time local authorities cleared insanitary areas. That Act provided for the payment of grants to local authorities in respect of the number of people displaced from slum areas, if an equivalent amount of new accommodation was provided. As a result of the new system of grants, and of pressure by the Ministry of Health, local authorities throughout the country were now engaged in their five years' programme of slum clearance and rehousing; but even if this programme was as successful as the keenest housing enthusiast

could wish, the housing problem would not be solved. The housing of the working-classes had baffled virtually every government in the last 80 years and would continue to be a problem for years to come. He believed, however, that it was one which would be considerably reduced if owners of all kinds could be made to appreciate that enlightened and sympathetic management could do much to prevent deterioration. Referring to the various types of owners of working-class property, there were the local authorities, the voluntary housing associations and public utility societies (such as the Peabody Trust, the Guinness Trust and the Sutton Trust, and the proprietors of Port Sunlight and Bournville), large private owners, and small private owners. Local authorities were gradually increasing their ownership of working-class dwellings. Many had not yet had much experience in property management, and were apt to regard it as quite sufficient to send a junior clerk from the town hall once a week to collect rents, and to report to the appropriate committee any requests for repairs which might have been brought to his notice. That was not management in the proper sense of the word, and if the practice was continued, local authorities would, in the future, find themselves owners of slum property. Secondly, there were the voluntary housing associations and public utility societies, who generally managed their property on sound lines. They gave little anxiety to the local authority, and could be regarded as model landlords. Thirdly, there were firms of builders who had erected, and were now managing, working-class property; many of them sent a clerk from the works office to collect rents once a week, and the person to whom the task was allotted was sometimes selected because he had a forceful character and could adopt an attitude which discouraged tenants from asking for repairs. Fourthly, there was the small owner, who was often the greatest problem of all, especially the man who lived in one of a small group of three or four houses which he owned and on which he depended solely for his income. All over the country there were men in business who had a little capital by the time they reached the age of retirement. They believed that they could get a better return on their capital from bricks and mortar than from any other investment. As an example, reference was made to a man who had about £1,000; he noticed for sale a group of working-class houses for, say, £2,000; perhaps the

rent-roll, after deduction of rates, would show a return of £200 a year, or 10 per cent. There were many cases where such a man would buy the property, on which he would spend his £1,000 savings and obtain a mortgage of £1,000 at 5 per cent. He anticipated that, after paying the mortgage interest of £50, he would have an income of £150 a year, on which he proposed to live. That £150 was his only income, and, unfortunately, he overlooked only too often that he should spend a not inconsiderable proportion of that income on repairs if his property was to retain its value and remain inhabitable. During the war period many of those small owners undertook very few repairs or none at all, and local authorities were reluctant to exercise pressure. As mentioned before, the cost of labour and materials in the immediate post-war period was so high, and the repairs and re-decorations necessary so considerable, that there were thousands of cases in which the entire income from the properties should have been devoted to renovations and re-conditioning. Moreover, the fixed income on which the owners were living had less purchasing power. Those factors created enormous difficulties for medical officers of health and the committees under which they worked. Many of the smaller owners were of an advanced age, and the enforcement of adequate repairs would have deprived them of their incomes and made them a charge on the poor law. It was often useless to point out to this type of owner that in time his property would become uninhabitable and would produce no rents, for he was generally hopeful that this time would not be during his life. Frequently, the small owner died without having repaid the mortgage, and left a widow whose only means of support was a row of dilapidated houses on which several years' income should be spent to render them habitable. In the many cases of this kind which came to his notice, the medical officer of health was well aware that if he did his duty the widow would become penniless. If, however, he hardened his heart, there were local authorities and magistrates who would hold their hands out in sympathy. Notices had often not been sufficiently comprehensive, and too frequently had been waived by local authorities; magistrates had been reluctant to make orders. All these factors had intensified the evils of disrepair, and many groups of houses, which to-day were slums, might have been saved if it had not been for the combination of cir-

cumstances during and immediately after the war. Local authorities must face the task more thoroughly than they had done in the past, and when a small owner was found to be neglecting his property, they should consider the ultimate public good and not hesitate to carry out necessary repairs under Part 2 of the 1930 Housing Act, and, if desirable, control the property on sound lines until their expenditure was recovered. In that way much housing accommodation could be preserved indefinitely. In some cases, the local authority had so increased the earning capacity of a house by those methods that they had been able to allow the owner a small sum weekly to live on, and still obtained such rents as enabled them to recover their expenditure in a reasonable time. There was a fifth type of owner to which reference must be made. The type had become more common in recent years. He was a smart, able man of business who very frequently had little experience of house property management; but he knew that legal procedure moved so slowly, and that the courts and local authorities were so inclined to be lenient to the individual, that it was possible to gain considerable profits from defective properties. He knew also that officers of a local authority must gather their facts accurately and, therefore, not hastily, and that notices must be correctly drafted and properly served. The officers must also be cautious not to overstate their case; if a mistake occurred the magistrates would rightly give a verdict in favour of the individual and against the local authority. All this care and attention to detail meant delay. Moreover, the individual must have the right of appeal to magistrates' courts, quarter sessions, county courts, the Ministry of Health, and so on, at every stage of the proceedings. As a citizen, Dr. Fenton agreed that the individual must be protected against the authority, who might be advised by careless or over-zealous officials, with the result that individual hardships might ensue. But those proper safeguards could be abused by the smart business man without conscience. He bought property which was almost uninhabitable and, in fact, he might be aware before he made his purchase that the local authority proposed to take action. It was the threat of action which enabled him to buy the property at a low price from a man who felt unable to face the expense of repairs or court appeals, etc. On acquiring the property, the new owner asked for extensions of time, and complained that he could not

obtain materials for repair work. With a view to delaying action by the local authority, he availed himself of every type of appeal. Incidentally, he did not hesitate on occasion to fall ill and ask for adjournments; and all the time he was extracting high rents and spending nothing on repairs. When able to evade the law no longer, he would dispose of the property. Those considerations led to the question of management of the property in the possession of the various types of owner to which reference had been made. As long as any type of owner regarded working-class houses as permanent structures which did not depreciate and which did not call for skilled management, the housing problem would remain acute, no matter how successful local authorities might be with the five years' programme. As slums were demolished and new houses were built, further slums would appear, and the government of the day would be just as far from a solution of the problem as they were 30 years ago. Lord Moyne's report had stated:—

"We are as much impressed by the need for improved management as for an improved standard of repairs. As is well known, this was the view taken by Miss Octavia Hill and her fellow pioneers when they first approached the problem some 70 years ago. It has often been said that a bad landlord makes a bad tenant, and the converse is not less true. The basic principle of Miss Octavia Hill's work is the mutual obligation and responsibility which must exist between landlord and tenant if good results are to be obtained. In her view, which we share, management lies at the root of the problem. A good standard of repair without good management is not enough, but in practice the two things normally go together. A good landlord does not wait for a notice from the local authority. Such a policy of management is shortsighted from the landlord's own point of view, and, in a time of housing shortage, inflicts an iniquitous degree of hardship on tenants who can find nowhere else to go. At the present time there are still too many private landlords who allow their properties to be mismanaged in this way, and too many local authorities who fail to enforce the law against them."

The report further stated:—

"We attach great importance to the employment wherever practicable, of properly trained house property managers. We have no wish to exclude from this service the employment of trained men, but management on the Octavia Hill system involves assistance to the housewife in a number of different ways, and we think that it is therefore desirable that women housing estate managers should usually be employed. The right kind of woman manager has a special aptitude for this class of work. Moreover, it will be appreciated that visits to the home are usually made when the husband is away at work."

Miss Octavia Hill commenced her work in St. Marylebone, and afterwards took up work in Kensington, which was for many years the centre of her activities. Since her death, the work had been carried on in Kensington by a group of women working under the control of Miss Dicken, who actually succeeded Miss Octavia Hill. They managed over 600 houses, with upwards of 6,000 occupants, in the poor district of Notting Dale. The houses provided accommodation for the poorest inhabitants of North Kensington. After watching Miss Dicken's work for the last 14 years, he could speak with confidence of the excellent results obtained. Since the war, there had been a growing mass of legislation in regard to food, infectious disease and many other matters, which had made it necessary for local authorities to appoint additional sanitary inspectors so that districts could be reduced in size. However, the sanitary inspector in charge of the Notting Dale area, in which the women estate managers were engaged, had recently had his district enlarged to nearly double the original size owing to the fact that more and more houses had gradually come under the control of the women managers, which had meant a consequent gradual reduction in the need for sanitary inspection. When the Kensington Borough Council handed over their working-class properties to the management of Miss Dicken and her colleagues in 1923, they became the first local authority in the country to adopt the Octavia Hill system. The women managers were engaged on a commission basis of payment, but subsequently other local authorities employed whole-time women property managers, and recently Kensington had adopted the whole-time system. Lord Moyne's Committee had reported that there was much to be said in favour of trained house property managers taking charge of working-class dwellings owned by local authorities. If deteriorating property with a life of 20 years was to be taken over and controlled by local authorities, as recommended by Lord Moyne's Committee, there would be an even greater scope for sound management on the Octavia Hill system. Also, if local authorities would resolve to repair property under the adequate and safe powers given them by the Housing Acts, there would be occasions when they would be required to take control, manage and collect rents from houses in private ownership, until the cost of repairs, with interest, had been recovered. In this case also, there was wide scope for sound management,

in the interests of the local authority, the private owner and the tenant. Furthermore, he believed there was room for the employment of trained managers in every large working-class area. They could be employed to manage property owned by public utility societies, and had indicated their willingness to take over and manage, on a commission basis, small groups of property in private ownership. It was a principle of the Octavia Hill system, but one which it had not been found practicable to apply widely hitherto, that a fixed percentage of the rent should be placed in a separate account to meet the cost of repairs, etc., and that at the end of the year any money left unspent should be used for the purchase of some useful domestic article selected by the housewife. That encouraged care on the part of the tenant; he would go even farther, and hand the money to the tenants to spend as they thought fit, for if they had been induced to use sufficient care to earn the money, they might be relied upon to exercise discretion in the spending of it.

Dr. Fenton referred to two great advantages, apart from the improved condition of the houses managed, which had accrued in Kensington as a result of the work of the women house property managers in that Borough. They worked in a district where there had been a great tendency for overcrowding to develop. After the war, there was much overcrowding in the houses immediately adjoining those managed by those ladies, but practically none in the houses managed by them. This was easily explained. If the population of the most overcrowded district in London was spread out evenly amongst the rooms available in that area, there would be no overcrowding in any individual room. That, of course, could not be followed, for it was impossible to split up families and move them about like pieces of furniture; the family unit was the basis of social life in this country, and must be preserved. But when a group of women property managers controlled some hundreds of houses they could eliminate overcrowding without splitting families. For example, in Notting Dale, when a man and wife were getting on in years and their children were marrying, the women managers arranged for them to move from their home to a smaller one, so that a young couple with a growing family could be given more adequate accommodation. Changes of that kind were being constantly effected to an extent which was

not possible when working-class dwellings in an area were managed by large numbers of private owners. Not only were private owners unable to move families about, but often they had no wish to improve conditions of occupation except such as would enable them to obtain higher rents. Again, in the last decade or so, the London County Council, the Kensington Borough Council and certain housing associations, such as the Kensington Housing Trust, the Sutton Trust and the Peabody Trust, had built many thousands of dwellings both inside and outside the district. Many of the people housed in the dwellings had removed from overcrowded homes in Kensington, most of them in private ownership, and unless some system of supervision had been introduced in the borough, the vacated rooms might have been re-let without any relief in existing overcrowding. In 1925, he was able to introduce a system of co-operation between the county council and borough council housing departments and the various housing associations on the one hand, and the public health department on the other, whereby any body owning a new house which was about to be taken over by a Kensington family, notified the medical officer of health in advance of the family's removal. This enabled that officer to approach the owner of the rooms to be vacated in order to ask him if he would accept a suggestion that his new tenants should consist of a family of a size which would not cause overcrowding. In many cases, it had been possible to offer the owner a family which had been living for some time under the control of the women managers and which was, therefore, to some extent trained in regard to the importance of care in the home. Co-operation in that way between the public health department and the women property managers had enabled a system of filtering-up and a chain of relief to be established. He could not claim there was no overcrowding, in the strict sense of the word, in his own district, but could say confidently that, apart from the new cases which arose week by week, he did not know of any overcrowding in Kensington which could be dealt with by existing law. He desired to mention that the existing laws and by-laws were not very stringent. There were many cases where, from the point of view of health, morality and so on, overcrowding did exist, but it was beyond the control of the local authority owing to the absence of adequate by-laws. Nevertheless, it was interesting to be able to report an absence

of overcrowding, in the legal sense of the word, in a central metropolitan area towards which there was an ever-increasing flow of people. This was attributed largely to two factors, namely, (1) the elimination of overcrowding in the houses controlled by women managers, as a result of the placing of families in the houses most suitable for their needs, and (2) the co-operation between the women managers and the public health department, which enabled the fullest possible use to be made of rooms in private ownership which were vacated by people moving into new accommodation. By devoted personal service, Miss Octavia Hill and those who had followed her had improved the property they had controlled, and also improved the tenants. His own experience led him to believe that an extension of this class of sound, sympathetic management would go a long way towards preventing a recurrence of the acute housing problem which had existed in post-war years.

"THE OCTAVIA HILL SYSTEM OF HOUSING ESTATE MANAGEMENT."

Miss H. Alford (Housing Manager for the Kensington Borough Council) as an introduction to her remarks, gave some interesting details of the life of Miss Octavia Hill, who was born in 1838, and was the granddaughter of Dr. Southwood Smith, who fought with Chadwick and Lord Shaftesbury for sanitary reform all through the 'thirties and 'forties of that century. The speaker described how the influence of Ruskin and her own ancestry combined to plunge her into the social problems of the day, and to convince her that social evils of all kinds were closely connected with bad housing conditions. In 1864, she persuaded Ruskin (who was a man of means) to purchase three cottages in Marylebone in order that she might manage them and collect the rents herself. Ruskin agreed to this on one condition—that she made it pay. He asked for a 4 per cent. return on his investment; actually he received 5 per cent. The cottages were in bad condition when she took them over, but by the weekly collection of rents and ordering of repairs she made friends with the tenants and improved both them and the property beyond recognition. As Ruskin had foreseen, the example spread rapidly, and at the time of her death in 1912, Octavia Hill's successors were managing not only the estates of many private landlords and philanthropic trusts, but also five large London estates of the

Ecclesiastical Commissioners, who had continued to entrust women with their working-class property as the leases had fallen in. Soon after her death, there came in also a great area of London property belonging to the Commissioners for Crown Lands. With regard to the post-war development of the work, the various managers had been consolidated into one body called the Society of Women House Estate Managers, which was responsible for the training of all future managers. The training consisted of (1) practical experience on at least two estates, of which one was municipal; and (2) a theoretical examination. Chesterfield appointed the first municipal manager in 1926, and since that time there had been many similar appointments, until the publication of the Moyne Report had made it difficult to keep pace with municipal enquiries. At the present time, the Society's members controlled a working-class population of about 125,000, with an annual rental of roughly £1,000,000, the greater part of the figures relating to municipal housing schemes. Dealing with the Octavia Hill system itself, Miss Alford said that it was not easily defined. It was primarily enlightened management with emphasis on the human side, and it sought to prove that the best interests of landlord and tenant were not in conflict, but lay in the preservation of the good name of the property. Both landlord and tenant must co-operate to this end: the tenant by proper house pride and punctual payment of rent, and the landlord by a personal knowledge of the needs of his tenants and strict attention to repairs. The system, therefore, involved the personal collection of rents and the personal inspection of repairs, and there followed, as a matter of course, two results, of which Dr. Fenton had spoken—the filtering up or down of tenants as they needed more or less accommodation, and the prevention of deterioration of the property. Apart from those fundamental aspects of the work, the system was an extremely adaptable one, a feature to which it undoubtedly owed its strength and its success, more particularly, perhaps, in connection with municipal administration. One of the advantages of the system to a local authority was that it centralised the functions of the various persons concerned in a housing estate, and resulted in great economy in administration. Among other advantages might be claimed low arrears of rent; economy in repairs (due mainly to careful record-keeping); the careful selection of tenants, and of caretakers and cleaners. Finally, the value of

the work of women managers was stressed in relation to clearance areas. By giving the manager control of the tenants of those areas before they were cleared, she had the opportunity of getting to know them, of becoming friendly with them, and of being able to decide as to the type of property to which they could best be moved. She was able to reward the good tenants, encourage the doubtful ones by giving them better accommodation, and scatter the worse ones in such a way that they found themselves among tenants with a higher (but not too much higher) standard than their own. In that way, time and money so often spent on legal disputes were saved, and there was avoided the resentment frequently felt on those occasions against the local authority. In the Moyne Report the following words of Octavia Hill were quoted:—"You can hunt the poor about from place to place, and out them out of one place and drive them to another; but you will never *reach* the poor except through people who care about them." Interpreting those words to-day, Octavia Hill would say that you might clear the slum areas and get full marks from the Ministry of Health, but that if all that had been done had been to get rid of the slum-dwellers to make another slum, time and public money would have been wasted without solving the problem. In conclusion, Miss Alford said: "We do, in her words, care about the people in the slums, and we do try to reach them, and although no one could arrogate to themselves unfairly success in such a difficult task, we do claim to do something without which all health education becomes meaningless, namely, to eradicate, as far as possible, the slum spirit."

The Countess of Limerick (Chairman, Public Health Committee, Kensington), in proposing a vote of thanks to the Chairman and to Miss Alford for their interesting papers, said she had nothing but wholehearted praise for the way in which the work was carried out by the women house property managers, and when it was fully realised what a tremendous boon they could be their work would be extended throughout the country.

Mr. Creswell, K.C., in seconding, quoted instances where women managers had been successful in bringing not only the personal touch into their work, but all the qualities which an agent should possess. His own experience was that women were exceedingly good at the business.

Dr. A. E. Remmett Weaver asked how many houses could be managed by a woman house manager, and what salaries the managers received.

Miss Alford, in reply to this and other questions, said that one manager could generally deal with

from 200 to 300 houses, but the number depended greatly on circumstances. Three hundred flats in centrally arranged blocks, for instance, might be no more difficult to manage than 200 houses scattered in a rural district. The minimum salary for a woman manager was £250 per annum and £200 (£180 in the provinces) for an assistant. There was little scope for part-time workers, and the Society of Women House Estate Managers hoped to be able to maintain an adequate supply of properly qualified and trained whole-time managers. The classification of slum tenants was a difficult problem, and both the points raised by one speaker, namely, the rent-paying capacity and personal habits of the tenants, had to be taken into account. The supervision of repairs was usually undertaken by women managers on private estates, but in municipal schemes this work was invariably carried out by the Borough Engineer's Department.

"ORGANISATION OF HEALTH WEEKS AND HEALTH EXHIBITIONS."

Mr. G. L. C. Elliston, M.A. (General Secretary of the Central Council for Health Education) in opening the discussion on this subject said that it was taken for granted that exhibitions were the recognised method of short intensified health propaganda which reached and interested members of the population who had not been influenced by more continuous but less spectacular means. Further, that all methods of health propaganda were within the province of local authorities through the charter given by the Public Health Act of 1925 authorising expenditure. Lastly, it was proposed to take as proven that such expenditure was actuarially sound, by giving a fresh impetus to healthy living by all citizens, and diminution of ill-health and waste in human terms, which was costly to the individual and to the state. In regard to health exhibitions, when the Central Council's scheme first started, three points were outstanding. First, a few medical officers of health were involved in heavy expense and trouble through organising for themselves their admittedly excellent health campaigns and exhibitions. Secondly, a number of voluntary health educational organisations possessed excellent material for exhibitions, but there existed no central organising body. Thirdly, there were a very large number of so-called health exhibitions which, though none the worse for that, were openly commercial. Dealing with these points, Mr. Elliston claimed that the work of organisation was much easier when handled for several towns through one central body than when undertaken individually by separate health departments. Among the many details quoted in this connection were: correspondence with

exhibitors, stand-fitters, the over-printing of posters and other literature for various towns. The voluntary health associations themselves had requested the Central Council to undertake centralisation and organisation of exhibitions, and without their unfailing support it would be impossible to put forward a representative exhibition. In the view of the Central Council, the true health exhibition should be constructive, *i.e.*, permeated with the idea of positive health, and not too much concerned with the prevention or amelioration of particular diseases or unhealthy influences. With regard to the financial side of health exhibitions, it was first contemplated that the cost would be met by a small grant from the local authority, and by including a certain proportion of commercial exhibits. That arrangement was found to be impracticable, and had been superseded by a scheme under which a suitable hall, with ordinary lighting, was provided free by the local authority, together with a grant of £50 to £70, according to the population concerned and the length of time for which the exhibition was required. The actual work of organisation, with all its harassing details, was lifted off the over-burdened shoulders of the medical officer of health, and carried out by the Central Council. The medical officer of health was consulted throughout as to any particular aspects of health education he wished to be emphasised, and was kept informed of all arrangements in connection with the exhibition. The recent exhibition at Stockport was quoted as an example of an expenditure of approximately £100, including grant. With a population of 130,000, the exhibition was visited by nearly 50,000 persons, including some 5,000 school children, who were taken round in conducted parties and shown lessons at various stands, which it was to be hoped and believed would not be forgotten when they had grown up and were responsible citizens. Lunch-hour lectures were given at works, and among other popular features were the showing of films in an annexe to the exhibition. The Central Council were confident that such in-house efforts made easier for a long time to come the work of the local health authority by awakening or stimulating the "health conscience."

Dr. Harley Williams proposed a vote of thanks to Mr. Elliston for his paper, and added a tribute to the energy of Mr. T. Cresswell, the Organising Secretary of the Central Council. The Council, a disinterested body, was able to give the very best advice in connection with the arranging of health exhibitions, and would

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lighten very considerably the work of the medical officer of health who contemplated propaganda of that kind in his area.

Dr. T. Drummond Shiels, M.C., M.P., seconded, and referred to the great effect of health exhibitions and health weeks in securing the co-operation of the citizens in the work of the health department. Without that co-operation the activities of the department were not nearly so effective. The public were interested in positive health teaching, and those who had held health weeks for a number of years found that they were still going strong. With the limited financial resources of the Central Council, it had been found impossible to deal adequately with a most important feature of health propaganda—the cinema film. Sex instruction for children was another side of the work that might well be developed, for there was a great deal of anxiety and a feeling of helplessness on the part of parents as to how best to tackle the subject. In Edinburgh, where sixpence was charged for admission to the exhibition, health weeks were run at a profit. If exhibitions were made sufficiently attractive on other grounds, the expense incurred by the local authority need not be so great. The efforts of the Central Council in co-ordinating the work of other associations concerned in health work of an educational nature owed much to the courtesy and tact of the General Secretary (Mr. G. L. C. Elliston).

Dr. E. K. Macdonald (Medical Officer of Health, Stockport), referring to the health exhibition held in Stockport this year, bore testimony to the efficient manner in which it had been organised and run by the Central Council. An important point to be noted was that the medical officer of health had the final word in everything done in connection with his own exhibition.

Dr. John Guy (Medical Officer of Health, City of Edinburgh) said that in his area the public health department took full charge of the health exhibition, and approached the various sub-committees (maternity and child welfare, tuberculosis, etc.), for assistance in providing exhibits. The largest hall in the city was taken, and on the last occasion £900 was cleared and applied for the benefit of hospital patients.

Mr. Charles E. Hecht (Food Education Society) mentioned a successful health exhibition held in Belfast and organised by the Medical Officer of Health of the City (Dr. C. S. Thomson). In regard to the use of the cinematograph for propaganda purposes, he referred to the work of the Food Education Society in connection with the production of talking films.

Dr. Remmett Weaver held that the charge of an admission fee to an exhibition would be likely to keep away the people who would derive most benefit from health propaganda.

To a question by **Alderman Bond**, as to the re-action of the local branch of the British Medical Association to the activities of the Central Council, **Mr. Elliston** replied that there existed between the two bodies the most cordial good feeling.

At the conclusion of the Conference the audience were shown two sound films: one on "Milk" prepared under the auspices of the National Milk Publicity Council; the other entitled "Rules for Jim," produced for the National Baby Week Council, and dealing with the rearing of children on proper lines.

As on previous occasions, displays of propaganda material had been arranged at the entrance to the meeting hall by, amongst others, the Health and Cleanliness Council and the Food Education Society; while Messrs. H. K. Lewis and 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.

Though the attendance at the Conference was smaller than usual, this report affords ample evidence of the keenness and interest shown by the delegates in the several excellent discussions, and it is fitting that a special word of praise should be given to Mr. T. Crew (Organising Secretary) and Mr. G. L. C. Elliston, M.A. (General Secretary of the Central Council for Health Education), who spared no effort to ensure the success of the meeting.

DR. CECIL DAVIES has been appointed Medical Officer of Health for the Bedwas and Machen Urban District, in succession to Dr. Edith M. Davies, who has accepted a post in the Rhondda Health Department.

THE Royal College of Physicians of London have appointed **Dr. E. H. R. Harries**, Medical Superintendent of the North-Eastern Hospital (London County Council), to be Milroy Lecturer for 1935.

DR. WILLIAM WILSON JAMESON, Dean and Professor of Public Health, London School of Hygiene and Tropical Medicine (University of London), was elected to Honorary Fellowship in the American Public Health Association at its meeting in Indianapolis, in October, 1933.

DR. R. A. MCCREA, for more than 20 years Medical Officer of Health for the Broughton and Walton Urban District of Derbyshire, has accepted election to the Mayoralty of Chesterfield for the ensuing municipal year. Dr. McCrea has previously served as Chairman of the Health Committee on the Chesterfield Corporation.

Branch and Group Reports.

THE METROPOLITAN BRANCH.

President: Dr. James Fenton, M.O.H., Kensington.

Hon. Secretary: Dr. Vynne Borland, M.O.H., Bethnal Green.

A meeting of the Council of this Branch was held at the house of the Society on November 17th, 1933, the President occupying the chair. Sixteen other members were present.

The Hon. Secretary reported having written to Dr. Macmillan to express the sympathy of the Branch on his accident.

Proposals were considered with regard to the furnishing to public assistance officers by tuberculosis officers of information as to tuberculous persons, in connection with the granting of extra nourishment, and with regard to payment for Sanocrysin injections. It was resolved to recommend that no action be taken in relation to either matter.

Arising out of the report of the Special Purposes Committee, it was resolved to recommend that the metropolitan borough councils be advised (i) to appoint their medical officers of health and sanitary inspectors as officers to execute the provisions of the Pharmacy and Poisons Act, 1933, and (ii) to pass the necessary resolutions to secure that sheep and small animals come under the operation of the Slaughter of Animals Act, 1933.

The Council considered the draft by-laws prepared by the By-laws Committee and, after a few amendments, approved them for submission to the Branch. The President gave notice of his intention to move the necessary resolution to rescind all existing Branch By-laws, and to adopt the new ones.

A meeting of the Branch was held subsequently. The President occupied the chair, and was supported by fifteen other members.

The Council's recommendations were generally adopted, with the proviso that, in the case of the question of extra nourishment, for tuberculous persons, it was decided to send a delegation of four members to confer with the County Medical Officer.

Under the draft by-laws (to be considered at the next Branch meeting) monthly meetings will be held, and a programme for 1933-34 on this basis was adopted, members being invited to submit to the Hon. Secretary sugges-

tions with regard to speakers and subjects for discussion.

THE YORKSHIRE BRANCH.

President: Dr. Gladys J. C. Russell, Asst. M.O. (M. & C.W.), Leeds.

Hon. Secretary: Dr. James Mair, M.O.H., Harrogate.

The inaugural meeting of the session of this Branch was held in the Hotel Metropole, Leeds, on October 26th, 1933. Thirty members were present.

Dr. T. N. V. Potts, the retiring President, invested Dr. Gladys Russell (Assistant Medical Officer, for Maternity and Child Welfare, City of Leeds), with the badge of office, and installed her in the presidential chair.

Dr. Potts referred especially to the fact that the installation of Dr. Russell created a precedent, as she was the first woman to be elected to the office of President of the Branch.

Dr. Russell returned thanks for the honour conferred on her by her colleagues, and delivered her presidential address on "Neonatal Mortality," which appears elsewhere in this issue.

A vote of thanks to the President, proposed by Dr. J. J. Buchan, seconded by Dr. Kennedy and supported by Dr. Underwood, was carried with acclamation.

The meeting was preceded by the Annual Luncheon in the Hotel Metropole. Dr. T. N. V. Potts presided, and over fifty members and guests were present.

The President of the Society (Dr. Charles Porter) was present as the guest of the Branch.

After the President had proposed the loyal toast, the following were honoured:—

"The Society of Medical Officers of Health," proposed by County Alderman G. Probert (Chairman, West Riding Public Health and Housing Committee); responded to by Dr. Charles Porter.

"Our Guests," proposed by Dr. J. J. Buchan; responded to by the Lady Mayoress of Leeds, Alderman H. R. Webster (Chairman, Harrogate Health Committee), and Mr. R. C. Jones (Deputy Clerk, West Riding County Council).

"The Retiring President," proposed by Dr. G. H. Pearce (Medical Officer of Health, Batley and Heckmondwike), and responded to by Dr. Potts.

THE NORTHERN BRANCH.

President: Dr. J. O. Murray, M.O.H., Tynemouth.
Hon. Secretary: Dr. J. A. Charles, 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 November 3rd, 1933. Twenty-six members were present.

It was agreed that Dr. G. A. Dawson (Medical Officer of Health, Darlington) be Vice-President of the Branch for the session 1933-1934.

It was agreed that the appointment of a second representative of the Northern Branch on the Executive Committee of the Newcastle-upon-Tyne Division of the British Medical Association be deferred until the next meeting, and the Hon. Secretary was instructed to submit the names of Branch members who resided in Newcastle.

It was reported that the North of England Branch of the British Medical Association had again re-elected Dr. James Hudson as their general practitioner representative on the Council of the Northern Branch of the Society of Medical Officers of Health.

The following were elected as members of the Branch: Christine M. Anderson, M.B., CH.B., D.P.H., Asst. Welfare M.O., Durham County Council; and Gavin Millar, M.B., CH.B., B.H.V., D.P.H., Medical Officer of Health, Crook Urban District Council.

The annual report of the Council was read by the Hon. Secretary. Dr. Hebblethwaite referred to the decrease in the members' attendance at the meetings, which was partly accounted for by the wintry conditions prevailing when the Sunderland meeting was held on February 24th, 1933. He strongly urged the members to do all in their power to increase the membership of the Branch. He pointed out that there was again a deficit on the year's balance sheet, and the Council recommended that the members be asked to contribute 2s. 6d. each towards the Branch funds. The report was adopted, and the recommendation of the Council was carried unanimously.

The following were elected as members of the Branch Council for the year 1933-34: Drs. James Bannerman, W. H. Dickinson, Charles Franks, C. A. Harvey, A. S. Hebblethwaite, Mary E. Howie, George Hurrell, G. C. M. M'Gonigle, James McIntyre, J. W. H. Morrison, A. F. G. Spinks, George Wilson, and,

ex-officio, the President (Dr. J. O. Murray), the Vice-President (Dr. G. A. Dawson), and the Hon. Secretary (Dr. J. A. Charles).

The retiring President, before vacating the chair, said that his year of office had been a most enjoyable one, and he thanked the members for the support they had given him during that period. In welcoming Dr. Murray as Branch President for the ensuing year, Dr. Hebblethwaite wished him a happy period of office.

Dr. Murray, in thanking the members for his election as President, paid tribute to the good work that Dr. Hebblethwaite had carried out during the past year, and said that if his efforts were as successful as those of the retiring President, he would be more than satisfied.

It was decided to hold the annual dinner in December, the exact date to be fixed by the President and the Hon. Secretary.

Dr. Murray delivered his Presidential Address on "**The Public Health Outlook on Nutrition.**" Dr. Hebblethwaite moved, and Dr. M'Gonigle seconded, that a hearty vote of thanks be accorded to Dr. Murray for his instructive address, and this was carried by acclamation.

THE NORTH-WESTERN BRANCH.

President: Dr. Henry Whitehead, M.O.H., Wigan.
Hon. Secretary: Dr. J. E. Spence, M.O.H., Eccles.

On the invitation of Messrs. Cow and Gate, Limited, some eighty members and friends visited the milk powdering and packing factories of the firm at Wincanton, Somerset, on September 29th, 1933.

The party, who were met at Manchester by Mr. Tavroges (Chief Chemist), Mr. Bland (the local representative), and other representatives of the firm, left at 12.30 a.m., sleeping accommodation being provided on the train, and arrived at Wincanton after breakfast.

The company was divided into six groups and conducted over the factories by members of the staff, who explained the various processes, details of which have already appeared in the journal following visits by the members of other Branches of the Society.

After the inspection, the members and their friends were entertained to lunch at the White Horse Hotel, Wincanton, at which Mr. Gates (Joint Managing Director) extended a cordial welcome to the visitors.

The President (Dr. T. W. Naylor Barlow, O.B.E.), moved a hearty vote of thanks to Mr.

Gates, his co-directors, and members of the staff for their kindness and hospitality. This was seconded by Dr. C. O. Stallybrass and carried by acclamation.

The party left Wincanton after lunch by special train, arriving in Manchester in the evening, having enjoyed a most interesting and instructive visit.

The opening meeting of the 1933-34 session was held in the Public Health Laboratory, York Place, Manchester, on October 13th, 1933. The President (Dr. T. W. Naylor Barlow, O.B.E.), occupied the chair, and twenty-three members were present.

On the proposition of the President, seconded by Dr. C. O. Stallybrass, it was resolved that the best thanks of the Branch be extended to the Directors of Messrs. Cow and Gate, Limited, for their kindness and hospitality on the occasion of the visit of the members of the Branch to their factories at Wincanton.

The retiring President (Dr. T. W. Naylor Barlow, O.B.E.), inducted his successor, Dr. Henry Whitehead, into the chair with a few appropriate words, and a vote of thanks to the retiring President for his services during the year, proposed by Dr. F. A. Sharpe, and seconded by Dr. C. O. Stallybrass, was carried by acclamation.

After expressing his thanks to the members of the Branch for the honour conferred on him, Dr. Whitehead delivered his presidential address on "**A Safe Milk Supply**," which will be published in full in an early number of PUBLIC HEALTH.

A cordial vote of thanks, proposed by Dr. F. Hall, and seconded by Dr. J. Bennett, was unanimously accorded Dr. Whitehead for his interesting paper.

A further meeting of the Branch was held in the Public Health Laboratory, York Place, Manchester, on November 10th, 1933. The President occupied the chair, and seventeen members were present.

Dr. G. W. N. Joseph reported that he had placed £40 of the Branch balance on deposit at 3 per cent. interest.

Dr. S. T. Beggs, of Middleton, illustrated a method of placing **Health Teaching** before a lay gathering in an appealing way. His experience had been that after a Health Week the public interest soon died off unless something new was placed before them. Lectures and exhibitions might interest a certain number

but they did not get at the people as a whole, nor often at the right class. Experience had shown that the cinema was an effective vehicle of health education, but the expense of presenting "Health Pictorial" by means of motion pictures would be too great for any single local authority, and he had been tempted to illustrate it by static pictures. In arranging the broad lines of health teaching, the "Handbook of Health Education," issued by the Board of Education, had been adopted as a guide, and the instruction was illustrated in coloured slides which were shown on the cinema screen. The pictures included photographs of local features and local people, and in that way interest was secured. In addition, recitations and singing were interspersed with the object of gaining the co-operation of the audience, while during the showing of the pictures a commentary was given through the microphone. In advertising the "Pictorial," an endeavour was made to excite popular curiosity, and the title succeeded in doing this. The demonstration was attended by crowded houses drawn from all sections of the community, including school children. Attention was keenly held, and the impressions of the teachers were very encouraging. Dr. Beggs was of opinion that static pictures on health propaganda can be made as interesting to the public as motion pictures, if well arranged with local appeal. The time taken in showing the pictures should not be too long, and it was desirable to have an interval to interpose a short film rather than to go straight through without a break. It was also important to synchronise the songs with the pictures, and for this rehearsals by the school children were necessary. Dr. Beggs then demonstrated an interesting series of slides, many being of local interest arranged under the following headings:—Health Week; The Public Services; The Clinics; The Mother and Child; The Health of the School Child; Prevention of Infectious Diseases; Personal Hygiene; Physical Culture; Air and Ventilation; Sunlight; Seaside Convalescence and Holiday Camp; Industrial Hygiene; Sanitation; Housing; Crippling; Safety First, etc.

Dr. R. M. Galloway, in proposing a vote of thanks to Dr. Beggs for his interesting demonstration, said that there was a great difficulty in conveying physiological knowledge to the public, and particularly to health committees. He had been disappointed in the results from a Health Week, and thought concentration on young children and clinics most useful.

He also referred to the comparative failure of publicity propaganda in connection with immunisation, and thought quiet talks to parents in schools more effective.

Dr. R. Veitch Clark, in seconding, expressed the opinion that the local appeal in Dr. Begg's method was extraordinarily good, the slides were good, and colour was an advantage. He thought the propaganda would appeal to the public, as it touched on life in an ordinary practical everyday manner. He held the view that continuous propaganda through clubs, literary societies, etc., throughout the year was much more effective than Health Weeks.

The vote of thanks, which was also supported by Dr. F. T. H. Wood, Dr. Stallybrass, and Dr. G. W. N. Joseph, was unanimously carried, and Dr. Beggs suitably responded.

THE WEST OF ENGLAND BRANCH.

President: Dr. A. E. Remmett Weaver, M.O.H., Weston-super-Mare.

Hon. Secretary: Dr. P. H. Stirk, formerly M.O.H., Exeter.

A meeting of this Branch was held at Weston-super-Mare on October 27th, 1933. Twelve members and five visitors were present.

Dr. R. H. Parry, the retiring President, in a graceful speech, installed the new President (Dr. A. E. Remmett Weaver) in the chair.

His first act was to propose a hearty vote of thanks to Dr. Parry for the way in which he had conducted the meetings during the last session. This was seconded by Dr. Savage and carried with applause.

The President delivered his address, entitled "**Public Health Memories**," and dealt with the subject from the year 1856 onwards. Amongst other things, he touched upon the alteration in remuneration of medical officers of health, and eulogised the work of the Society in securing better conditions throughout the service.

Dr. Parry moved a vote of thanks to the President for an address of great interest. This was seconded by Dr. Savage, supported by Dr. Dunstan Brewer, and carried unanimously.

Dr. Short read a paper on "**Artificial Pneumothorax Difficulties in a Rural Area**." He showed a series of interesting X-ray films of chests, and indicated the procedure and results in many cases.

An interesting discussion followed, in which

Drs. Ernest Ward, P. Phillips, B. A. Peters, A. E. Remmett Weaver, and the Hon. Secretary took part, and at the conclusion, Dr. Short was warmly thanked for his able and instructive paper.

The Council Representative read his report on the meeting of the Council.

The Hon. Treasurer submitted his report, which was considered satisfactory.

It was decided to hold the next meeting of the Branch in Bristol in January next.

The members and visitors were entertained at lunch and tea by the President, to whom cordial expressions of thanks and appreciation were conveyed.

THE MIDLAND BRANCH.

President: Dr. G. N. Anderson, Deputy S.M.O., Staffs. C.C.

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

The second meeting of the session of this Branch was held at the Medical Institute, 154, Great Charles Street, Birmingham, on November 2nd, 1933. Twenty-six members were present, and apologies for absence were received from nine members.

The Hon. Treasurer (Dr. E. H. Snell), presented his annual financial statement and balance sheet for the session 1932-33, which were received and adopted. It was resolved that the question of the appointment of a fresh trustee be referred to the Branch Council with power to act.

The Hon. Secretary submitted a letter received from the Midland Maternity and Child Welfare Sub-Group, asking for a contribution towards the cost of the expenses of speakers at Group meetings and suggesting that the Sub-Group should have a representative on the Midland Branch Council. The communication was referred to the Council of the Branch for consideration and report.

Dr. A. Meiklejohn, a member of the Medical Board formed under the Silicosis and Asbestosis (Medical Arrangements) Scheme, 1931, read a paper on "**Silicosis: Clinical and Administrative**," in which he dealt with the aetiology of the disease; the morbid changes in the lungs induced by the inhalation of silica dust; the clinical symptoms noted, and the order of their occurrence; and the exposure necessary to produce the disease. In discussing diagnosis,

he affirmed that this could not be made on symptoms or on chest measurements, but depended on the correlation of (a) the occupational history; (b) the results of a clinical examination, and (c) the X-ray photograph of the lungs. After a reference to pulmonary tuberculosis as a complication of silicosis, Dr. Meiklejohn gave particulars of the work of the several medical boards appointed by the Home Secretary under the silicosis schemes, and concluded with some suggestions for the prevention of this industrial disease. With the assistance of Dr. F. N. R. Price, he demonstrated a very fine series of X-ray photographs illustrating silicosis with and without pulmonary tuberculosis.

It was generally agreed that this paper was one of the most interesting delivered to the Midland Branch for a very long time, and Dr. Meiklejohn was warmly thanked for it by the President.

THE WELSH BRANCH.

President: Dr. J. W. Miller, County M.O.H., Radnorshire.

Hon. Secretary: Dr. D. J. Thomas, Deputy M.O.H., Rhondda.

The first meeting of the session of this Branch was held at the City Hall, Cardiff, on October 27th, 1933, when fourteen members were present, together with Mr. Howell E. James (Welsh Board of Health), who was a welcome visitor.

In the absence of Dr. Lewys-Lloyd (the retiring President), Dr. R. Prichard, Cardiff, was elected to the chair.

Dr. Prichard, in a brief but happy speech, installed Dr. J. W. Miller as President of the Branch during the session 1933-34.

On assuming the chair, Dr. Miller thanked the members for his election as President, and delivered an address entitled "**Some Remarks on Sanitary Administration in Rural and Semi-rural Areas in England and Wales**." At the outset the President stated that his experience covered a period of thirty years in the administration of the public health services, including those of a large county borough, a municipal borough and a rural county. Generally speaking, the local authorities representing large county boroughs and urban districts and employing whole-time medical officers of health, were more progressive in comparison with county councils and the smaller urban and rural district councils. It was

much more difficult to influence public opinion and initiate progress in the areas of the latter bodies. The inherent defects arising from the appointment of part-time medical officers and sanitary inspectors were emphasised, and though the passing of the Local Government Act, 1929, gave hopes of better things, up to the present these hopes had not been realised and some county councils, in face of opposition from district councils, had not made any effective proposals. The two principles laid down in the conditions under which the block grant may be reduced, should prove helpful. The difficulties encountered in the provision of proper water supplies and sewerage and scavenging systems for small rural communities were reviewed, and it was pointed out that the burden of providing these fell on the parish councils who, in view of the small amounts raised by a penny rate, were consequently reluctant to embark on any new schemes; some method of adjusting these burdens should receive consideration. In most counties very little use had been made of the Housing of the Rural Workers Act, 1926, and the erection of houses under the other Housing Acts was very limited in extent. The provision of a satisfactory milk supply was complicated by the division of duties between the county and district councils; many of the former had not provided for the veterinary inspection of milch cattle, and the latter were reluctant to take action for the improvement of cowsheds and dairies. In regard to the treatment of communicable diseases, it was held that the provision of central isolation hospitals to serve rural areas should be considered, whilst small-pox hospitals could very well serve several counties. The introduction of methods of immunisation, e.g., against diphtheria, was very difficult in rural areas. It was noted that the scheme of the Welsh National Memorial Association for the treatment and prevention of tuberculosis, was one of the best in the kingdom, and this, to a large extent, was due to the fact that the whole of Wales had been grouped into one area. If the schemes had been left to the individual county councils, the results would probably have been very different. The provision of a pure water supply was still the most important measure for the prevention of the enteric group of diseases. In dealing with the influence of school closure, it was noted that epidemics occurred at longer intervals in sparsely-populated rural areas than in towns. The principles of personal hygiene

inculcated by health visitors, school nurses and teachers, and lectures arranged by various health organisations, had improved the conditions in rural districts, but more could be done in this direction, especially by the British Broadcasting Corporation. In conclusion, the President emphasised that the difficulties in carrying out reforms, including those contemplated by the Local Government Act, 1929, in rural areas were largely due to lack of knowledge of health matters, and an unprogressive attitude on the part of members of county and district councils. To remove this state of affairs he re-submitted a suggestion, which he had previously made in 1922, that an Institute of Hygiene be established for Wales for the purpose of organising conferences of public health officers and representatives of local authorities in various centres in the Principality. This would enable a broader outlook in regard to public health to be developed and thus make for better sanitary administration.

A vote of thanks for the address, proposed by Prof. Picken and seconded by Dr. Howard-Jones, was carried with applause, and it was decided that the suggested formation of an Institute of Hygiene or similar organisation for Wales be referred to the Branch Council for consideration.

Mr. P. Herbert Jones, M.C., B.A. (Health and Cleanliness Council) gave a short address on "**Propaganda and Education.**" He pointed out that public health propaganda was simple in comparison with political or religious propaganda, and the subjects were more personal and interesting. The press was a good guide, and it was the duty of the medical officer of health to teach. Posters were valuable if well-designed, whilst a village hall was nearly always available for lectures. More propaganda work should be done in the clinics. The teaching of hygiene to the children in the schools was the best of all methods as children were receptive and carried the instruction to their homes. Managers of factories and workshops were also sympathetic as a rule. He concluded by remarking that the field was already ploughed, and was now waiting for the seed.

Dr. J. H. Harley Williams (Medical Commissioner to the National Association for the Prevention of Tuberculosis) subsequently spoke on "**Creative Health Propaganda.**" Attention was drawn to the provisions of Section 67 of the Public Health Act, 1925, and the procedure to be followed by local authorities

desiring to carry out those provisions. He pointed out that the medical profession was not realising the growing strength of obscurantism and the effect of commercial competition. The most effective solution of the problem would result from the creation of a department to carry out or supervise the work of health education, and he suggested that the Branch should consider a resolution to the effect that constructive health propaganda should be organised by the Minister of Health, and that the Central Council for Health Education should make representations in the matter.

In the discussion which followed, Drs. Howard-Jones, T. Evans, Howell M. Williams, R. Prichard, Prof. Picken, Dr. Dilys M. Jones and the President took part, and the speakers were thanked for their addresses. It was decided that the resolution submitted by Dr. Harley Williams should be considered at a future meeting of the Branch.

Mr. Howell E. James (Welsh Board of Health) congratulated the President on his accession to office and on his address, and joined in thanking the other speakers for their addresses.

Prof. Picken referred to the motor accident in which Dr. J. C. Gilchrist (Tuberculosis Physician, Cardiff, and a strong supporter of the Branch) had been severely injured, and it was decided that a message conveying the sympathy of the members of the Branch be sent to Mrs. Gilchrist.

On the proposition of the President, supported by Prof. Picken, a hearty vote of thanks was accorded to Dr. Lewys-Lloyd (Merioneth) for his services as President of the Branch during the session 1932-33.

Before and after the meeting most of the members took advantage of the opportunity provided to visit the health exhibition arranged in the City Hall in connection with the Health Week programme of Cardiff.

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.

The first meeting of the session of this Sub-Group was held at the Institute of Preventive Medicine, Cardiff, on October 18th, 1933, when twenty members and visitors were present.

The following officers were elected for the ensuing session:—

Chairman.—Dr. D. P. Holmes.

Hon. Secretary.—Dr. W. P. Phillips.

Assistant Secretary (Dental).—Mr. J. Young.

Dr. E. Colston Williams (Medical Officer of Health, Glamorganshire), gave an address on "**The Training and Outlook of the Public Health Officer,**" which appears elsewhere in this issue.

A vote of thanks to the speaker, proposed by Dr. D. P. Holmes, was carried by acclamation.

THE SOUTHERN BRANCH.

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

Hon. Secretary: Dr. A. B. Williamson, Deputy M.O.H., Portsmouth.

A meeting of this Branch was held at Trafalgar House, Winchester, on October 6th, 1933. In the absence of the retiring President (Dr. H. C. Maurice Williams), the chair was taken by Dr. J. Lockhart Livingston.

Dr. H. Leslie Cronk (Hon. Treasurer), presented his annual report and balance sheet, which were received and adopted. Dr. Cronk was thanked and congratulated on the strong financial position of the Branch.

Dr. J. Lockhart Livingston installed the new President (Dr. H. D. Kelf), and invested him with the collar and badge of office, wishing him on behalf of the members a successful year of office. Dr. Kelf suitably replied.

Dr. W. Simpson gave interesting particulars relating to three Mongol children attending a village welfare centre; and Dr. G. Chesney referred to two fatal cases of scarlet fever, one with severe complication of erysipelas.

Dr. Kelf delivered his presidential address, entitled "**Experiences of a Medical Officer of Health of a Rural District,**" and in relating various incidents connected with housing matters, farms, water supplies, isolation hospital, complaints, etc., showed that there is a lighter side to the general routine work.

A cordial vote of thanks was accorded the President on the proposition of Dr. Livingston, who added a few remarks on his own experiences during 41 years of office.

A further meeting of the Southern Branch was held at the City Mental Hospital, Ports-

mouth, on November 3rd, 1933, the President occupying the chair.

Dr. R. H. Wilshaw described an unusual case of eclampsia in a multipara, associated with extensive hæmorrhage.

Dr. Thomas Beaton, O.B.E. (Medical Superintendent of the Mental Hospital) gave an address on "**Some Mental Health Problems.**" Mental disorders, he said, constituted a biological problem which must be approached physiologically as well as psychologically. He referred to the beneficent effects of the Mental Treatment Act, which enabled more patients to be treated in the early recoverable stages. In Portsmouth for several years he had been conducting a mental out-patient clinic at the Royal Portsmouth Hospital, to which general practitioners could refer early or doubtful cases of mental disorder. The clinic was linked up with the Mental Hospital and with the social service organisation. Portsmouth would soon be adding another unit to an already comprehensive scheme, i.e., a mental colony, which had recently received the sanction of the City Council. He described the modern lines of treatment as carried out in a mental hospital. Each patient should have personal attention, and efforts should be directed towards understanding his difficulties and re-adjusting him to his environment.

An interesting discussion followed, to which Drs. R. H. Wilshaw, A. B. Shed, and G. W. Fleming contributed. Dr. Beaton was accorded a hearty vote of thanks on the proposition of Dr. H. C. Maurice Williams, seconded by Dr. A. B. Williamson.

Afterwards the members were entertained at tea, and were personally conducted round the Hospital by the Medical Superintendent.

THE EAST MIDLAND BRANCH.

President: Dr. W. M. Ash, M.O.H., Derbyshire C.C.

Hon. Secretary: Dr. J. A. Stirling, M.O.H., Chesterfield.

A meeting of this Branch was held in the Guildhall, Nottingham, on October 12th, 1933, Dr. Fairer occupying the chair. Twenty-four members were present, and apologies for absence were received from nine members.

A unanimous vote of thanks was accorded the retiring President, for valuable services rendered during his year of office and, coupled with this, the Hon. Secretary was instructed to convey to Dr. Banks the sympathy of all present in his illness and best wishes for a speedy recovery.

Dr. Fairer then installed Dr. W. M. Ash as President of the Branch for the session 1933-34.

Dr. Ash thanked the Branch for electing him as President, and delivered an interesting presidential address on "**The Development of English State Medicine**," in which he traced the advance from Roman times up to the present in a very instructive manner. Dr. Ash was warmly thanked for his address, on the proposition of Dr. Barker, seconded by Dr. Graham.

A further meeting of the Branch was held at the Guildhall, Nottingham, on November 16th, 1933, Dr. Ash occupying the chair. Thirty-three members and nine guests were present.

As a result of the postal vote on the question of the most suitable day on which to hold the meetings of the Branch, the Hon. Secretary reported that forty-one members had replied; of this number, twenty-nine voted for no change, and twelve for another day. It was thereupon unanimously resolved that the meetings of the East Midland Branch continue to be held on the second Thursday of the appropriate months.

Dr. Curnow read a very instructive and thoughtful paper on "**The Indications for Tonsillectomy**," and described in full the scheme at present operating in Derbyshire. That the paper provided a very interesting subject for discussion was evidenced by the record number at the meeting, and by the keen and prolonged discussion, which was ably opened by Mr. Tawse, Aural Surgeon to the Nottingham City Corporation. At the close of the discussion, Dr. Curnow was warmly thanked for his paper on the proposition of Dr. Banks, seconded by Dr. Barker.

THE HOME COUNTIES BRANCH.

President: Dr. Thomas Orr, M.O.H., Ealing.

Hon. Secretary: Dr. R. P. Garrow, M.O.H., Hornsey.

A meeting of this Branch was held on October 6th, 1933, at the **Royal Masonic Hospital**, Ravenscourt Park, London, W., where arrangements had been made by the President (Dr. T. Orr), to make a tour of inspection of the new hospital buildings shortly to be opened.

Letters were read from Drs. Lorraine, Renwick and Ward, thanking the Branch for

their appointments on the Tuberculosis Group Committee of the Society.

Dr. A. J. Laird invested his successor, Dr. Thomas Orr, with the badge of office as President of the Branch, and Dr. Orr thanked the retiring President for his services during the past session.

The company, in two sections, made a tour of the hospital buildings, one under the guidance of the President (Dr. Orr), the other conducted by Dr. Howell (Medical Officer of Health, Hammersmith), in whose district the hospital is situated, and who very kindly attended the meeting for this purpose. In addition, each member present was provided with a pamphlet containing plans of the buildings, which cost £350,000, and provide accommodation for 200 patients.

Tea was taken in the nurses' dining room, and the meeting terminated with votes of thanks to the committee of management of the hospital and to Drs. Orr and Howell.

A further meeting of the Branch was held at the house of the Society, on November 3rd, 1933. The President occupied the chair, and nineteen other members were present.

Apologies for absence were submitted from Drs. Buchan, Horne, Patterson, Herington, Muir, and Williams.

Dr. K. E. Tapper (Hon. Treasurer) presented his balance sheet and investment record, together with the statement of expenses of the Hon. Secretary for the year, which were approved.

Copies of these statements were signed by the Auditors.

In consequence of requests for the holding of meetings of the Branch at a later hour, the Branch considered this question. On the motion of Dr. G. H. Dupont, seconded by Dr. R. P. Garrow, it was resolved that future meetings of the Branch at the Society's house be held at 5.30 p.m., in the hope that this would ensure larger gatherings, including assistant medical officers who cannot easily attend afternoon meetings.

Dr. T. W. Hill (Deputy Medical Officer of Health, West Ham), presented "A Plea for Public Health Unity," by which he meant a "British Public Health Association," to include medical officers of health, assistants, specialists, sanitary inspectors, health visitors, school nurses and all other officers whose work is the safeguarding of the public health. This was followed by an interesting discussion.

THE MATERNITY AND CHILD WELFARE GROUP.

President: Dr. Thomas Y. Finlay, M.O. (M. & C.W.), Edinburgh.

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 October 27th, 1933. The President occupied the chair, and 26 members and visitors were present.

Dr. George F. McCleary opened a discussion on "**The Future of the Maternity and Child Welfare Movement**." The speaker mentioned the improvements already effected through maternity and child welfare work, the lowering of the infantile mortality rate, the lowering of mortality from non-pulmonary tuberculosis under 16 years of age, and the prevention of rickets, the last-mentioned having its effect on the next generation of mothers and children.

After referring to the high maternal mortality rate, and Sir George Newman's statement that the proportion of children found to be suffering from defects and ailments at the first school examination had remained fairly constant, Dr. McCleary suggested that a future aim of maternity and child welfare work should be the reduction of maternal mortality (most urgent and most difficult) and of infant mortality, the latter not only from conditions that exercise their effect before or during childbirth, but from lack of post-natal care, especially suitable feeding, in the first month of life.

Another aim should be the reduction of morbidity in the pre-school child, to whom very little systematic attention was being given in any country, according to the League of Nations Health Report for 1931.

Reference was made to the reports of the Departmental Committee on maternal mortality, and the use which could be made of the Local Government Act, 1929, to increase hospital accommodation for cases of difficult labour, and cases in which the patient's home was an unsuitable place for confinement. Post-natal clinics for the routine examination of mothers after childbirth were a very promising recent development.

Dr. McCleary urged improved environmental hygiene, rehousing and slum clearance and the abolishing of the smoke screens of large towns; the last-mentioned would lead to a reduction in mortality from respiratory diseases. Pasteurisation of all milk, by a process conforming to a

legal standard definition, should be compulsory.

The infant welfare centre was in danger of experiencing some of the disadvantages of popularity, and its value would be impaired if the numbers attending were so large that mothercraft could not be taught. More accommodation and more workers were needed.

Important persons who had not yet been utilised sufficiently were the general medical practitioner and the father. Dr. McCleary much regretted that all which was implied in the phrase "family doctor" was becoming a thing of the past. Fathercraft was a promising field of work and would no doubt take a place of increasing prominence.

An excellent discussion followed in which Drs. Nash, Churchill, Nicoll, Hughes, Radford, Emslie, Thomson, Booth, and the President took part. Dr. McCleary replied, and a vote of thanks was proposed by Dr. Nash, seconded by Dr. Back, and carried by acclamation.

NORTHERN SUB-GROUP.

President: Dr. Mary E. Howie, Asst. Welfare M.O., Co. Durham.

Hon. Secretary: Dr. Christine J. Thomson, Asst. Welfare M.O., Co. Durham.

Six meetings of the Sub-Group were held during the session 1932-33. Following the annual business meeting in November, at which Dr. Mary E. Howie was re-elected President, Dr. J. E. Spence kindly gave a series of three clinical demonstrations to members, at the Babies' Hospital, Newcastle-upon-Tyne, at fortnightly intervals on Saturday forenoons, the subjects being (a) "Tuberculosis in Infancy"; (b) "Neo-natal Infections"; and (c) "Pink Disease," respectively. At the third meeting an informal discussion also took place on breast-feeding difficulties. The average attendance of members at these clinics was thirteen, this being considered an encouraging response.

The fifth meeting of the Sub-Group took place in Durham in April, when Dr. G. C. M. M'Gonigle (Stockton-on-Tees) gave a most interesting survey of his recent experiences in re-housing part of a slum population.

The sixth and last meeting of the session took the form of a visit to the Infectious Diseases Hospital, Stockton-on-Tees (by invitation of Dr. M'Gonigle), followed later in the day by a picnic on the Yorkshire moors.

BIRMINGHAM AND MIDLAND SUB-GROUP.

President: Professor Leonard Parsons, Physician, Children's Hospital, Birmingham.

Hon. Secretary: Dr. G. I. Brodie, Asst.M.O. (M. & C.W.), Birmingham.

A meeting of this Sub-Group in Birmingham on November 17th and 18th, 1933, took the form of a clinical week-end.

On the Friday evening, in the Carnegie Institute, Dr. Horace Joules gave a paper on "Anaemias of the Child-bearing Period," which was followed by a discussion opened by Dr. Gittins. Professor Leonard Parsons occupied

the chair, and votes of thanks were accorded on the proposition of Dr. Cassie and Dr. Grant.

On the Saturday morning a clinical meeting was held in the Children's Hospital, when cases were demonstrated by Professor Leonard Parsons and his colleagues. Votes of thanks were proposed by Dr. Humpherson and Dr. Bracey. In the afternoon, at Little Bromwich Fever Hospital, Dr. John McGarrity (the Medical Superintendent) read a paper on "Paratyphoid and Dysentery in Children, and Whooping Cough." This was followed by a tour of some of the wards. A vote of thanks to Dr. McGarrity was proposed by Professor Parsons.

In the Annual Reports.

A BACTERIAL STANDARD FOR MILK AND ITS PRODUCTS.—It will be seen from the report that considerable attention has been given to the supply of milk, cream and ice-cream in the district. The regulations dealing with the supply of these products are generally unsatisfactory, and as I have pointed out in previous reports, until a bacteriological standard is laid down by statute, any infringement of which renders the retailer liable to legal proceedings, the improvement of the standard of supply of milk and its products is very difficult to obtain.—*Dr. A. H. G. Burton, Ilford.*

INSURANCE SCHEME FOR EXPECTANT MOTHERS.—During the year ended September 30th, 1932, 321 expectant mothers availed themselves of the insurance scheme for expectant mothers, this being an increase of 88 on last year's figures, but the actual increase of new cases has only been 75, as 13 expectant mothers availed themselves of the scheme in 1931 and also took advantage of it in 1932. Reviewing the scheme after two years of working from a financial point of view, the fact still remains that the loss to the corporation is greater in insured as against uninsured cases; in fact, the difference in loss per case treated between insured and uninsured cases has risen from 4s. 9d. to 10s. 5d. during the current year. I am afraid that in any such scheme there is always bound to be a loss, because from an actuarial point of view the scheme would require a premium of 10s. instead of 5s., but in my opinion the charging of any higher fee than 5s. at the present time, at any rate, would not be advisable. I would, therefore, like briefly to summarise the factors which cause the scheme to be an uneconomic one from a financial point of view.

- (1) The midwives have been more inclined to call in medical aid in doubtful cases where they know that it will not result in more expense to their patients.
- (2) In my opinion, there are a certain number of the insured mothers who think that because they have paid the fee they ought to have the services of a doctor at the confinement whether it is needed or not.
- (3) During the year under review the percentage of

cases where medical treatment was called for was 45 per cent. in insured cases, whereas in uninsured cases it was only 19 per cent., and this difference makes one wonder whether the midwives are not to some extent picking their cases, that is, in certain cases insuring patients who, from ante-natal examination, or from trouble in previous pregnancies, are likely to give rise to complications in labour necessitating the calling in of a medical practitioner.

I have nothing to say against factor number one, as I am convinced that it is to the good of both the patient and midwife that, where there is any doubt in a case, medical aid should be summoned. With regard to factors 2 and 3, the maternity and child welfare committee agreed with my suggestion to appoint a sub-committee to meet the midwives and obtain their views. Such a meeting was held and a full discussion ensued, and as a result I hope that the continuance of this scheme, which is primarily concerned to provide better midwifery and reduce maternal morbidity and mortality, will meet with a greater measure of success in the coming year.—*Dr. James A. Stirling, Chesterfield.*

THE INEVITABILITY OF MEASLES.—What I want to emphasise is the need of a fuller recognition of the fact that measles is unavoidable, and that under present circumstances the exclusion of school home contacts is quite futile. Seeing that such is the case, the Board of Education would greatly assist local authorities by withdrawing its advice as to the exclusion of home contacts from school; this equally applies to chicken-pox. What is really required is the abandonment of the old methods and a concentration of our attention on the dangerous age-periods and the education of parents as to (1) the advantages of delay of attack until a relatively safe age-period has been reached, or alternatively (2) as to the benefits of prophylactic injection with a view to ensuring a mild attack. Of almost equal importance is the need to warn general practitioners that, however serious the case and however poor the home, the child will do better there than in a hospital ward.—*Dr. Duncan Forbes, Brighton.*

The Literature of Preventive Medicine.

The Examination of Waters and Water Supplies.

By JOHN CLOUGH THRESH, D.SC. (LOND.), M.D. (VICT.), D.P.H. (CAMB.); JOHN FOSTER BEALE, M.A. (CANTAB), M.R.C.S., (ENG.), L.R.C.P. (LOND.), D.P.H. (OXON.), Bacteriologist, Essex County Council; Consulting Analyst to the Port of London Authority, etc.; and ERNEST VICTOR SUCKLING, M.B., B.S. (LOND.), M.R.C.S. (ENG.), L.R.C.P. (LOND.), D.P.H. (LOND.), Consulting Analyst to various water authorities. Fourth edition, revised and enlarged. With 61 illustrations. London: J. and A. Churchill, 1933. Price 42s. net.

This book is the fourth edition of the work originally written by Dr. Thresh. In the first edition the author broke entirely new ground by giving to analysts a handbook which not only dealt with the analysis of water, but also with so many of its associated problems that it at once won the approval of those for whom it was intended, and proved to be the foundation of a literary edifice which has now reached its fourth storey.

This fourth edition contains 824 pages, and may be accepted as being the most authoritative and unique publication on its subject published in any language.

In such a volume, perfection cannot, of course, be obtained, but the points of criticism are so few, and relatively so unimportant, that a public which has exhausted three editions and demands a fourth, will be as appreciative of this as it was of the earlier editions in their day.

In such a case a review can only be an endorsement of an approval that the work has already won.

With regard to the question of illness arising from the use of cooking vessels made of aluminium, the book accepts as final the conclusions contained in Research Report, External Series No. 162, "Aluminium and Food," issued by the British Non-Ferrous Metals Research Association in 1932.

In science, nothing is final, and if the conclusions of to-day in a controversy so modern as this are not disputed to-morrow, then medical science must have reached a state of self-satisfaction which may become self-deception.

So far as is recorded, no criticism of aluminium vessels went farther than stating that in

several instances the vessels consisted of such impure aluminium that they parted all too freely of their aluminium to the ingredients heated in them. On the other hand, certain vessels yielded practically no aluminium to the milk or other constituents heated in them, the purity of the metal composing the vessels being the deciding factor. Not enough emphasis has been laid upon this point, in view of the fact that poor quality aluminium may contain several different elements.

As to whether the aluminium or other elements so separated, cause in the digestive tract any hurt or injury to the recipient is one for the medical faculty to decide.

That a decision has already been preached, if not reached, is probably all the more reason why a re-consideration of the evidence will be necessary later, as it is a serious matter for nurses and infants particularly, should the conclusions already reached be found to be erroneous. There is a large amount of evidence on the other side, the conclusions from which are dismissed in the report quoted in this book as being "the effect of mind over body and of the power of the witch doctor since civilisation began."

Again quoting from "Aluminium and Food," "The final conclusion is in no doubt that aluminium cooking vessels offer no danger to health." Is this perfectly correct in the case of young infants who have been given milk heated in aluminium vessels of poor quality?

Part VIII on "The Purification and Treatment of Water," is one of the best in a work in which all the parts are excellent.

There is an index of considerable size which, unfortunately, fails to yield readily all the information a good index should.

The authors are to be congratulated heartily on this new edition which, by its thoroughness and its accuracy, will establish itself still more firmly in the confidence of all those who are interested in any way in water and all its works.

The Chemistry and Physics of Contraceptives.

By CECIL I. B. VOGEL, B.SC., PH.D., F.R.S.(ED.). London: Jonathan Cape, 1933. pp. 288. Price 12s. 6d. net.

This monograph presents the results of a three-year investigation of spermicides carried out at the University of Edinburgh under the

supervision of Professor F. A. E. Crew, Director of the Institute of Animal Genetics. The study represents a co-operative undertaking between Professor Crew and the National Committee on Maternal Health, Inc., of New York City. The ultimate objective of the study was to find an effective, harmless, easily available chemical in a form that should keep in good condition over a long period of time and in all climates, and be so easy to use that the most ignorant woman in the Orient, the tropics, the rural outposts, or the city slums might be protected. The author has, therefore, entirely neglected the ethical aspects of the subject, and has devoted himself to a careful search into the principles underlying the various methods employed in contraceptive practice. He provides a review of the action of pure chemicals upon the life and mobility of the spermatozoon. The vehicles in which these spermicides are suspended are also dealt with, and considerable attention is devoted to proprietary chemical contraceptives. These are criticised with a view to attaining greater reliability. In a special chapter practical considerations in relation to other contraceptive methods are presented, and in this connection certain points in regard to the nature and properties of rubber, its manufacture, ageing, labelling and storing, are discussed. The volume is one of the most important of those published on the subject of contraception, and as such, is unhesitatingly recommended to health officers and workers.

Rural Refuse and its Disposal. By ETHEL BRIGHT ASHFORD, B.A., Barrister-at-Law and HUMPHREY BAKER, M.A., Barrister-at-Law. London: The Scapa Society, 71, Eccleston Square, S.W.1. pp. 50. Price 1s. net.

The medical officer of health is not the least amongst the many who recognise the many and real difficulties associated with the problem of house refuse in rural areas. He will, therefore, find himself grateful to the authors of this little book for having made an effort to attract attention widely to the existence of the need, in the interests of health and amenity, for the making of arrangements for the orderly and sanitary disposal of the refuse of rural communities as well as that produced in towns and cities. In a foreword to this very well and convincingly

written book, the Minister of Health (Sir Hilton Young) claims education as one of the most important methods of advancing the cause of public health. "In this respect," he adds, "this book renders a valuable service." With that view there is complete agreement, and for that reason, and because it is in several ways helpful, it is warmly commended.

A Synopsis of Forensic Medicine and Toxicology.

By E. W. CARYL THOMAS, M.D., B.Sc., D.P.H., Barrister-at-Law, Medical Officer of Health, Dagenham. Bristol: John Wright and Sons, Ltd.; London: Simpkin Marshall, Ltd., 1933. pp. 152. Price 7s. 6d. net.

In attempting to deal exhaustively within the compass of a small volume with the considerable variety of subjects that forensic medicine or medical jurisprudence embraces, the author of this manual, as he himself admits, has tackled an almost impossible piece of work. In the short space permissible to one preparing a synopsis, however, he has managed to compress a tremendous amount of detailed information. This he has done by making wide use of telegraphese and of a small, painfully small, type: except in the case of top and side headings where actually, of course, the nature of the type matters least. Forensic medicine being like public health, a subject that the medical student always crams, a cram-book of some sort is an essential. In spite of what Dr. Caryl Thomas says, this seems to contain an amount of information almost excessive for a cram-book, but in spite of this it may be chosen. If chosen, it will be found to possess this as a quality, that it is accurate as far as it goes.

THE Governing Body of the British Post-Graduate Medical School have appointed, as Dean of the School, Dr. M. H. MacKeith, Fellow of Magdalen College and Dean of the Medical School, Oxford University. Dr. MacKeith will take up his duties in the new year. It will be recalled that the foundation stone of the new School, which will adjoin, and be associated with, the London County Council Hospital at Ducane Road, Hammer-smith, was laid by the Chancellor of the Exchequer (the Rt. Hon. Neville Chamberlain, M.P.), on July 17th, 1933. It is hoped that the School will be open to students towards the end of 1934. Further announcements will be made in due course.

Correspondence.

The Editor does not accept responsibility for the opinions of correspondents.

THE SCHOOL MEDICAL SERVICE.

To the Editor of PUBLIC HEALTH.

SIR,—I wish that Dr. Holden had answered his own questions in the presidential address given by him to the School Medical Service Group, and published in the November issue of PUBLIC HEALTH: in particular, the question—"Has the service attained the highest results it might have obtained for the labour expended?"

There is no need for any extension of the service; it can be reformed forthwith from within by every individual engaged in it taking a genuine interest in school medicine and putting his back into his work. If this be done, there will be neither "a soul-destroying routine" nor "the cursory scrutiny of a march past"; our utility will not be questioned, nor shall we be viewed "with a deeply jaundiced eye" by lay administrators. Numbers having no lure for us, our records will be found to possess value by insurance practitioners and factory inspectors, and will be used by them; and, moreover, we shall find ourselves consulted on matters of school hygiene by education authorities.

I am, Sir,

Yours faithfully,

Lewes.

W. R. DUNSTAN.

November 13th, 1933.

"DENTAL ENAMEL: IS IT A VITAL TISSUE?"

To the Editor of PUBLIC HEALTH.

SIR,—I extremely regret the necessity for troubling you with a further letter on this subject, but my excuse is the very great importance of the subject in its bearing on the question of what prophylactic measures may be expected to be successful in combating dental caries. Certain of Mr. Sprawson's statements in his letter in your November issue—and I wish to say this with all respect—are misleading. To claim also that the only support for my contention is the comparison of increased hardness of enamel with plaster of Paris, etc., after mixing, is far from true, as I shall hope to show.

Mr. Sprawson's statement that the reactions

seen in young wallaby teeth can also be seen in all human teeth that have been exposed to the trauma of mastication is a sweeping one, and will be received with great surprise by a large portion of the dental profession. And, even if it were true, Dr. Sim Wallace in the *Medical Press* (February 4th, 1931), has shown that it could be explained without recourse to any theory claiming metabolism in the enamel itself. Again, claims resting on the analogy between marsupial enamel and human enamel are by no means conclusive. For to maintain the analogy it must be shown that the interprismatic substance in solid enamels is permeable, as the tubes in marsupial enamel lie within that substance. Mr. Sprawson certainly does state that in enamel the interprismatic substance is stainable, but both E. W. Fish and Gordon Jeffery confidently assert that dye only enters the prism sheath and not the prisms or interprismatic substance. Gordon Jeffery also states that this is true even of the enamel of the kangaroo. (*British Dental Journal*, July 15th, 1932, p. 71.)

It is difficult to understand how Mr. Sprawson can quarrel with my conclusion that we must continue to look on enamel, until more convincing evidence to the contrary is forthcoming, as an inert substance, and that, therefore, the only logical place for prophylaxis is on its surface, when an editorial in the *British Dental Journal* (October 1st, 1930, p. 1092), says: "Much more work must be done before the hypothesis of Sprawson and others can be regarded as proven beyond all doubt." This, in effect, is the conclusion also of A. Leclercq and J. Ripert, after a long and exhaustive examination of the subject, which has just been reported in *La Revue de Stomatologie* (No. 10, October, 1933, pp. 600-601).

Again, the absorption of dentine, and sometimes enamel, by an absorbent organ has no bearing whatever on the problem of calcium deprivation *via* the pulp of the dentine or, more remotely still, of the enamel. In fact, Mr. Sprawson himself, then President of the Dental Officers' Group, in PUBLIC HEALTH (May, 1928, p. 259), is reported as saying: "There was no evidence whatever that abstraction of calcium salts ever took place once teeth had erupted, save in the pathological process of dental caries."

he finds that "in the past few years the progress made in regard to the provision of a better milk supply has been of a remarkably gratifying nature," as a result of "many years preliminary spade work by the Departments of Health and Agriculture." There are, in fact, now over 100 dairy herds licensed for the production of Grade A (tuberculin tested) milk, and it is well known (says he) that this number could and would soon be greatly increased if the demand for tubercle-free milk were to increase. The satisfaction of Dr. Chalmers Watson with the situation in regard to graded milks in Scotland does not appear to be shared by the Council of the Royal Sanitary Association of Scotland. And small wonder if the figures they give as to the demand by the public for such milks in three of the chief cities—Edinburgh, Glasgow and Dundee—may be accepted. In Edinburgh, for example, where approximately 24,000 gallons are sold daily, only 840 gallons are Grade A (tuberculin tested). Glasgow, which consumes about 65,000 gallons of milk per day, has 1,102 gallons of the tuberculin tested grade, the demand in Dundee being for 130 gallons of certified or Grade A (tuberculin tested) out of a daily total of 9,245 gallons. These figures, added to a full knowledge of the milk problem, its importance in relation to the health of the people, and the inadvisability of too long continuing to copy the example of the lamented Mr. Micawber, no doubt were responsible for determining the Royal Sanitary Association of Scotland to plump for pasteurisation. This they do in no uncertain manner, commending it as "an efficient safeguard against the spread of infectious disease by milk" even, or perhaps particularly, in the case of bulked milks, where it should be carried out by approved methods and under supervision. Curiously enough, the voice that speaks in the report of the Department of Health for Scotland on tuberculous infection in milk is very much less definite than that heard in the memorandum of the Association. Indeed, if guidance in the matter were sought in the report it would be somewhat difficult to find. In the general summary, for example, the only statement made is that: "A marked reduction of infection results from heat treatment. The superiority of the holding over the flash methods has been elicited, and the relative efficiency of different plants examined": which does not err on the side of enthusiasm, though something a little warmer might have been excused having regard to a conclusion set out immediately following, to wit: "It is

estimated that the general rate of infection of milk retailed in the four cities (Edinburgh, Glasgow, Aberdeen and Dundee) is a little above 5 per cent." For the same reason there is room for surprise at the almost detached attitude adopted in the prefatory note to the report where, after mention of the fact that 10 per cent. of "raw milk in churns" had been found to be infected, and that bulking of milk increased the infection (37.5 per cent. of untreated creamery bulked milks were infected as against 83 per cent. in London), there is a bald announcement to the effect that heat treatment is capable of reducing the degree of infection. In the opening paragraph of his paper, Dr. Chalmers Watson claims that those who recommend compulsory pasteurisation are "at variance with the policy indicated in the existing official regulations relating to the sale of milk, these being based presumably on the views of the skilled medical officers engaged in the public health service." Since there appear to be no other "official" publications of the type mentioned by Dr. Watson, it is possible that he may have mistaken the report on tuberculous infection in milk for such a thing. Where he found "the skilled medical officers engaged in the public health service," whose views are so definitely against compulsory pasteurisation as he suggests, however, is much less easy to imagine.

Tuberculosis in North Wales.

THOUGH the mortality from tuberculosis has almost progressively fallen in Wales as a whole since the beginning of the century, a study of the mortality figures obtained in certain areas of the Principality showed that persistently high figures continued to exist, for example, in the rural district of Gwyrfa (Carnarvonshire) where the tuberculosis mortality was 2.45 per 1,000 amongst a population of 24,000 in the ten years 1921-30; in the urban district of Pwllheli, where the corresponding death-rate was 1.72, and certain urbanised portions of Merionethshire which similarly endured a high mortality. These disquieting features prompted the Council of the Welsh National Memorial Association to institute an investigation into the causes of the high mortality in these areas, and the results of the investigation, which was undertaken by Dr. Herbert D. Chalke, have been published in an admirable report recently issued by the Associa-

tion.* This Report deserves thorough study by all interested in social conditions prevailing in agricultural areas wherein urbanised communities have developed. In regard to these communities, the very high family incidence of tuberculosis, suggesting that infection largely takes place in the home, was discovered. A heavy rainfall and lack of outdoor recreation tended to increase the liability to home infection, as would also the high degree of inter-marriage which is prevalent amongst the inhabitants of these districts. A fatalistic outlook and inherent pride are prominent features amongst the population, and these traits exert a sinister influence in that they tend towards concealment of the disease, and examination by the tuberculosis officer is often refused because his visit is believed to stigmatise the family, thus leaving a large number of cases undetected and uncontrolled. The housing conditions were found to be very unsatisfactory; many of the houses had no through ventilation and were inadequately lighted by unopenable and curtained windows, whilst the sanitary arrangements were primitive, the waste matter being dumped on fields, waste ground or on the banks of a stream. Tuberculosis was found to occur with greater frequency in dwellings constructed of the somewhat porous slate shale, with absence of damp-proof courses, on an impervious subsoil, whilst striking examples are quoted of low tubercular mortalities in neighbouring hamlets where the subsoil is more pervious and the houses are built of non-porous stone. The diet of the people in these districts appeared to be deficient in such foods as milk, fresh meat, fruit and vegetables, the body resistance to infection being thereby lowered; tinned foodstuffs and bacon, together with an excessive consumption of tea, figured prominently in the dietary. The occupation of slate quarrying is undoubtedly associated with the maintenance of a high death-rate from tuberculosis, especially late in life, as apart from the exposure to silica dust, the conditions under which the men are employed enhance the opportunities for infection. At the end of his report, Dr. Chalke has furnished valuable recommendations which deserve the serious consideration of the local authorities and social bodies. Some of the most

*Report on an Investigation into the Causes of the continued High Death-Rates from Tuberculosis in certain parts of North Wales. By HERBERT D. CHALKE, M.A., M.R.C.S., D.P.H. Cardiff: King Edward VII Welsh National Memorial Association. 1933.

important of these relate to the need of replacement of damp cottages by modern structures on dry sites capable of receiving the maximum amount of sunshine, the intensification of existing schemes for teaching the people the supreme importance of suitable diet, the provision of means for healthy indoor and outdoor recreation to counteract the tendency to overcrowding in the home, the establishment of quarry canteens where the workmen may obtain a cheap, nourishing mid-day meal, increased attention to dust preventive measures in quarries and, finally but by no means least important, the obliteration of the old fears and prejudices which have been rooted by tradition in these communities, and the creation of a confidence that tuberculosis in its early stages is a curable disease which can be rendered non-infective by suitable measures.

It is impossible in a short space to do justice to the abundance of statistics and descriptive detail presented in this report, which invites the attention of those concerned in the epidemiology of tuberculosis; and Dr. Chalke is to be congratulated on the tremendous amount of work which was carried out within the limited period of six months.

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The Medical Uses of Radium.

IN a report recently issued under this title,* the Medical Research Council summarises the results of research work done during 1932 in the treatment of cancer by means of radium lent by them to selected centres throughout the country. The information provided supplements the account given in ten similar reports already published of the scheme of work carried out under the direction of the Council's Radiology Committee, which has been responsible also for the preparation of these reports.

The original stock of radium salt entrusted to the Council for this purpose by the Government is supplemented by further quantities provided by the British Empire Cancer Campaign and by the National Radium Commission.

The report, in addition to dealing with the actual work of the past year, also gives statistical data relating to the after-histories of patients treated in earlier years. Apart from summarising the reports from the research centres on the results obtained in connection with the treatment of cancers in various situations—the

*Special Report Series, No. 186. H.M. Stationery Office, 1933. Price 1s. net.

breast, uterus, rectum, brain, etc.—the reports include a section in which some account of purely experimental investigations is presented.

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The Welsh National Memorial Association.

THE twenty-first annual report of the King Edward VII Welsh National Memorial Association for the Prevention, Treatment and Abolition of Tuberculosis covers the twelve months ended March 31st, 1933, and contains a compendium of information which is of interest both to the clinician and the public health officer. The Association provides a tuberculosis service for a population of over two-and-a-half million persons, and has under its control 17 institutions, whilst the diagnosis and domiciliary supervision of cases are undertaken by 14 area tuberculosis physicians, most of whom are assisted by one or more assistant physicians.

Dr. D. A. Powell (the Principal Medical Officer), in his report, provides tables which show a steady increase in the work of the Association generally, the large amount of work carried out relatively to England as a whole, the close association maintained between the medical staff of the Association and general practitioners, and, in comparison with previous years, the relatively small number of sputum examinations and a much greater number of X-ray examinations. It has been found that whilst patients are unable or unwilling to provide specimens for bacteriological examination, they gladly seize the opportunity for radiological examination, and the provision of these facilities has done an enormous amount of good in popularising the work of the Association. A table given in Dr. Powell's report also shows that the mortality from tuberculosis in Wales has fallen from 1,730 per million in 1901 to 977 in 1932, and that though the non-pulmonary death-rate has fallen from 474 to 172 per million in this period, the pulmonary mortality has not shown an equal decline, the figures for 1901 and 1932 being 1,256 and 804 respectively.

In addition to the institutional and area reports, which contain a wealth of detailed information presented by the physicians in charge thereof, four formal "studies" are included. Dr. Brownlee (Glanely Hospital) describes a number of cases of clinical interest which presented medical or surgical symptoms simulating tuberculosis, and which were diagnosed as a result of the application of methods

which are available or at the disposal of a well-equipped institution. Dr. C. W. Burns describes the results of an investigation into the after-results of treatment of 143 surgical patients discharged from the St. Bride's Hospital between 1923 and 1927. Seventy per cent. of these cases were found to be fit after six or more years, and six out of a total of eight deaths which had occurred after discharge were of patients who had been removed from hospital against advice. Dr. T. W. Davies presents a study of the association of pulmonary and non-pulmonary conditions in the same patients; and Dr. W. Davies describes a case of tuberculous pericarditis with effusion, which was treated with some success by aspiration followed by air replacement of the fluid withdrawn.

Over 3,000 contacts were examined during the year by the medical staff of the Association, and an interesting table giving the results of contact examinations in Wales, compared with similar figures obtained from Lancashire, quoted from Dr. MacNalty's Report on Tuberculosis, shows that tuberculosis is found twice as often amongst contacts in Wales as in Lancashire, and taking adults alone it is found two-and-a-half times as often. The area physicians do not unanimously approve contact examination as a method of discovering cases of tuberculosis, but Dr. Howell Williams describes some striking results in this direction, obtained by the examination of contacts of seven cases in his area. In conjunction with the research department of the Association, work has been carried out in connection with "contacts," into certain "curious" bodies found in the lungs of colliers, coal trimmers and others, and in regard to tuberculin tests in a mental hospital; whilst Prof. Cummins has pursued his study of the value of gold salts in the treatment of pulmonary tuberculosis, and his search for methods to evaluate their effects.

In the Association's central laboratory, under the direction of Dr. W. H. Tytler, an increased amount of routine work has been done, and it is interesting to note that from a study of the bacillary types cultured from 450 cases treated by the staff of the Association, not more than 8 per cent. were found to be of bovine origin. Though the amount of bovine infection amongst human cases appears to be comparatively low in Wales, the Association has taken active measures to encourage the establishment of tubercle-free herds and improve the quality of milk generally, and a joint committee representing the Royal Welsh Agricultural Society

and the Association has been set up with this object in view.

The educational work of the Association has been vigorously carried on during the year. Dr. Owen Morris, the Director of Education, is described as having addressed with apostolic fervour, as many meetings as would tax a Chrysostom; and the two lady lecturers have given addresses on "Tuberculosis and the Laws of Health" and "Infant Care" (to senior girls) on 1,175 occasions.

The reports of the superintendents of institutions and area physicians show ample evidence of the appreciation of the work of the Association by the public, and of harmonious co-operation with medical practitioners, whilst the numerical preponderance of public health officers on the medical committee of the Association assures that the claims of preventive medicine shall not be overlooked.

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The Statistical Review of 1932.

PART I of the Registrar-General's Statistical Review of England and Wales for the year 1932, containing the medical tables, recently issued, calls for reference here.

From the tables relating to births, it is gathered that the number registered in the year was 613,972, giving a rate of 15.3 per 1,000 persons living. This rate is 0.5 below that for 1931, hitherto the lowest on record, and constitutes a new low record.

The death-rate was 12.0 per 1,000 persons living, being 0.3 below the rate for 1931, but 0.6 above that for 1930. The rate for 1930 was, however, the lowest ever recorded, and was largely due to the exceptionally mild weather in the first quarter of that year. The higher rate for 1932 is almost wholly occasioned by an excess in the first quarter of the year, the rates for the other three quarters showing very little variation.

Infant mortality was similarly affected, and the deaths of children under one year of age numbered 65 per 1,000 live births, against 66 in 1931, and 60 in 1930. 1930 is, however, the only year showing a lower infant mortality than 1932.

Cancer showed a death-rate of 1,510 per million persons living, against 1,484 in 1931. If, however, allowance is made for differences in the age constitution of the population, the comparative mortality from cancer shows a much smaller increase.

Tuberculosis again furnished a new low record of 837 per million living.

Puerperal sepsis caused the deaths of 1.55 women per 1,000 live and still births—0.04 less than the rate for 1931, and 0.29 less than 1930. "Other accidents of pregnancy and childbirth" showed a rate of 2.49 per 1,000 live and still births, compared with 2.36 in 1931.

The death-rate from suicide was 143 per million persons living, a new high record, the rate for 1931 (the previous highest) being 129. A slow increase in this rate has been continuous for a number of years.

Road accidents due to mechanical vehicles were responsible for 5,671 deaths. The figures for the last five years were 4,452, 5,196, 5,752, 6,342 and 5,892 respectively.

The volume, which is on sale at H.M. Stationery Office, price 6s. net, is one to which reference at intervals by every medical officer of health throughout the year is inevitable.

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After-Histories of Tuberculous Patients.

IN a special report bearing the title "Residential Treatment of Tuberculosis: After-Histories of Patients Discharged during 1921," Sir Frederick Menzies, Medical Officer of Health of the London County Council, reviews the condition in 1931 of 4,160 tuberculous patients (3,528 adults and 632 children) ten years subsequent to their discharge from hospitals and sanatoria during the year 1921. At the end of the ten years, 837 (512 adults and 325 children) were known to be alive; 2,340 (2,193 adults and 147 children) were reported dead, and 983 (823 adults and 160 children) were untraced. The somewhat high proportion of untraced (23 per cent.) introduces a considerable measure of error into the statistics, which must, therefore, be considered as representing a general survey rather than an actuarial study. It is to be noted that the figures for the "untraced" include many patients who were removed from the tuberculosis dispensary registers as "recovered cases," in accordance with the regulations of the Ministry of Health. There is good reason to believe that the greater number of these recovered cases are alive and in good health, and that the number of patients surviving after ten years is, therefore, appreciably higher than 837.

The various tables show that for the traced cases the mortality of the various types of

tuberculous disease varies greatly. Amongst the pulmonary cases with no tubercle bacilli in the sputum (Group A) the mortality has been 17.4 per cent.; amongst the relatively early pulmonary cases with tubercle bacilli in the sputum (Group B1) 43.9 per cent.; amongst the moderately advanced cases with tubercle bacilli in the sputum (Group B2) 70 per cent., and among the cases of very advanced disease (Group B3) 94 per cent. The cases of surgical tuberculosis show a mortality of 24 per cent.

The best results are those obtained in the cases of surgical tuberculosis and in the slighter cases of pulmonary tuberculosis, namely, those included in the groups A and B1. Unfortunately, these two groups form only 35.4 per cent. of all the pulmonary cases treated during 1921. A review of all the pulmonary cases treated by the London County Council during the years 1927, 1928, 1929, 1930 and 1931 shows that the proportion of early cases remains practically constant, a disappointing fact in view of the importance of early diagnosis and the amount of attention given to the subject during the past ten years.

The heaviest mortality among tuberculous patients occurs during the first four or five years after their discharge from institutional treatment. Patients who survive this period have a good prospect of retaining their restored health. A high proportion of the patients known to be alive (65 per cent.) are fit for work, and 50 per cent. of the surviving men were known to be employed in 1931. The statistics relating to children are most encouraging. Of the children treated in 1921 the majority of the known survivors are now adults, and 90 per cent. of them are either at school or at work.

In the two graphs representing the distribution of deaths amongst patients of various ages, the most unsatisfactory feature is the heavy mortality amongst females of the age groups 20 to 25 and 25 to 30. This heavy mortality among female adolescents is noted with concern in all parts of the country, and is being closely studied by many authorities.

Obituary.

MRS. GRACE HAXTON GIFFEN DUNDAS, F.R.C.S.I.,
L.R.C.P. AND S., EDIN., D.P.H.

THE Society records with great regret the death of Dr. Grace H. Giffen Dundas, Medical Officer for Maternity and Child Wel-

fare for the County Borough of Middlesbrough. Dr. Dundas, who was a native of Kelso in Scotland, was appointed to Middlesbrough in 1920, and had previously acted as Medical Officer to the Maternity and Child Welfare Scheme at Leith, and as Deputy Medical Officer of Health at Ilford. She worked with untiring zeal in the cause of maternal and child welfare, and was held in high esteem by all the mothers and children with whom she came in contact. A Fellow of the Society of Medical Officers of Health, attached to the Northern Branch, Dr. Dundas was the author of a number of text-books and other contributions to medical literature.

FRANCIS JOHN BUTT, M.B., C.M.

The death is announced of Dr. F. J. Butt, for 33 years Medical Officer of Health for the Hoole Urban District. He was educated first at King's School, Chester, and afterwards at Edinburgh University, where he graduated M.B., C.M., in 1887. Dr. Butt came of an old Chester family, which in succeeding generations has held the highest civic offices since 1714. He himself took a leading part in the professional and social life of Hoole, and was held in high regard by his neighbours. He was a Fellow of the Society of Medical Officers of Health, attached to the North-Western Branch. Dr. Butt leaves a widow, two sons and one daughter.

THE annual dinner of the Association of Public Health Chief Clerks was held at the Holborn Restaurant, London, on December 16th, 1933, under the chairmanship of the President (Sir Allan Powell, C.B.E.). There was a large attendance, due mainly to the increased membership of the Association and the formation of branches in provincial centres. Fellows of the Society of Medical Officers of Health figured prominently among the guests and included the President (Dr. Charles Porter), the Hon. Treasurer (Dr. George F. Buchan), the Hon. Editor and President of the Metropolitan Branch (Dr. James Fenton), and the Consultant Secretary of the Society (Captain G. S. Elliston, M.C., M.P.). During the evening a presentation was made to the Hon. Secretary of the Association (Mr. A. E. Ruel, of the Lambeth Health Department).

The Responsibility of the Local Authority for the Blind.

By E. K. MACDONALD, M.D. (LOND.), D.P.H., Medical Officer of Health and School Medical Officer, County Borough of Stockport.

Few officers have given greater or more sympathetic attention to the matter with which this paper deals than Dr. Macdonald, and the many useful hints and suggestions which he offers are certain to be not only of interest but of real value to others who are called upon to carry out works connected with the welfare of the blind. Dr. Macdonald's paper was read at an ordinary meeting of the Society held in London on November 24th, 1933.

WHEN, over a year ago, I chose as my subject for this paper that of "The Responsibility of the Local Authority for the Blind," I did so because I had had the rather unusual experience, when I was in Barnsley, of being actually in charge of the blind welfare department of my corporation, which catered for the local blind from every point of view, as the voluntary committee had ceased to exist; but now, even more than then, I feel that the subject is one to lay before you, because of its very real importance to all local government administrators, and especially to the medical officer of health.

Before approaching the matter in detail, I would like to try to give a clear understanding of what the problem of the blind is in our country, and to that end I have prepared certain figures (for 1932) taken from the Tenth Annual Report¹ of the Advisory Committee on the Welfare of the Blind. I also give the

figures for 1933, which I have just obtained. For purposes of comparison I have included the figures for 1919, 1923 and 1929.

Table I.—Reference to Table I will show the numbers of known blind persons in the country on the 31st of March in the year mentioned. The latest figures (for 1933) show a total for the country of 63,408 blind persons, equivalent to the entire population of a town the size of Doncaster or Exeter, and there is no doubt that this figure is still too small. The increase from 25,000 in 1919 to 63,400 in 1933 does not, of course, indicate a great increase in blindness, but merely shows that the benefits now available to the blind have more than doubled the applications for help. Hence the apparent increase in blindness. An obvious deduction to be drawn from this great increase is that much care in registration and certification of the blind is necessary, in order that these benefits shall reach the persons needing them. I shall touch on this point later.

Table II suggests that the work of the local authorities in the prevention of blindness among infants and school children is at last bearing fruit. In four years the total of blind children under 16 years of age has dropped by over 400, about one-sixth of the total number. Ninety-four per cent. of the increase between 1929 and 1932 is among persons over 50 years of age.

Table III is of general interest, but of no importance to us here.

TABLE I.
TOTAL NUMBER OF BLIND IN ENGLAND AND WALES.

	Males.	Females.	Total.
1919	13,854	11,986	25,840
1923	18,907	17,611	36,518
1929	26,515	26,212	52,727
1932	30,600	31,479	62,079
1933	—	—	63,408

TABLE II.
DISTRIBUTION OF BLIND IN ENGLAND AND WALES ACCORDING TO AGE PERIODS.

	0-5	5-16	16-50	50+	Unknown.	Total.
1919	219	2,098	—	23,523	—	25,840
1923	231	2,723	12,522	20,423	619	36,518
1929	258	2,438	15,524	34,453	54	52,727
1932	225	2,066	16,496	43,227	65	62,079
1933	244	2,089	16,568	44,343	164	63,408

TABLE III.
NUMBER OF BLIND PERSONS OVER 50 IN RECEIPT
OF PENSION UNDER BLIND PERSONS ACT, 1920,
SECTION I.

1923	..	..	..	9,921
1929	..	..	..	17,516
1932	..	..	..	21,057
1933	..	..	..	21,670

Table IV, however, shows that in 1932, for the first time, the age-period 0 to 1 year was not the worst period for the commencement of blindness; that has now shifted to the 60 to 70 age-group, the 50 to 60 age-group being second, and the 0 to 1 group third. This position has

agencies for which grant would be available. Grants for unemployed or necessitous blind were not included, as there was no statutory power to do so. I will explain later how this relief may be given.

The circular attached to the regulations laid down, *inter alia*, an important point, which local authorities should bear in mind, to the effect that wherever practicable, employment in a workshop is preferable to provision of assistance to workers in their own houses. It also suggested an outline for a scheme of home workers, and stated that there should be allowed one home teacher to 50 blind persons in an urban area, and one to 30 in a rural area. On

TABLE IV.
AGE INCIDENCE OF BLINDNESS.

Year.	0-1	1-10	10-20	20-30	30-40	40-50	50-60	60-70	70+
1919	21.4	10.8	9.4	9.7	9.7	11.0	9.5	9.6	6.4
1923	20.5	10.9	8.2	8.9	9.2	10.6	12.6	12.0	7.0
1929	16.5	8.4	6.9	8.2	8.8	11.2	14.9	15.9	9.2
1932	14.7	7.2	6.1	7.4	8.2	11.2	16.0	18.0	11.2
1933	14.4	7.0	6.1	7.3	8.3	11.5	16.3	17.9	11.2

been maintained in 1933.

Having now demonstrated, I think, the importance of the problem, I will pass on to a description of the ways in which it is being tackled. First, I will discuss as briefly as possible the legal powers of a local authority, which enable the blind to be assisted.

Legal Powers of Local Authority.—The interest of the local authority in the blind is of comparatively recent date, although as long ago as 1893, education of blind children was provided for. The first real connection between the local authority and the blind came with the passing of the Grant regulations of 1919,² which necessitated consultation between the Ministry of Health and the local authority before any voluntary agency was recognised by the former for the purposes of grant. This very fact made the local authority take an interest in the blind. These Grant regulations were superseded by the Local Government Act, 1929, but they are, nevertheless, of considerable moment to us, because they contain suggestions for schemes, and definitions which are still of value. Reference to circular 1086, published in March, 1930, will confirm this point.

The Grant regulations, together with the accompanying circular, 7/BD, of August 7th, 1919, dealt with those services of voluntary

this last point, of course, the number of home teachers must vary according to the type of work, but now, 14 years later, only one authority (Barnsley) has an allowance of anything like the standard suggested, and this authority has one home teacher to 56 blind persons; all the others one to more than 56, the average being one to 157.

The definition of blindness still in use by the Ministry was laid down in these regulations—a blind person is one who is too blind to perform work for which eyesight is essential.

The regulations further mentioned the amount of grant payable to an approved agency, and as the amounts have much influenced the work of the local authorities, I give them here:—

£20 per annum per approved workshop employee.

£20 per annum per approved home worker.

£13 per annum per approved "home" inmate.

£5 per annum per approved "hostel" inmate.

Grant of 50 per cent. towards expenses of tools, etc., and various grants towards books and publications, and to certain associations.

The regulations also laid down important rules for the keeping of registers, for the control and management of workshops, employees, etc.

So much for the Grant regulations of 1919. In 1920, the Blind Persons Act, the *magna charta* of the blind, was passed, and immediately the local authority was brought into intimate relationship with the service.

Section 1 of the Act granted the old age pension to blind persons at the age of 50, instead of 70, as it is for the ordinary population. This section does not concern us, except for certain points with regard to the alleviation of the needs of old necessitous blind, to which I will refer later.

Section 2 is the most important from our point of view. Sub-section (1) lays upon every local authority the duty of making arrangements for promoting the welfare of the blind, and permits the council to provide or maintain workshops, hostels and homes for the blind. The arrangements must be approved by the Minister, and a scheme laid before him outlining the proposal of the local authority.

Sub-sections (2) and (3) of section 2 are financial.

Sub-section (4) discusses the appointment of an *ad hoc* committee of the council to carry out the work for the blind. This committee may have co-opted members, but two-thirds of its members must be members of the council. It need not be an *ad hoc* committee, but there is no doubt that such a committee is preferable. (The last remark is mine.)

Section 3 of the Act makes the War Charities Act, 1916, apply to agencies for the blind, and puts the duty of registration of such agencies on the local authority.

The next important piece of legislation for the blind is the Education Act, 1921, which embodies all the previous Acts in this connection.

Sections 51 and 52, respectively, place the duty of education of a blind child on the parents and on the local education authority, and define their different responsibilities. It should be noted that it is not a reasonable excuse for a parent to say that there is no school accommodation within a certain distance, as in the case of ordinary children.

Section 61 extends the period of compulsory education to 16 years in the case of a blind child, and by section 62 the local education authority is empowered to provide schools.

The parents may be held liable to contribute towards the expense of educating a blind child (section 65), and section 69 defines a blind child as one who is too blind to be able to read the

ordinary school-books used by children, obviously a much wider definition than that under the Blind Persons Act, 1920, and one that is the cause of some confusion at times.

Blind persons older than 16 years can also be educated by the local education authority under their higher education schemes, the Board of Education usually paying 50 per cent. grant towards the cost of approved expenditure, as for elementary education.

Local Government Act, 1929.—The next legal enactment of any importance in regard to the blind is the Local Government Act, 1929.

The effect of this measure on work for the blind was very far-reaching, and really twofold in its action:—

(1) The grants usually paid direct by the Ministry to voluntary agencies are now paid through the local authority. The Ministry has to formulate a scheme under section 102 (1) of the Act for the payment of these grants, and such a scheme³ has recently been passed for the next grant period. The scheme has to be prepared by the Minister on submission to him of the local authority's proposals, after the local authority has consulted with the voluntary agency. The scheme takes into consideration (a) the grant paid direct to the voluntary agency by the Ministry prior to the passing of the Local Government Act; (b) the contribution of the local authority to the voluntary agency (50 per cent. of approved expenditure was allowed by the Ministry), and (c) any new proposals by the voluntary agency.

This sum of money has now to be paid by the local authority to the voluntary agency and, as a result, the duty of supervision of the voluntary agency now devolves entirely on the local authority, instead of on the Ministry of Health as formerly. In circular 1086, already referred to, the Ministry of Health advises the local authority in detail as to how best to carry out this work of supervision.

Besides these block grants, the local authority is allowed to make grants to the voluntary agency, although the method adopted varies. Some make a capitation grant for workshop employees and home workers; a 50 per cent. grant towards the salary of the home teachers; a capitation grant for each registered blind person, and grants towards approved expenditure. In addition augmentation grants may be paid.

The exchequer grant paid by way of block grants included, as is known, a sum of

£5,000,000, new money for progress and development of health services, including those for the blind.

(II) The Local Government Act also permits any local authority (sections 4 and 5) to make a scheme declaring all assistance to the blind to be carried out under the Blind Persons Act, and not under the poor law.

The spirit of the Local Government Act was the break-up of the poor law, and although this section 5 is permissive, in my opinion every local authority should make the necessary declaration. The following is an example of such a declaration:—

"It is hereby declared that all assistance to necessitous persons, for which provision is made in the services set out in this clause, shall be provided exclusively by virtue of the Act or Acts under the heading of which the service is set out, and not by way of poor relief:—

(After giving examples of various services, it mentions)

"Blind Persons Act, 1920.

"The provision of domiciliary assistance to Blind Persons."

It should be noted that the declaration can usually only be made in respect of domiciliary assistance, but under section 2 of the Blind Persons Act, 1920, local authorities may also provide homes or other places for the reception of the blind.

Referring to the question of supervision, probably the best way for a local authority to carry out this duty⁵ is to appoint someone definitely experienced in such supervision, and such a person is not usually found on the existing town hall staff. This duty has been delegated by the majority of local authorities in the northern area to a special supervisor in the employment of the Northern Counties Association. I have had experience of this gentleman's work, and I think a similar arrangement could with advantage be entered into by any local authority with its particular counties association. The local authority, under the scheme made by the Minister under section 102(1) of the Local Government Act, already has to contribute to the funds of the counties association; for a small affiliation fee the local authority may enjoy these further benefits, *i.e.*, of supervision of the local agency, and expert advice, in the approval of employees, for example.

Such are the legal powers under which the local authority acts.

I will now discuss the actual work that the local authority does or can do for the blind.

First, registration and certification of the blind. An absolute fundamental for a satis-

factory scheme is that there should be accurate registration and certification of the blind in the area.

Circular 1086 states: "Efficient registration is essential to the success of any scheme for the welfare of the blind." Registers must be kept, and the local authority must approve their form, and see they are kept up to date.

For some considerable time it has been realised that no person should be entered in the blind register unless he or she has been medically examined by a recognised ophthalmic surgeon. Recently a circular of the Ministry of Health (circular No. 1353) has laid down this recommendation definitely. This circular is based on a Report of the Prevention of Blindness Committee of the Union of Counties Association for the Blind,⁶ to which I would refer you, and marks a most important step forward in the administration of the blind services of the country.

The Ministry requests all local authorities to use form B.D.8 (Examination for Admission to Register of Blind Persons), which was included with circular 1353. You will be aware, of course, that no exact standard of visual acuity, such as, for example, less than six-sixtieths, is laid down, beyond which a person may be considered blind, but circular 1353 gives the Ministry's opinion on this point. What constitutes an ophthalmic surgeon is also laid down in this circular. The Board of Education, in circular 1431, have also adopted the use of this form of certification for the school medical service.

Coupled with the need for accurate certification of the blind is the need for further knowledge on the prevention of blindness, and there is no doubt that the extended use of the new form will produce most valuable information on this point.

Those who have not read the recent report on "Hereditary Blindness" which was reviewed in PUBLIC HEALTH in August last (p. 353), are recommended to do so.

As regards the question of certification and registration of blind children, the Education Act definition is wider than that of the Blind Persons Act. The former reads: "Too blind to read the ordinary school-books." It has been suggested that only those children who have been taught Braille should be registered under the Blind Persons Act.⁷

Great care should be exercised in training children under the Education Act definition, otherwise it may be found, when they become

16 years of age, that they are not registrable under the Blind Persons Act, and are no longer trainable. Progress reports should be available to the local education authority, and a special report at least six months before the training ceases, and there should be close co-operation between the training authority (the local education authority) and the Blind Persons Act committee. I have known cases in which a child has been trained as blind, and then, when aged 16, has not been considered blind: the training has therefore largely been wasted. This suggests, of course, that there has not been proper co-operation between the two bodies concerned. I recognise, however, that it is extremely difficult at times to be positive as to the extent of a child's blindness.

This matter is fully dealt with in circular 681 of March 29th, 1926, issued by the Ministry of Health.

The question of accurate certification of all blind persons is obviously important when it is realised that, for the area of the Northern Counties Association, the expenditure by the local authorities alone is approximately £500,000 a year, and is steadily increasing. This is quoted from a paper by Dr. Joseph, Medical Officer of Health of Warrington.⁸

It is interesting to note that in Glasgow an ophthalmic clinic has been commenced for the purpose of certification. Other authorities use the school oculists for this service. A fee of £1 1s. 0d. is recognised as adequate by the British Medical Association for the certificate, and I am of opinion that this fee should be paid by the local authority, not by the voluntary agency. It is very distinctly in the interests of the local authority that certification should be accurate.

Now let us pass on to a consideration of what the local authority can do for the different classes of blind person.

(I) The children under five years of age. There were 225 such cases in 1932,⁹ and usually very little requires to be, or can be, done for them. Should it be necessary, the local authority may send them away to special homes, and the National Institute for the Blind provides sunshine homes for their acceptance. There are three sunshine homes in the country, and the cost to the local authority for maintenance is £38 5s. 0d. per annum (for parents somewhat less). These children should, of course, be registered under the Blind Persons Act, 1920, but can usually be cared for in their homes, and supervised by the maternity and

child welfare health visitors, acting in conjunction with the Blind Persons Act Committee.

(II) The children of school age, 5 to 16 years. The total for this group in the country in 1932 was 2,066.⁹ I have already mentioned the powers given to the local education authority in the Education Act, 1921. There are about 30 to 40 schools (referred to in the National Institute for the Blind year book) for blind children in the country, and in the case of those owned by the National Institute for the Blind, the cost to the local education authority is £60 per annum. The National Institute for the Blind also has a special school of 30 places in Devonshire for mentally retarded, though not certifiable, blind children. The fees here would cost the local authority £81 10s. 0d. per annum.

But there is a large class of partially blind children to which I must refer. Bishop Harman¹⁰ estimates that there is one myope to every 500 ordinary school children. Myope classes, or as they are better called, sight-saving classes, are of paramount importance, and every local education authority should make such provision. Myopes should not be registered under the Blind Persons Act.

(III) Next we pass to the large class of blind persons over 16 years of age. Some of these are training, some trainable but not trained, some employed, some unemployable, and so on.

(a) In 1932 there were 1,619¹¹ blind persons in training, and a further 643 trainable, but not yet trained.

The local authority should take a vital interest in training all possible persons. This is an economic desirability. The cost of training will be saved in public assistance. It is, however, very important to select suitable training for blind persons in view of their capability, and also of their prospect of employment. There should be a very close liaison between the training authority and the workshop.

Circular 387 of the Ministry of Health states:—"The sole purpose of training a blind person is to make him as independent as his blindness and his capacity permit."

It is of interest to note¹² that the number of trainees is diminishing, due no doubt to the decreasing number of entrants.

There is no age-limit to those who may be trained, but it is usually not feasible to try and train blind persons who are over 50 years of age.

There are 43 training schools in England and Wales approved by the Board of Education, to which trainees may be sent (a list is given in the National Institute for the Blind year book).

The local authority should also submit the names of candidates for special correspondence courses run by the College of Teachers of the Blind, 224, Great Portland Street, London, W.1.¹³

(b) When the trainee is passed out from his training school, it is desirable that he should be absorbed in the local workshop. A very second-best scheme is to find him work at home as a home worker. In 1932, there were 9,124¹⁴ persons in employment, and a further 374 trained but not employed.

The local authority can usually help this class by augmentation of wages. Various schemes of augmentation are in practice, but probably the best makes use of a sliding scale in the case of the workshop employee. The Ministry has discussed this scale in detail in memo. 64/BD. In the case of the home worker a flat rate augmentation is recommended. In Barnsley a flat rate of augmentation of £1 a week was paid to each employee, whether in the workshop or at home.

It should be noted that the local authority must recognise every employee before grant is paid, and further, in the case of home workers, must recognise the occupation as being a suitable one. This recognition should be on as wide a basis as possible, and should include employees in ordinary factories or workshops.

In circular 1086 of March 21st, 1930, the Ministry discusses this question of recognition, and desires the following conditions to be fulfilled:—

(1) The occupation should not be a mere pastime, but should be definitely on the plane of industrial effort, in order that the home worker may be in a position to maintain himself out of his earnings, assisted by augmentation, as in the case of an employee in a workshop.

(2) The occupation should be such as to enable the association which supervises the scheme to render tangible and continuous services to the home worker.

It must be remembered that as a blind person cannot, as a rule, earn enough to support himself, his wage must be augmented.

A good standard of work should be insisted on, as the public have a right to expect a reasonably good quality of goods to be available for purchase. There is no necessity to sell the goods made by blind persons as a form of charity. We always used to say that the goods sold in our blind shop were so good they sold themselves. The local authority can assist considerably by purchasing goods from the blind themselves, for example, firewood, baskets

of different types, brooms for the cleansing department, socks for the public assistance committee.

A point to remember is that workshop employees are insurable under the Unemployment Insurance and National Health Insurance Acts. Home workers are not usually so insurable.

Another duty of the local authority is to supervise the general conditions of the workshop, and the Advisory Committee comment favourably on the good effect the connection of the local authority has had in this matter.

The local authority has also power under the juvenile employment bureau to place blind persons in work.

(c) By far the largest class of blind person is that of the unemployable and often necessitous blind. There were 48,028¹⁴ such in 1932, and of these, 21,057 were in receipt of the blind pension under section 1 of the Blind Persons Act. This pension is 10s. a week.

Unless a declaration has been made under Part I of the Local Government Act, it must be realised that there is nothing in the Blind Persons Act that relieves the public assistance committee of the duty of assistance. But, as I stated earlier, it is highly desirable that such a declaration should be made, and in any case most local authorities have made a scheme for augmentation of the income of necessitous and/or unemployable blind persons. Various forms of augmentation exist, but the two with which I have had connection allow for making up of the income of the blind persons to a specified amount. In one instance, if the blind person was a householder, the income was made up to 25s. a week; if not, up to 20s.

No period of qualifying residence is permissible¹⁵ before augmentation is granted. Where a scheme for augmenting the income of necessitous blind persons is in operation, if a person genuinely moves into the area of the local authority, augmentation must commence at once on application—after registration and certification, if necessary, of course.

A difficulty sometimes arises when the blind person is eligible for the old age pension at 50, and also for a contributory pension at 65, for the latter ceases at 70 years, and unless additional augmentation is given, hardship may result.

Another service the local authority may render this class is to provide aged and lonely blind persons with a home, on the cottage homes principle.

Finally, a few remarks on the administration

of the service. The interest of the local authority in the blind has nowadays become so great that I am definitely of opinion that this service should be administered as a branch of the local authority's services, and not chiefly by a voluntary committee. I do not, of course, wish to divorce voluntary effort entirely from the care of the blind, for I realise the enormous amount of devoted service that has been given in this connection, but I believe that from the point of view of the great expenditure involved alone, the local authority should have a greater say in the spending of that money, and in the administration of the service, than it usually has.

The training of blind persons, whether of school age or older; the running of the workshop, and the care of the workshop employee; the supervision of the home worker; the disposal of the goods produced by the blind, and the augmentation of income, whether earned by employees or paid to necessitous blind, are all duties which, in my opinion, the local authority can administer better than any voluntary body.

I consider, however, that there should be a voluntary committee, with a close connection with the statutory committee of the council, whose duties it will be to raise funds for providing the blind with outings, concerts, and other matters which are not properly within the purview of the local authority. It is, in fact, necessary that such a committee should exist, as the National Institute for the Blind, which usually undertakes the collection of funds in a district, apparently is not able to enter into an arrangement with a committee of the local authority.

As regards which department of the local authority should administer the service, I believe that it should be in the control of either the education or the health department. Both these departments are so intimately bound up with the welfare of the blind that if they have not some definite and intimate liaison with its administration, an inefficient service is sure to result.

The medical officer of health should interest himself keenly in this matter, because, although it is not the subject matter of this paper proper, any consideration of the care of the blind must bring out that of the prevention of blindness, and prevention, of course, is entirely a matter for the health department.

For those who wish to make a fuller study of the subject, I have inserted references to the various circulars of the Ministry of Health, as

well as to the Acts of Parliament, but probably the most fruitful source of information will be found in the reports of the Advisory Committee for the Welfare of the Blind appointed by the Minister of Health. Ten such reports have been presented—the last early in 1933.

I have not touched on the question of prevention of blindness, nor have I done more than mention the work of the voluntary agencies. Such were not the subject of this paper.

The problem of the blind is no small part of the problem of local government, and the enormous alleviation in that distress which was, unfortunately, so common in our country before the passage of the Grant regulations of 1919 and the Blind Persons Act, 1920, bears eloquent witness to the work that is being done on behalf of the blind by the voluntary bodies and the local authorities.

The pathos of blindness comes home to us all at times, and I trust that this contribution may stimulate a greater interest in the subject, and lead to more work being done for these unfortunate citizens of our land.

BIBLIOGRAPHY.

Where reference is made to the Annual Reports of the Advisory Committee on the Welfare of the Blind to the Minister of Health, this is shown thus:—
Tenth Annual Report of Advisory Committee.

¹ Tenth Annual Report of Advisory Committee. Pages 26, 27, 4 and 10.

² Circular 7 BD. Regulations and Rules of August 7th, 1919.

³ Circular 1306 of Ministry of Health, March 17th, 1933, and Welfare of the Blind (Contributions) Scheme, 1933.

⁴ Declaration by County Borough of Barnsley under Local Government Act, 1929.

⁵ Tenth Annual Report of Advisory Committee. Page 6.

⁶ Report by the Prevention of Blindness Committee of the Union of Counties Associations for the Blind, 1931.

⁷ Special Report of Advisory Committee, 1932.

⁸ G. W. N. Joseph, M.D., D.P.H., Medical Officer of Health, Warrington. *Medical Officer*, October 29th, 1932.

⁹ Tenth Annual Report of Advisory Committee. Page 27.

¹⁰ N. Bishop Harman, F.R.C.S. *British Medical Journal*, January 28th, 1933.

¹¹ Tenth Annual Report of Advisory Committee. Page 29.

¹² Tenth Annual Report of Advisory Committee. Page 11.

¹³ Eighth Annual Report of Advisory Committee. Page 19.

¹⁴ Tenth Annual Report of Advisory Committee. Page 10.

¹⁵ Ninth Annual Report of Advisory Committee. Page 18.

Ut Ita Dicam.

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

The First Symposium Discusses Dental Matters.

The ordinary meeting of the Society on Friday, December 15th, was of particular interest for the reason that it was the first of a session which it is hoped to make noteworthy as one of symposia for which the Groups within the Society are to be responsible. In this first symposium, actually two Groups were concerned, the School Medical Service and the Dental Officers'. There were there in support of the President, who occupied the chair, two Vice-Chairmen—Dr. Oscar Holden, President of the School Medical Service Group, and Mr. Doswell Wallis, President of the Dental Officers' Group. From all the important points of view of numbers present, numbers who remained till the proceedings terminated, acceptability of opening papers, number and quality of contributions to the discussion, the symposium was an undoubted success. The subject for discussion was "The Organisation and Administration of the School Medical and Dental Services," and Dr. Andrew Davidson and Mr. Doswell Wallis, both county officers, the former in Surrey and the latter in West Sussex, not only gave a good account of themselves, but offered an excellent lead for those who followed. The bulk of the speakers, it may be noted, dealt with the dental side, and the fact that the opportunity of referring to service grievances and administrative difficulties was seized by so many of the younger officers, may be taken as evidence of the existence of a real keenness and interest both in the work and the service. Amongst the dental speakers was, of course, Dr. Sim Wallace, who returned once more to charge, as so often he has charged with those who are against too profound a belief in the vitamins.

Dental Education.

Unfortunately, the time limit imposed upon participants in the discussion interfered to an extent with him in the development of his views, though certain others who had much to say, but were less leisurely in expressing their ideas, found the seven minutes allowed them adequate enough. Dr. Holden was, naturally, the chief speaker on the school medical side, and made a very useful contribution to the discussion. Very frequent reference was made

to the advantages of and necessity for education and propaganda, and mention was made of the dental leaflet of the Society. That there is such a thing in existence must sound surprising to many. It is a fact, however, that at one time, before the days of the Central Council for Health Education, the Society set about preparing and issuing pronouncements and leaflets on matters connected with personal hygiene. Of these, that on teeth was one of the chief, while another dealt with vermin. Most of the speakers who mentioned the former at the meeting apparently approved it. This makes it all the more surprising that so little is heard of it in other circles. Possibly the fact that the Dental Board of the United Kingdom, through its Propaganda Committee, does so much in relation to dental education, and has so much propaganda literature, has something to do with the apparently limited use made of the Society's leaflet. Mention of the Dental Board serves as a reminder that another point made in the course of the discussion was that this body appeared to be doing little or nothing in rural areas, and to consider it not worth while doing anything, though the need for education in country districts was as great as, if not indeed greater than, in large centres of population. All the way round a very useful meeting, the success attending the first symposium auguring well for those that are to follow.

Sir Francis Fremantle on the Housing Problem.

There was no moment more appropriate than this for the publication of a survey of the housing problem and a summary of the legislation designed to aid in its solution. The launching of five-year plans: the wonderful ardour of the Minister of Health that has forced him to devote so much of his time and energy to visiting various backward and other districts, urging, heartening and persuading them to give attention to slum clearance and housing: the difficulties with which health officers are faced: these amongst others are considerations that made surveying and summarising necessary. That it was not just anybody's job, the preparation of the publication, is probably the reason why there has been delay in producing it. There was needed someone who knows the problem, its nature and extent: who can regard it

properly and from the several correct angles: somebody who knows housing law as machinery designed for the purpose of solving the problem; who knows the machinery as an engineer knows machinery, not only so as to be able to get it going but to keep it going and properly tuned up and in going order. Experienced as a health officer, as a member of a local government body vastly concerned in housing, and as a legislator, there could be no one more capable of providing a survey and summarising the legislation than Sir Francis Fremantle. Even for him it was a task not to be lightly undertaken; but having undertaken it, as those who know him best will recognise, he has made of it a performance that must enhance his reputation, and will provide something that will be of wide value and utility. Definitely it is a remarkable production, this survey of Sir Francis Fremantle.* Described on the cover as "concise," it actually is so. Something more also it is, being accurate and reliable. Concise and all as it is, it is interesting too, and very readable. How it has been done for fourpence the brochure itself as well as its author fails to reveal, but being so cheap it should be ordered in every district in quantities sufficiently large to permit of a copy being placed in the hand of every member of the council. Those members who receive a copy and study its contents will find themselves in possession of information that must help them to understand and perform their duties in relation to housing properly. Also they may feel themselves called upon to thank Sir Francis Fremantle for having done them so splendid a service. If they so feel there need be no wonder, any more than there would be if medical officers of health and other officers of local authorities with duties in relation to housing desired similarly to return thanks to the author of the booklet.

American Milk Dealers and Pasteurisation.

At the risk of having to face the charge that too much space has already been devoted in this number to discussing the question of milk pasteurisation, it is felt that reference must be made, and nowhere more appropriately than here, to a brochure on the subject recently issued by the International Association of Milk Dealers, an American organisation with headquarters in Chicago. This present brochure, from the sub-title "Epidemic Section" that it bears, would appear to be one of a series.

*Copies may be obtained from the Unionist Central Office, Palace Chambers, Westminster, London, S.W.1.

Amongst its contents are a number of most valuable and apparently reliable tables relating to milk-borne disease outbreaks during the years 1924-1931. In these the information is carefully and helpfully analysed. In addition, clippings from a multitude of publications having reference to disease outbreaks—septic throat, etc.—pasteurisation and so on, are shown, with copies of letters advocating such treatment from Surgeon-General Cumming of the United States Public Health Service, and Dr. C. H. Mayo of the Mayo Clinic. In a note summarising the results of the investigations into milk-borne epidemics in the States during the eight-year period under consideration, a number of points are made and because they are so startling, and appear to be so well authenticated, it seems worth while reproducing them:

"An average of five people each day in the United States are destined to become ill through the use of raw milk. Every six days of the year one of these people will die, and every eight days of the year an epidemic is caused by the use of raw milk. These figures are gathered from the annual reports of milk-borne outbreaks of diseases issued by the United States Public Health Service for the years 1924-1931. During this time there were 358 raw milk epidemics causing the illness of 14,572 people and 455 deaths. Analysis of the figures on our milk epidemics shows that the only states not reporting such epidemics to the United States Health Service are Nevada, Utah, and Wyoming—states that rank very low in the production of milk as well as population. The state analyses are followed by the reprints of the reports from the United States Public Health Service."

THE Minister of Health has made the following appointments to the Local Government and Public Health Consolidation Committee: The Rt. Hon. Lord Addington, O.B.E., to be Chairman of the Committee in place of the late Lord Chelmsford; Mr. G. R. Hill, Parliamentary Counsel to be a member of the Committee in place of Sir William Graham-Harrison, K.C.B., K.C., and Mr. L. A. J. Granville Ram, C.B., resigned; and Mr. Joshua Scholefield, K.C., and Mr. C. L. des Forges, Town Clerk of Rotherham, to be members of the Committee.

DR. VINCENT NORMAN has been appointed Medical Officer of Health for the Wareham and Purbeck rural district, in place of Dr. C. L. Elgood, resigned.

The Use and Misuse of Antitoxin.

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That there is room for an authoritative statement and guidance upon the use of antitoxin and sera in the treatment of diphtheria, etc., has long been felt, and nothing could have been more appropriate than that Dr. Banks should have chosen it as the subject of his address on his inauguration to the Presidency of the Fever Hospital Medical Service Group of the Society on December 1st, 1933.

SO familiar to most of us is the practice of antitoxin therapy in diphtheria, that we may find it difficult to imagine any considerable change occurring in the long-established routine of administration of this remedy. The practice of fever hospitals in this country, with a few exceptions, and the standard teaching in British text-books, as to dosage and the intra-muscular route of administration, are still very much on the lines suggested by F. H. Thomson¹ in 1921, with, perhaps, a tendency in the north to lower dosage in mild cases. Yet, since 1921, two important changes have occurred.

The first is the increasing experience of routine intra-venous administration of diphtheria antitoxin, together with largely increased doses, in hyper-toxic cases. Th. Madsen² (1922), in the course of the Harben Lectures in London, gave a most convincing exposition of the laboratory and scientific evidence in favour of large intra-venous doses in hyper-toxic cases. In this country we have been slow to adopt the intra-venous method, as a routine, but we can, as in many other things, claim to be pioneers, if not, indeed, discoverers. As far back as 1902, D. L. Cairns³ described 20 cases, including both malignant and bronchial diphtheria, treated in Glasgow by intra-venous anti-diphtheria serum in doses of 20,000 to 35,000 units. The scanty references to this pioneer work in the literature probably mean that it has been forgotten. At any rate, it may be of interest to state that when I myself served some 12 years later as a resident medical officer in the same hospital in which Cairns did this work, I saw and heard nothing whatever of intra-venous serum, nor did I know of Cairns' work when I published a short paper on the subject in 1928.

The second and most important change that has occurred within recent years is the production of a far more concentrated and highly refined serum product, so free from extraneous proteid that it is now properly described, not as anti-diphtheria serum, but as a solution of

diphtheria antitoxic globulins. The far-reaching significance of this change has not yet been generally grasped, either for diphtheria or for scarlet fever, for it brings intra-venous injection into the sphere of practical politics as a routine alternative to the intra-muscular method, and, in consequence, foreshadows the possibility of vastly improved results.

In consequence of these two new factors, I feel strongly that the time has come for a re-consideration of the standard teaching and practice of the use of antitoxin in treatment. May I here express the hope that the Fever Hospital Medical Service Group of the Society may see its way to pool its experience, and to make some attempt to reach agreement on controversial points. This would, indeed, be a worthy part for the Group to play in the re-modelling of new policy. Nothing would do more, I think, to enhance its prestige. In the meantime will you bear with me while I indicate in sketchy fashion my own personal views?

When we consider the extraordinary efficacy of small amounts of diphtheria antitoxin against the homologous toxin in the laboratory, it is not surprising that Ehrlich considered, in the earliest days, that a dose of serum containing 1,500 units of antitoxin injected subcutaneously was a sufficient treatment for human diphtheria. And it was doses of this order, or perhaps 2,000 to 4,000 units, that, according to general opinion, gave such wonderful results in those days as compared with the horrifying experiences of the pre-antitoxin era. There seems, indeed, little reason to doubt that such doses, which in many quarters are regarded nowadays as ridiculously small, do indeed prevent perhaps the majority of diphtheria cases of the current variety in this country, from proceeding to a dangerous stage or to a fatal termination. The reason does not seem to be far to seek. When such doses are absorbed into the blood, they provide, as a rule, an excess of antitoxin, which,

although insufficient to affect the toxin already combined with the tissue cells, is able to neutralise readily any further toxin that may be formed and absorbed into the blood stream. In other words, such doses may stop the *toxifying* process and restrict the damage to that already done, and as the majority of cases of clinical diphtheria exhibit a mild toxæmia during the first two or three days, the damage done is usually not incompatible with ultimate recovery.

This phase of antitoxin therapy lasted from the beginning in 1895, till after the close of the War, with a gradual tendency during this period to increase the dosage in the severer cases up to 16,000 or even 20,000 units, and a tendency toward the end of the period to substitute intra-muscular for subcutaneous injection. In the year 1910, the average number of units used per patient treated in the Metropolitan Asylums Board's infectious hospitals was 14,751. In 1911, it had risen to 17,328, but these figures probably include many cases in which more than one dose was given, and, thus, the average initial dose would probably be substantially less.

In the north, dosage was lower still. In the early post-war years, when 8,000 units was suggested by the Ministry of Health as the minimum dose to be given to any case of clinical diphtheria, the late C. B. Ker vigorously protested against the waste involved in ignoring the perfectly effective dosage, in experienced hands, of 2,000 to 6,000 units for mild cases.

The gradual change from a maximum dose of 4,000 units subcutaneously to some 20,000 units intra-muscularly during the first quarter-century of diphtheria antitoxin therapy may have been justified by improved results in cases exhibiting a moderate degree of toxæmia. Progress of a really substantial nature was not, however, effected in cases of malignant or hypertoxic diphtheria until the introduction of massive doses by the intra-venous route. In 1921, W. H. Park⁴ was recommending in severe and malignant cases, doses of 10,000 to 20,000 units intra-venously for children, and 20,000 to 50,000 units intra-venously for adults. In the same year, F. H. Thomson¹ recommended, in very severe faucial cases, doses of 30,000 units if treated on the first day, to 50,000 units if treated on the fourth day of disease. He remarked that the severest type of case, with "membrane of filmy translucent appearance, and neck puffed out by cellular infiltration, will usually die if left untreated for 36 hours, and may even die if adequately treated in 24 hours." The reason for such a gloomy statement is not

far to seek, however, for he says of the intra-venous method, "while having advantages, it need hardly be considered for routine purposes." He makes no further mention of it in his paper, even for emergency purposes. On the question of the single dose he says "it is very difficult to estimate the quantity, so second doses are often required." In mild faucial cases he advises those who are uncertain never to give less than 8,000 units. From 1920, V. Bie,⁵ of Copenhagen, has treated severe and malignant cases with doses up to 200,000 units or more, the greater part intra-muscularly and the lesser intra-venously, and generally in a succession of doses. In 1928, a modest contribution to the literature was made by myself and a colleague,⁶ suggesting, as a result of a short experience in Leicester, that a single dose of the order of 50,000 to 100,000 units intra-venously, together with 20,000 to 40,000 units intra-muscularly, in severe and malignant cases apparently saved lives, which, according to my own previous experience, would probably have been lost. Further, this intensive treatment prevented the more serious and more fatal forms of paralysis, especially delayed paralysis. Following upon such reports, but especially during the last five or six years, I believe, there has been a tendency almost everywhere to increase the dosage of diphtheria antitoxin in *every kind of case*, even the mildest. For example, in 1928, in the hospitals of the Metropolitan Asylums Board, the average total number of units used per case had risen to about 22,000, the average initial dose being about 16,000 units. Four of the hospitals admitting acute cases of diphtheria used an average of 28,000 units or more per case. One of them was quite exceptional with the low average of 10,000 units per case.

In 1931, all but the latter hospital used over 22,000 units per case. One hospital used 37,200, and one 41,600 per case. I believe it is common knowledge that the total output of diphtheria antitoxin produced has increased very materially during the past five years and, incidentally, that the expenditure of infectious hospitals on antitoxin is now looming up as a major item in their costs. Let me quote two examples of widely different procedure in the treatment of the mild case.

An assistant medical officer with three years' experience in a large fever hospital recently told me that he rarely gave less than 24,000 units intra-muscularly to *any case*, including such a non-toxic variety as diphtheria of the anterior nares without visible membrane but with

crusting and blood-stained nasal discharge. On the other hand, the superintendent of a very large fever hospital in Scotland told me a few weeks ago that at least 50 per cent. of his cases have *not more* than 8,000 units. Since the results obtained in mild diphtheria are generally held to be uniformly good in all hospitals, it would appear that there is not only some fundamental difference in outlook shown here, but also there is an important financial point involved, for mild cases form by far the largest proportion of the total cases of diphtheria admitted to hospital. On a basis of only 1,000 cases treated in a year, the superintendent mentioned above, as compared with the medical officer, has saved on his antitoxin bill for this item alone, some £350 to £400 per annum. It should be emphasised, however, that considerable experience may be necessary to effect such saving without risk to any patient. The important point, nevertheless, remains that, if we can clarify our ideas as to the precise action to be expected of antitoxin in mild cases, we shall do much to secure a wider uniformity of practice, and perhaps avoid the misuse of antitoxin.

Personally, I am much impressed with the argument of Madsen² that our real aim and object in mild cases is to give sufficient antitoxin to provide what he has called an *immunising* action. By that is meant an action that checks any further absorption of toxin after treatment has commenced, and leaves out of consideration such toxin as is already contained in tissue elements. On the basis of laboratory experiments, Madsen has calculated that a dose of 4,000 units intra-venously for a person of seven stone body weight, provides a far higher concentration of antitoxin than is necessary to neutralise even the largest amount of toxin that might be supposed to circulate in the blood stream. The accumulated experience of many years during which such relatively small doses have been used favours, I believe, the view that they are effective in the mild non-toxic type of case.

It is, however, an entirely different story when we consider the hyper-toxic type of diphtheria with rapidly spreading gelatinous membrane and peri-glandular œdema of the neck, or even the late case of "neglected" diphtheria with toxic symptoms. In these types we are dealing with toxin which has either recently entered into combination with tissue cells in large amount, or has had time to become firmly bound to them. For such cases, I believe,

an attempt should be made to produce not only an immunising action, but a *true curative* action against the toxin already absorbed. Here we must briefly recapitulate something of what is known of the antigen-antibody combination, and the behaviour of toxin and antitoxin *in vitro* and in the animal body.

Ehrlich's original theory of simple quantitative combination of toxin and antitoxin, like that of a strong acid with a strong base, has been abandoned as *inadequate* to explain the facts. Everyone working with antitoxin should bear in mind the Danysz phenomenon, that *in vitro*, a given quantity of antitoxin neutralises a smaller quantity of toxin when the toxin is added in several portions than when it is added all at once. It suggests to me *prima facie* evidence for the single adequate dose of antitoxin in treatment rather than repeated doses. However that may be, it is obvious that different combinations of toxin and antitoxin may be formed under different conditions.

Bordet attempted to explain the Danysz phenomenon on the basis of a physical union of toxin and antitoxin by adsorption. He pictured the toxin becoming linked to varying amounts of antitoxin according to the concentration of antitoxin in the mixture. This would produce various combinations which might be represented as T.A.1, T.A.2, T.A.3, T.A.4, T.A.5, etc. Of these, the first few combinations would still show some toxicity, and the latter would represent complete combination and the absence of toxicity. This theory may well be partly true, but in the modern conception it is amplified to allow for specific chemical combination as well as physical. It is considered that the reacting substances may carry many specific chemical groupings varying in structural arrangement as in the synthetic substances prepared by the organic chemist. Various compounds may be formed short of exact chemical equivalence, and these may retain some degree of toxicity for a time. They may be dissociable to some small degree; and the union becomes firmer with lapse of time. Topley⁷ (1933) sums it up by saying that the *relative amounts* of antitoxin and toxin appear to play a predominating part, not only in affecting the *speed* of the reaction, but in determining the *constitution* of the compound formed.

Returning now to more practical politics, let us ask ourselves what becomes of the toxin which is absorbed into the blood from a diphtheritic lesion. Animal experiments show that it rapidly disappears from the circulation and

enters living cells. During the past few years, Dr. R. A. O'Brien has kindly carried out for me some tests for toxin in the peripheral blood of a few cases of severe and malignant diphtheria, just before antitoxin was injected. All of these cases were desperately ill and some fatal from toxæmia; one actually died from toxæmia within 12 hours of taking the sample of blood. It was rather amazing to find that in not a single case could even a trace of detectable toxin be discovered in 5 c.c. of peripheral blood. It does seem obvious, then, that our task in these desperate cases is not merely to neutralise the toxin in the blood (which could be done by quite a small amount of antitoxin) but to neutralise, as far as possible, the toxin which has already begun to combine with living cells. Is it possible to do this?

Madsen² has produced laboratory evidence that antibody may neutralise antigen for a limited time after the latter has attached itself to living cells. They are old experiments now, but are worth recalling. He used red cells treated with tetanolsin in a dose sufficient to produce hæmolysis in one hour. He allowed the tetanolsin to act for 10 minutes, and then applied the antibody solution in graded doses. No hæmolysis occurred. The corpuscles were centrifuged, washed and re-incubated. Still no hæmolysis recurred. Further experiments showed that no antitoxin entered the cells, and so the only legitimate conclusion was that toxin had been extracted from the cells by the surrounding antitoxin. In a further series of experiments with massive doses of anti-venom applied to guinea-pigs affected with lethal doses of snake venom, he could save the animals even as late as half an hour before the death of the control animals. The amount of antibody in these experiments was vastly increased with lapse of time. For example, the curative action produced by 1 c.c. of serum after one hour required 8 c.c. after four hours. Confirmation of such findings has been obtained by observing the action of antitoxin on living cells, in a tissue culture which has been poisoned by toxin.⁸ The cells can be "cured" by immersion in antitoxin, provided that exposure to the toxin has neither been too prolonged nor too intense.

It appears, then, that sufficient evidence has been obtained to justify the thesis that in the hyper-toxic case of diphtheria, our aim should be to provide a sudden enormous excess of antibodies at once available everywhere throughout the tissues. The chief object of excess

antibody is to provide so superior an attraction for the toxin which has already entered the tissues that as many as possible of its combining groups are taken up, or, in other words, that neutralisation is as complete as possible. A single large intra-venous dose of antitoxin is the most effective method by which this enormous excess of antibody can be everywhere immediately provided. If an adequate dose has been given, nothing is to be gained by repeating the dose, for it does no good to *maintain* a high concentration of antitoxin in the blood in these cases over a prolonged period. (Madsen, 1922.) From the single intra-venous dose, enough antitoxin will remain in the blood stream during the succeeding days to neutralise any further toxin which may be formed at and absorbed from the site of the lesion.

Let me now formulate briefly the scheme of antitoxin treatment, which, according to my own clinical experience, yields the most favourable results in mild and hyper-toxic cases of diphtheria, and avoids waste of antitoxin. I assume that a first-rate concentrated preparation of antitoxin is available; that there is highly skilled and experienced medical direction for diagnosis and treatment and that adequate assistance can be obtained while the necessary injections are being given.

(1) Mild, non-toxic cases are given only 2,000 to 8,000 units intra-muscularly.

(2) Cases showing slight but definite toxicity should preferably have intra-venous antitoxin, e.g., 8,000 to 20,000 units. This will give rather better results than about double the amount of intra-muscular antitoxin.

(3) In hyper-toxic cases, the sheet anchor of treatment is the single massive intra-venous dose of antitoxin. I say nothing here of non-specific supplementary treatment by intra-venous glucose, which promises to be of value.

(4) In hospital, the intra-venous antitoxin should be given as soon as the patient has been made warm and comfortable in bed, and possesses some power of reaction. It is a good practice to give a small intra-muscular dose of antitoxin, e.g., 8,000 units, immediately on admission, say one hour before the intra-venous dose. This ensures that some antitoxin is given to the patient at the earliest moment after he comes under treatment.

(5) Contrary to the usual practice, no considerable part of the estimated curative dose (nor, indeed, any part) need be given intra-muscularly, for no object is gained by slow

absorption over a prolonged period. In toxic cases the intra-muscular route should only be considered if, for any reason, *e.g.*, collapse of the patient, difficulty with veins, etc., the full dose cannot be given intra-venously. In such cases, after the patient has rallied, the intra-peritoneal route should be considered as an alternative to the intra-muscular. With the acquisition of good technique, and with a good antitoxin, failure with the intra-venous route rarely occurs.

(6) Contrary to some teaching, and to a common practice, a second or third dose should rarely be necessary, and then only when the first dose has been grossly under-estimated. "Repeat" doses intra-muscularly, as commonly practised, are generally ineffective and constitute a waste of antitoxin.

(7) The amount to be given intra-venously is from 20,000 to 50,000 units in moderately toxic cases, and 50,000 to 150,000 units in very severe and malignant cases.

(8) Many desperately ill patients, so treated, especially those of the early toxic type with rapidly spreading membranes, will recover rapidly from the acute stage, and dangerous late forms of paralysis—cardiac, diaphragmatic and pharyngeal—will very rarely be seen.

(9) This scheme of treatment and dosage gives better results than that recommended in the text-books; at least, as the latter is understood and practised in most fever hospitals. For example, a common practice is to give hyper-toxic cases a daily dose of 32,000 to 40,000 units intra-muscularly on successive days after admission. Such a method is utterly wasteful of good antitoxin, and generally ineffective in really severe cases.

(10) Some cases are in such a condition of collapse, or so hopelessly toxic when they come under treatment, that large intra-venous injections of any sort will but hasten the end. It is fair to say that no known practicable form of antitoxin therapy will save such cases, and the experienced physician will not waste upon them large doses of antitoxin.

We may now ask why, in the schemes of treatment published in the text-books, the maximum dose of serum in diphtheria is variously placed at 30,000 to 50,000 units, and it is even stated as a result of great experience that "an amount of over 30,000 units, even when spread over two or three days, is wasted."⁹ I suggest that the explanation lies in the fact that the intra-muscular route was so frequently

and even exclusively used some years ago, and in most hospitals is still so used to-day. Both on theoretical and practical grounds it would seem that such statements are justified only if understood to apply exclusively or mainly to intra-muscular injection.

A few words must be said about technique. A high degree of skill and experience is required to carry out this scheme of treatment uniformly in a busy fever hospital. I have not yet discovered a medical officer, including myself, who has been able to do it without training and much practice and the use of the finest tools. Unless a hospital possesses adequate and suitable equipment of syringes and needles, and has someone on the staff who can show his colleagues how to give expeditiously amounts of fluid up to 100 c.c. into the veins of *any* child of *any* age (with few exceptions) I see no hope of the programme which I have outlined being carried out satisfactorily. The acquisition of such technique is quite practicable. I have seen at least a dozen medical officers acquire it, although admittedly in varying degrees of perfection. If the views I express in this paper are even approximately true, it is evident that no medical officer of a fever hospital can be considered competent in future until he has acquired a high degree of skill in such technique.

If we now pursue our enquiries further, and have in view economy and efficiency in the use of antitoxin, we are bound to take notice of a practice in some fever hospitals which is a potent source of waste, *viz.*, the administration of antitoxin to cases which are sent in as diphtheria, and which are suspected, on admission, to be wrongly diagnosed. There is an old rule, which may still be in force in some fever hospitals, requiring antitoxin to be given to every case admitted as diphtheria. If this rule were enforced in an area where medical practitioners are encouraged (as they should be) to send their patients into hospital as soon as the least suspicion of diphtheria arises, a high proportion of the cases admitted, say 25 per cent. to 30 per cent., would receive antitoxin unnecessarily. It does not require great experience to exercise some discrimination in these cases, when they are received into hospital and examined with a good light, and under good conditions. The adult with a follicular or septic tonsillitis, the child with a late septic scarlet fever, the patient with no symptoms or signs but a positive swab, are examples. From all these and others, antitoxin should be withheld

on admission*; the Schick test should be performed and a careful watch maintained during the following 24 hours. On the rare occasions in which some evidence is obtained of formation and spread of membrane after some hours, antitoxin can then be given, and this will not altogether invalidate the Schick test. Many of these cases can be discharged from hospital in about a week. In the Schick positive cases a course of immunising injections may be commenced, if local conditions permit.

As I am dealing particularly with fever hospital work, such examples of misuse of antitoxin as the following, call for the barest mention. (1) That of the practitioner who withholds antitoxin from a clinical case of diphtheria with membrane, until he has had a throat swab examined, or because a swab is returned as "negative." This is a common source of tragedy, and is often responsible for the late toxic case. (2) That of the practitioner or house physician who passively immunises all contacts without first ascertaining the results of Schick tests, swab and virulence tests. Passive immunisation of contacts can readily be abused both in diphtheria and scarlet fever. It should be avoided, if possible, for it provides evanescent protection, and if, later, for any reason, antitoxin is required for treatment, the most effective route, the intra-venous, may be barred unless very urgently indicated.

I have taken up so much time with diphtheria antitoxin that I can deal in barest outline with the use of antitoxin in scarlet fever. For some six years, as some of you know, I have been plying away at the intra-venous route, not only for severe and septic scarlet fever (for which it is the treatment *par excellence*) but for ordinary simple but definite cases of scarlet fever, excluding those exceedingly mild cases that have little rash, little or no faucial inflammation, and little or no pyrexia. That is, I include in the ambit of intra-venous antitoxin treatment, *scarlatina simplex*, but not what might be termed *scarlatina simplissima*. Details have been published elsewhere,¹⁰ and I do not propose to enter into them here except to say that the results obtained by this method, are, so far, phenomenally good. I have now experience of

*It should be clearly understood that this refers only to cases under *expert* supervision. The practitioner who suspects diphtheria should either give antitoxin immediately, without waiting for the result of a swab, or send the case into hospital. No harm should result from the latter procedure, even if the diagnosis is not confirmed.

two hospitals in which the application of this method has improved the scarlet fever work beyond all recognition. In about 2,000 cases in which the method has been used, the number of days' residence in hospital has been reduced to about half the usual figure or less. Although it might be expected that a specific antitoxic serum might influence only direct toxic effects in scarlet fever, clinical experience teaches that complications caused by the invasive spread of hæmolytic streptococci, *e.g.*, ulcerative faucial lesions, otitis and cervical adenitis, are also, in considerable degree, prevented and the course of the septic type of the disease itself is drastically shortened, as a rule. It seems probable that this is an indirect or secondary effect due to the more effective operation of the natural defence mechanism following upon the neutralisation of the toxin by the antitoxin.

The use of antitoxin intra-venously in scarlet fever yields clinical results so superior to those obtained from intra-muscular antitoxin or no antitoxin at all, and at far less cost, that the crux of the matter becomes the question: "Is the method safe?" At the present moment, as I see it, the chief problem is to obtain from the serum makers, in continuous supply, batches of antitoxin which do not give reactions to any appreciable extent after intra-venous injection in non-sensitised persons. This does not seem to be an impossible demand, for I have obtained and used for many months on end, such batches of antitoxin from serum makers. Sooner or later, however, there comes a batch which gives reactions, and this batch should at once be returned for replacement as being unsuitable for intra-venous injection. The method is certainly not fool-proof, and is only adapted at present for use in highly skilled and experienced hands, such as should be available in adequately staffed fever hospitals. I would, however, go so far as to say that it is clearly indicated in severe and septic types. Indeed, intra-muscular administration in such cases is so relatively inefficient that I would consider it a *misuse* of antitoxin wherever the conditions allowed of the employment of the intra-venous route.

I shall conclude with a brief reference to the use of anti-meningococcal serum in the treatment of cerebro-spinal fever. The orthodox mode of using this serum is as stated in the Ministry of Health Report, No. 65, on Cerebro-Spinal Fever, 1931. "Anti-meningococcal serum should be administered with the first possible lumbar puncture. The administration of serum should be continued at intervals,

usually of 24 hours, until recovery appears to be well established and the cerebro-spinal fluid has become clear, the tendency to relapse being borne in mind. . . . It is best to rely primarily upon the intra-theal route, but in certain cases, intra-venous or intra-muscular administration of serum has been tried and found beneficial. Repeated doses from 100 to 150 c.c. can, with the necessary skill and patience, be given intra-venously, even to young children."

The somewhat grudging reference to intra-venous serum hardly comes into line with my own experience or with the best American practice of intensive serum therapy in this disease. I am, however, willing to grant that, when a highly specific serum is available, intra-theal injection is sufficient. Unfortunately, in the post-war period, in this country such a serum has been sadly lacking.

Again, there is no mention in the Ministry's statement of a limit to the number of intra-theal injections of serum. But experience tells that an aseptic meningitis is apt to be set up, if intra-theal injections are too long continued. For this reason I have been accustomed to restrict the number of spinal injections to three or four, either lumbar or cisternal, and to combine these with one or two large intra-venous injections of 100 to 200 c.c. Such high dosage is, of course, in all but the worst cases, simply an expression of dissatisfaction with the potency of the serum in specific antibody. A highly specific serum, is, as a rule, easily known, by its striking effect in far smaller dosage.

Some interesting evidence on this subject has recently been obtained from Roumania.¹¹ The criterion for the cessation of lumbar or cisternal injections of serum is said to be the appearance in the fluid of a lymphocytosis or mononucleosis, with a relative diminution of polymorphs, and the actual number of injections given varies from three to ten. Important new evidence is brought forward in favour of *intra-ventricular* puncture and injection of serum at the earliest stage in the case of infants under twelve months. It is stated that the infection in infants is nearly always of ventricular origin, and that, at any rate, the cependyma ventriculorum is invariably affected at this age. In the Bucharest statistics, of 60 children under one year of age with meningitis, 50 recovered. The number of cases is too small for conclusions to be drawn, but any measure which is even suggestive of a reduction of the formidable mortality from this disease amongst infants should be welcomed and tried out.

Clinical experience of cerebro-spinal fever makes one invariably feel that the outstanding need in treatment is a highly specific serum. On this point the Roumanian report insists upon special technique in the preparation of the serum. "There exists in the world of meningococci a variability hitherto unsuspected. . . . It is necessary that a serum should be polyvalent and, as far as possible, in its preparation, indigenous species collected in the places where the epidemic is prevalent should be used to a great extent, if not exclusively. Another condition of the greatest importance is that the antigens should be *freshly isolated* and *constantly renewed*. This applies both to anti-streptococcal and anti-meningococcal serum. It is of the greatest importance to use living antigens only. . . . Finally, anti-meningococcal serum ages very quickly and ought not to be used more than five or six months after collection."

I do not know whether our serum makers have been able to conform to this specification, but certainly the serum which they have turned out has not enabled us to obtain clinical results comparable with those described in this report. There are doubtless many difficulties and it may, indeed, be impossible to produce such highly specific anti-meningococcal sera, and to maintain active stocks without some form of state or municipal aid.

In the meantime, there is a gleam of hope on the immediate horizon. A meningococcus antitoxin has been prepared in America by Ferry.¹² Preliminary animal tests appear to show that it is much more potent against meningococcal infection than the regular anti-meningococcal serum. It is already available for trial in the human disease. Let us hope that it is the El Dorado which we have been seeking.

It has been my endeavour in this address to indicate an active but discriminating policy in the use of serum products in diphtheria, scarlet fever and cerebro-spinal fever. These are acute toxæmias for which we have specific remedies. If they are analogous to a house on fire, let us emulate the modern fireman. Leisurely ways and antiquated equipment are out of place. We must organise our resources so as to get to our job quickly, and apply our remedy as and where required and without waste. If the flames are leaping high we have real need of active minds, trained hands, and first-rate tools, so that our remedy may be directed skilfully and poured forth abundantly. Without these aids how shall the flames be cheated of their prey?

REFERENCES.

- ¹F. H. Thomson. *Lancet*, 1921, ii, 68.
²Th. Madsen. *Journ. State Med.*, xxxi, March, 1923.
³D. L. Cairns. *Lancet*, 1902, ii, 1685.
⁴W. H. Park. *J.A.M.A.*, 1921, 76, 109.
⁵V. Bie. *Acta Med. Scandinavica*, 1922, 56, 537.
⁶H. S. Banks and G. McCracken. *Lancet*, 1928, ii, 4.
⁷W. W. C. Topley. "An Outline of Immunity," p. 86, 1933. London: Edward Arnold & Co.
⁸Levaditi and Mutermilch. *Compt. Rend. Soc. de Biol.*, 1913, 74, 614-16.
⁹E. W. Goodall. A Text-Book of Infectious Diseases. London, 1928, p. 197.
¹⁰H. S. Banks. *Journ. Hyg.*, 1933, xxxiii, 282.
¹¹J. Cantacuzene. Report to the Office International D'Hygiène Publique. May, 1933.
¹²Ferry. *Journ. of Imm.*, 23: 315-347, October, 1932.

AN AMERICAN LETTER.

Our Correspondent speaks of Experimental Work in connection with the Outbreak of Encephalitis Lethargica in St. Louis—A Serious Outbreak of Amœbic Dysentery—Typhus Fever and Peanuts—and Cosmetics and the Law.

The Encephalitis Situation.

Though encephalitis in St. Louis, as an epidemic, has come to an end, a few cases continue to occur, and from large sections of the country come reports of cases, mostly mild, which have been diagnosed as encephalitis. Concerning some of them, there is more than a healthy doubt. Experimental work is being continued not only in St. Louis at the Oscar Johnson Institute, but in New York at the Rockefeller Institute. The disease has been transmitted to monkeys and to mice, and after 15 generations in mice, a virus has been obtained which will uniformly produce the disease in those animals. When brain material from an infected mouse is instilled into the noses of other mice, practically 100 per cent. are infected and die. It is felt that this gives confirmatory evidence of what has been held by many, that the disease is transmitted through the upper respiratory tract. An interesting development is the discovery of a substance in the blood of convalescents which will protect mice against infection with this virus. This leads to the hope that a serum may be developed. Dr. Leake, of the United States Public Health Service, who is in charge of the work, and some of his co-workers, are now visiting a number of places in which cases have occurred, and taking samples of blood from convalescents which are being examined for substances protective against the St. Louis disease, as some believe that the epidemic there was different from that which has been seen in other cities. Some 15 officers of the Public Health Service have been in St. Louis. These are now being returned to their stations, but work will continue in the laboratories of the National Institute of Health as well as those mentioned in St. Louis and New York.

The experiments in Mississippi, where convicts were bitten by mosquitoes which had fed on active cases, have been entirely negative. No other insect has been incriminated, and the general feeling is that the disease is spread by contact with cases, missed cases and carriers, through the upper respiratory tract.

Dysentery in Chicago.

Two other events of wide importance have occurred. In Chicago, where more than 17,000,000 people have visited the World's Fair, there has been a serious outbreak of amœbic dysentery, traced certainly to one of the large hotels in that city, in which 22,000 guests have been entertained. Of 364 food handlers in the hotel, there were 15 active cases and 11 carriers. Up to date, there have been in Chicago 185 cases, with 19 deaths, and 193 carriers of *entamoeba histolytica* found. With a great deal of probability, this outbreak has been traced to a food handler who was detected in 1927 as a carrier. A survey in 1929 of 148 food handlers disclosed 27 carriers and 2 acute cases. There is no doubt that amœbiasis has been growing more common in this country, though some of the apparent increase may be attributed to better methods of examination and a wider knowledge of the disease, which most physicians have been taught belonged to the tropics; consequently, they were not actively on the look out for it. Questionnaires have been sent to 22,000 individuals who were registered as guests of the Chicago hotel involved. To date, 3,490 replies have been received which report 180 cases of illness, 69 of which were certainly amœbic dysentery, with 23 suspects, and 88 classed as having other disorders, among which were ulcerative colitis, mucous colitis, and

appendicitis. Certainly the opportunity for infection has been wide, and health officers as well as physicians throughout the country have been warned to look out for cases.

Outbreaks of Typhus Fever.

Another surprise has been the increase in the incidence of typhus fever—800 cases in two States—in certain parts of the South. The outbreak has been limited almost entirely to the section in which peanuts (monkey nuts in England) are raised in large quantities. There is no question that rats and mice have been attracted to the fields and warehouses, and many cases have occurred among men engaged in destroying these rodents. There has also been an increase in severity of the disease, and at least eight deaths have occurred in one State, all of which have been proved to be true typhus. For a number of years, officers of the Public Health Service have reported many cases of a mild type of typhus, chiefly in the South and South-West. Years ago, Brill described a disease in New York City which was not recognised as typhus until Anderson and Goldberger, who had studied the disease in Mexico, where it is known as tabardillo, proved that it was a mild type of typhus. It continues, however, to be known here commonly as Brill's disease.

THE Society of Apothecaries of London announce that at the examination held on November 20th, 22nd, 23rd, 1933, for the Mastery of Midwifery (M.M.S.A.), the following candidate satisfied the Examiners: John Henry Mulvany, M.R.C.P. (LOND.), F.R.F.P.S. (GLAS.), L.M.S.S.A. (LOND.).

DR. THOMAS GIBSON, Medical Officer of Health, Wakefield, will deal with "The Prevention and Control of Infectious Diseases" in a paper to be read at a sessional meeting of the Royal Sanitary Institute at Wakefield, on Friday, January 19th, 1934, at 5 p.m. Mr. Percy Morris, City Architect, Wakefield, will open a discussion on "Town and Country Planning." The chair will be taken by Dr. Charles Porter (Deputy Chairman of the Council of the Institute). The meeting will be preceded by a reception by the Mayor of Wakefield, and visits to buildings of public health interest. The Yorkshire Branch of the Society of Medical Officers of Health will participate in the proceedings.

THE Central Council for Health Education,

Food Legislation.

In January Congress will again assemble. Many matters of exceeding interest will come before it. Among these is a new pure food law. Our present law is more than 30 years old. It was written before the habit, which is now so prevalent among women, of kalsomining themselves had come into vogue. Owing to the small use of cosmetics at that time, no mention was made of them in the law. The market is now flooded with hair restorers, hair dyes, depilatories, paints of all hues, lipsticks (waterproof, kissproof and otherwise), and other such things too numerous to mention. A number of these have been shown to be dangerous poisons. Some of the depilatories have caused serious and permanent injury. One widely advertised concern advocates the use of X-ray as a depilatory, though it has been repeatedly shown that its effects are temporary unless used in such doses as to produce permanent injury. The new law takes all of these matters into consideration. There is no question that it is needed. It may be said with safety that the medical profession is at one concerning the need for new regulations, but the best informed hope that the law will not be jammed through without careful consideration and study.

MAZYCK P. RAVENEL, M.D.

in a communication to local authorities, refer to the advice and assistance that may be obtained from the Council on the use of the poster frames, recently the property of the Empire Marketing Board, in connection with health propaganda. In association with various bodies affiliated to the Central Council, a scheme has been drafted for the supply of twelve sets of posters in each year. The question of cost depends largely upon the amount of support received, but given the co-operation of some 300 local authorities it is hoped to supply a set of five entirely new posters (with head strip) of the special size required for the frames at a cost of 7s. 6d. per set. Local authorities contemplating the taking over of the poster frames, as suggested by the Minister of Health, are invited to communicate without delay with the General Secretary, Central Council for Health Education, 1, Upper Montague Street, Russell Square, London, W.C.1, stating the number of sets of posters required each month. In the meantime the Council is prepared to arrange for a temporary display of propaganda material should this be desired in any district.

The Society.

Reports, Proceedings and Announcements.

NOTICES.

MATERNITY AND CHILD WELFARE GROUP.

A meeting of the Group will be held on Friday, January 26th, at the house of the Society at 8.30 p.m., when there will be a discussion on "Diet for the Pre-School Child," to be opened by Prof. V. H. Mottram.

C. ISOBEL WRIGHT,
Hon. Secretary.

1, Briton Close,
Sanderstead, Surrey.

FEVER HOSPITAL MEDICAL SERVICE GROUP.

The next meeting of the Fever Group will be held on Friday, January 26th, at the house of the Society, at 4.30 p.m. Dr. W. Mair, Northern Group Laboratory, London County Council, will read a paper on "Varieties of *Corynebacterium Diphtheriae*." A meeting of the Group Council will be held at 3.30 p.m.

A. JOE,
Hon. Secretary.

North Western Hospital,
Lawn Road, N.W.3.

ORDINARY MEETING.

An ordinary meeting of the Society was held at the house of the Society on Friday, December 15th, 1933, when there was a large attendance of some 50 members. The President (Dr. Charles Porter) was in the chair, and was supported by Dr. O. M. Holden (President of the School Medical Service Group) and Mr. C. Doswell Wallis, L.D.S. (President of the Dental Officers' Group) who acted as Vice-Chairmen.

Minutes of the last meeting were confirmed and the following candidates having been duly proposed and seconded were elected as Fellows of the Society:—

E. D. Allen-Price, M.B., CH.B., D.P.H. (BIRM.); Benjamin Wright Anderson, M.A., M.D., D.P.H. (ST. AND.); Eileen Mary Bulmer, M.B., CH.B. (BIRM.); Margaret C. Douglas, M.B., CH.B., D.P.H. (GLAS.); Arthur Bowman Follows, M.D., D.P.H. (LIV.); Marjorie Haynes, M.B., CH.B., B.Sc. (LEEDS); Cyrus Ive, M.B., B.S. (LOND.); Frederick Nugent Marshall, M.D. (MANCH.), D.P.H.; Aubrey Keatinge Halliday Pollock,

M.R.C.S., L.R.C.P., D.P.H. (LOND.); G. H. Pringle, M.R.C.S., L.R.C.P. (LOND.), D.P.H.; James Stewart Westwater, M.D., D.P.H. (EDIN.).

Several nominations were received for the next election.

A discussion on "The Organisation and Administration of the School Medical and Dental Services" was then opened by Dr. Andrew Davidson, deputy M.O.H. Surrey C.C. and Mr. C. Doswell Wallis, L.D.S., Dental Officer (Schools and M. & C.W.) West Sussex C.C. Others who joined in the discussion were the President, Dr. J. Sim Wallace, Dr. O. M. Holden, Mr. Grantley Smith, L.S.A., L.D.S., Mr. D. E. Mason, L.D.S., Dr. A. E. Newth, Dr. Marjorie Back, and Mr. J. F. Pilbeam, L.D.S.

A hearty vote of thanks to the opening speakers for their interesting papers was moved by Dr. T. P. Puddicombe, and seconded by Mr. George Thomson, L.D.S., and supported by Dr. W. G. Booth, all of whom referred to the value of such a joint meeting between the Society and its Groups. The vote of thanks was carried with acclamation.

The meeting then adjourned.

(A full report of the meeting will appear in a later issue of PUBLIC HEALTH.)

ADDENDUM TO REPORT OF COUNCIL MEETING (see PUBLIC HEALTH, December, 1933).

The following was omitted by inadvertence—*Representation of the Society*.—Prof. W. W. Jameson was re-elected as representative on the Joint Tuberculosis Council for 1933-34.

THE METROPOLITAN BRANCH.

President: Dr. James Fenton, M.O.H., Kensington.
Hon. Secretary: Dr. Vynne Borland, M.O.H., Bethnal Green.

The Council of this Branch met at the house of the Society on December 8th, 1933, Dr. Fenton occupying the chair. Twelve other members were present.

The Hon. Secretary reported that the President, the Chairman and the Hon. Secretary of the Special Purposes Committee and himself had been called into consultation by the County Medical Officer, with regard to the question of extra nourishment for expectant and nursing mothers, which was still under consideration by

the London County Council. Similar negotiations were proceeding with regard to the provision of extra nourishment for tuberculous patients, and this matter was referred to the Special Purposes Committee.

The Medical Advisory Body was asked to represent to the Metropolitan Boroughs' Standing Joint Committee the desirability of ensuring that, in the legislation which the London County Council were understood to be promoting, any inspection of the hygienic conditions of shops be dealt with by the local sanitary authorities and their staffs.

THE NORTH-WESTERN BRANCH.

President: Dr. Henry Whitehead, M.O.H., Wigan.
Hon. Secretary: Dr. J. E. Spence, M.O.H., Eccles.

An ordinary meeting of the Branch was held in the Board Room of the Alder Hey Children's Hospital, West Derby, Liverpool, on December 8th, 1933, the President occupying the chair. Fourteen members were present.

A letter was read from the Council for the Preservation of Rural England, relating to the formation of a Lancashire Branch and inviting the nomination of a member of the North-Western Branch to serve on the Council of that body. It was resolved that Dr. F. A. Sharpe (Medical Officer of Health, Preston) be the representative of the Branch on the Council.

Dr. W. E. Crosbie (Medical Superintendent of the Alder Hey Children's Hospital) gave a detailed account of the result of admitting children to the hospital through the isolation block. During a period of ten months, 7,746 children had been admitted, of whom 1,276 were accepted through the isolation block, the cases admitted in this way being children who had been in contact with infectious disease or showed suspicious symptoms of infectious disease. Admission through the isolation block was regulated to a great extent by the number of vacant beds, the average duration of stay in the block being six days. Of the children who passed through the isolation block, about 35 per cent. developed some infectious condition. During the period of ten months, of the total children admitted, 4 per cent. had developed measles, 3 per cent. diphtheria, 1.3 per cent. chicken pox, 0.5 per cent. scarlet fever, 0.3 per cent. whooping cough and 5 per cent. miliary tuberculosis, paratyphoid and typhoid fevers, cerebro-spinal fever, etc.

One hundred and forty-six cases of measles had developed in the general wards, 79 occurring 14 days after admission; 66 cases were secondary cases, 43 of which occurred before the use of human serum.

Of 162 cases of diphtheria, 126 developed in the general wards, some of the outbreaks being attributed to carriers.

Dr. Crosbie said that the records of infectious disease showed that the cubicle isolation of suspicious cases on admission had considerably reduced the incidence of disease in the general wards. The lessons of the isolation block had been applied to the general wards, and a certain amount of bed isolation had been carried out. Twelve feet of wall space had been allocated to each cot, but in some wards older and less susceptible children had been nursed in beds interposed between the cots without any increased prevalence of infection. Masks were worn by the staff in the infant wards, and in this way infants were protected from catarrhal infections, with the result that enteritis had almost disappeared.

Dr. C. O. Stallybrass, in proposing a vote of thanks to Dr. Crosbie for his interesting information on the result of cubicle isolation of cases on admission, referred to the cost of construction of wards on the cubicle isolation principle, and questioned the necessity of extending the glass partitions up to the ceiling.

Dr. C. Rundle referred to the early experiments in cubicle isolation. He stated that infection was spread by the transfer of recent moist infected material from one patient to another, and discounted the possibility of aerial infection. He expressed the opinion that there was nothing to justify the expenditure on glass partitions, as bed isolation was just as efficient. He thought the results obtained at Alder Hey Hospital were due to a rigid system of bed isolation, and not to the glass partitions. He agreed that the spacing of beds was of paramount importance, and that overcrowding of beds increased otorrhoea, nose and throat troubles and rheumatism.

Dr. W. M. Frazer considered that glass partitions were of advantage as they reduced to a minimum the possibility of human error; while Dr. T. W. Naylor Barlow held that, owing to the difficulty in obtaining intelligent probationers and nurses capable of carrying out bed isolation satisfactorily, glass cubicles offered greater safety in the prevention of the spread of infection.

Dr. Crosbie, in replying to the discussion, expressed serious doubt whether bed isolation could succeed in controlling measles and whooping cough, which were spread by droplet infection. He thought that the psychological effect of partitions on the staff was of importance, and prevented the abandonment of the rules of bed isolation in emergencies. He also was of opinion that pneumonia cases did much better under conditions of cubicle isolation when protected from secondary infection.

Mr. Councillor Cookson (Chairman of the Hospital Committee), at the conclusion of the discussion, extended on behalf of the Committee a welcome to the members of the Branch and accompanied them on a visit to the admission and isolation block and some of the wards of the hospital.

After visiting the wards, the members were entertained at tea by the Committee, and the President expressed the thanks of the members to Mr. Councillor Cookson, Dr. Crosbie and the Matron for their hospitality.

THE WELSH BRANCH.

President: Dr. J. W. Miller, County M.O.H., Radnorshire.
Hon. Secretary: Dr. D. J. Thomas, Deputy M.O.H., Rhondda.

The second meeting of the session of this Branch was held at the Institute of Preventive Medicine, Cardiff, on November 17th, 1933, when nineteen members and twenty-eight visitors were present.

Dr. T. Evans (Swansea) was chosen to represent the Branch on the South Wales Area Committee of the National Milk Publicity Council.

Dr. W. G. Savage (County Medical Officer of Health, Somersetshire) gave an address on "A Safe Milk Supply." He emphasised that dirty milk was never safe, and that infection of milk was derived from two sources, namely, from the cow and from human beings. The infections of bovine origin transmissible to man through cows' milk were fully discussed, whilst in regard to infections transmitted by human contamination it was noted that though numerous outbreaks had been described and summarised, only a fraction of the total of cases had been recorded. The statement that approximately 2,000 human deaths occurred annually from tuberculosis of bovine origin could not be disputed, and the figure was derived by exact

computation. At least 500 cases of undulant fever occurred annually in England and Wales. The legal powers now available were ineffective in securing a safe milk supply; milk was infected before the powers conferred by the Milk and Dairies Order could be applied. "Clean milk" methods had not rendered the public milk supply safe, and the application of the Tuberculosis Order, 1925, was scientifically wrong, the order becoming operative when all the harm that tubercular milch cows could do had been done. It was not within the competence of veterinary surgeons to diagnose bovine tuberculosis in its early stages, and in this connection it was emphasised that tubercular disease of the udder presented three stages: (1) no clinical signs, but tubercle bacilli were discharged in the milk; (2) clinical signs were discoverable on veterinary inspection; and (3) clinical signs were manifest to the owner. Veterinary inspection could diminish the amount of infection. The quantities of "Certified" and "Grade A (tuberculin tested)" milks produced and sold were insufficient to produce any appreciable reduction in the human mortality from tuberculosis of bovine origin, and milk sampling, as now done, was only of educational value. The Milk and Dairies Order, 1926, was largely a dead letter, as 19 out of 20 cowsheds did not comply with the terms of the Order. Whatever methods were advocated, it appeared that two or three generations would elapse before tubercle-free herds could be reared; in the meantime one was reluctantly driven to advocate pasteurisation as the best treatment for rendering milk safe. Dr. Savage discussed the arguments for and against pasteurisation in detail, and concluded his address by suggesting a programme which should proceed along three lines, namely, (a) the larger urban authorities should, with the consent of the Minister of Health, be empowered to insist that all milk delivered within their areas should either be pasteurised or obtained from tubercle-free herds; (b) the acceleration of the production of cleaner milk; and (c) the provision of assistance to the agricultural community in their efforts to obtain tubercle-free herds.

Prof. J. Basil Buxton (Institute of Animal Pathology, Cambridge) subsequently addressed the meeting on "The Production of Tubercle-free Milk," and it is hoped that the paper will appear in *PUBLIC HEALTH* in due course.

In the discussion which followed, the President, Profs. Lyle Cummins and Pickens, Drs. Colston Williams and T. Evans, Mr. J. C. Hill

(Veterinary Inspector, Carmarthenshire), Mr. Stewart (Veterinary Surgeon, Cardiff), Mr. Davidson (Director of Agriculture, Glamorgan-shire), Mr. John (Director of Education, Montgomeryshire) and the opening speakers took part. Amongst the points mentioned in the discussion were the equal importance of a pure milk supply as compared with a pure water supply, the necessity of adequate control of methods of pasteurisation, the comparative low incidence of tuberculosis amongst herds in West Wales, the need for a greater amount of veterinary inspection of herds in rural counties, the need and advantages of a co-ordinated policy throughout Wales, and the desirability of greater support from the Government and the public for the encouragement of the production of a tubercle-free and safe milk supply.

A hearty vote of thanks, proposed by the President and seconded by Dr. Howard-Jones, was accorded to Dr. Savage and Prof. Buxton for their instructive and stimulating addresses.

THE SOUTHERN BRANCH.

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

Hon. Secretary: Dr. A. B. Williamson, Deputy M.O.H., Portsmouth.

A meeting of this Branch was held at Trafalgar House, Winchester, on December 1st, 1933, the President occupying the chair.

Dr. Hilda Bond described a case of untreated tertiary syphilis in a woman with a history of eleven pregnancies, all of which resulted in miscarriages, stillbirths, or marasmic infants bearing the classical stigmata of syphilis.

Dr. W. J. Hart showed an X-ray of the spine of a girl, aged 13, with a lesion of the ninth thoracic vertebra, associated with unusual signs and symptoms. The tuberculin test was negative.

Dr. T. A. Seekings described an interesting case of diphtheria in a girl, aged 11, which commenced with violent sickness and diarrhoea. There were no throat symptoms. Later, creamy membrane was passed in the stools, and swabs taken from the faeces and nose showed large numbers of Klebs Löffler bacilli.

A paper on "Public Health Work in San Francisco," was read by Dr. Hilda Davis, who served three years there as Assistant Medical Officer, Bureau of Child Hygiene, after graduating at an English University. (The paper will

be published in full in a later number of PUBLIC HEALTH.)

A discussion followed, in which Drs. A. E. Druitt, A. A. Cockayne, H. Leslie Cronk, W. J. Hart, T. A. Seekings, H. Bond, G. Chesney and A. B. Williamson took part.

Dr. Hilda Davis was accorded a hearty vote of thanks on the proposition of Dr. A. B. Williamson, seconded by Dr. H. Leslie Cronk.

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 November 24th, 1933, the President occupying the chair. Thirteen members were present.

The Council Representative reported:—

(1) That he had assisted to compile answers to questions in a memorandum by Dr. Tangye on medical appointments in county districts some of which closely concerned the tuberculosis service. One answer had stated that "a proper standard of specialism cannot easily be attained by an officer carrying out varied duties in a county district." The next question: "If not, can such officers properly act as assistant tuberculosis officers in their areas with the reservation that there must be at least one senior officer specialising in tuberculosis only?" was answered in the affirmative. The Committee approved these answers.

(2) That the salary difficulty in Bradford showed signs of satisfactory settlement.

(3) That Dr. Moxey had resigned his post as Tuberculosis Officer, Southampton, for reasons which were explained. Sympathy with Dr. Moxey was expressed.

(4) That difficulties with the composition of the Metropolitan Branch Council seemed likely to be settled to the satisfaction of departmental officers.

(5) That attention was drawn to a meeting of the Society on February 16th, 1934, on "Modern Developments in Dispensary and Sanatorium Work."

(6) That at an extraordinary general meeting of the Society, two points in the Articles and Constitution of the Society had been referred back—the name of the Society, and the representation of groups on the Council.

(7) That a practitioner trained in tuberculosis but himself affected with the disease had a difficulty in obtaining employment.

because of superannuation arrangements. It was announced by a member that this gentleman had now obtained employment.

(8) That the Inter-Group Committee wished the opinion of this Committee on: (a) Representation of Groups on the Council. This Committee was of opinion that each Group should have two representatives. (b) Representation on the General Purposes Committee. The Committee considered that each Group should be there represented. (c) Improvements in the journal. The Hon. Secretary was asked to place this on the agenda for the next meeting. (d) The election of three Inter-Group members. Drs. Jessel, Blackmore and Ernest Ward were elected.

A memorandum prepared by the Hon. Secretary on "The Advantage of Membership of this Society to Departmental Officers," was next discussed and adopted after modification. It was decided to present this to Council.

A memorandum on "The Prevention of Human Tuberculosis of Bovine Origin" was next considered, and the Hon. Secretary was directed to re-submit it at the next meeting.

A difficulty in the West Riding with a local medical officer of health was brought forward by Dr. Tattersall and discussed.

Friday, February 16th, 1934, at 10.30 a.m., was the date and time arranged for the next meeting.

The annual general meeting of the Group was held at the house of the Society on November 24th, 1933, fifteen members being present.

It was announced that the Joint Tuberculosis Council was preparing memoranda on the subject of tuberculin testing.

Dr. Jessel was re-elected President of the Group; Drs. Peter Edwards and H. G. Trayer, Vice-Presidents; and Dr. Ernest Ward, Hon. Secretary and Council Representative. Cordial thanks were expressed to Drs. Jessel and Ernest Ward for their services during the past year.

Drs. Tattersall, Blackmore and Ernest Ward were re-elected representatives on the Joint Tuberculosis Council.

The Hon. Secretary gave an account of the year's work.

(a) His name had been put forward as President of the Society by the West of England, Eastern, Northern, and East Midland Branches. Drs. Porter, Wilshaw, Nash, and Veitch Clark were also candidates. After consultation with his Branch he had withdrawn his candidature to allow Dr. Porter an unopposed return.

(b) Committees of the Joint Tuberculosis Council were reporting on various matters referred to that body by this Group, such as the best utilisation of tuberculosis institutions, the diagnosis of thoracic tuberculosis in children, and the after-results of artificial pneumothorax treatment.

(c) He continued to represent the Society on the Central Council for the Care of Cripples, which was in a slightly better financial position, and on the Central Council for Health Education. *Better Health*, with circulation of a quarter of a million, was responsible for royalties amounting to £115, but there had been a slight loss on an exhibition organised at Oswestry.

(d) The Public Health Advisory Committee continued to function, but departmental officers were still unrepresented there.

(e) The memoranda of the Group on the employment of tuberculous staffs at tuberculosis institutions and clerical aid for tuberculosis officers had been passed by Council and forwarded to the Ministry of Health.

(f) The signing of letters from tuberculosis officers on clinical subjects by their administrative chiefs was commented upon. Members of the General Purposes Committee had expressed disapproval, and were willing to give help in any individual cases which were brought to their notice.

(g) An account of the Inter-Group Committee, and of Dr. Tangye's memorandum on the appointment of administrative officers in county districts was also given.

A revised constitution for the Group, which had been circulated, was discussed and referred back to the Committee for re-presentation after amendment.

The question of a badge of office for the President of the Group was brought forward, and Dr. Jessel kindly promised to present the Group with such a badge. A committee comprising the President, two Vice-Presidents, and the Hon. Secretary, was appointed "to consider how best to carry out the suggestion."

THE FEVER HOSPITAL MEDICAL SERVICE GROUP.

President: Dr. H. Stanley Banks, Med. Supt., Park Hospital, London County Council.

Hon. Secretary: Dr. Alexander Joe, D.S.C., North-Western Hospital, London County Council.

The first meeting of the 1933-34 session of this Group was held at the house of the Society on December 1st, 1933. Thirty-three members of the Group were present.

On taking over the chair from Dr. E. W. Goodall, Dr. Banks, the new President, expressed the thanks of the Group to Dr. Goodall for his great services.

Dr. Banks then delivered his presidential address on "The Use and Misuse of Antitoxin" and, after a most interesting and instructive paper, intimated that he would welcome discussion on the subject. Drs. Harries and Anderson, in proposing and seconding a vote of thanks to the President, took the opportunity of discussing some of the points raised by Dr. Banks; and Drs. Goodall, Sage Sutherland and O'Brien also made some commentary. The presidential address is published in full elsewhere in this issue.

At a meeting of the Council of the Group, held before the ordinary meeting, Dr. Banks was elected Chairman to succeed Dr. Goodall, and the programme for the coming session was arranged.

It was resolved to press for two representatives of the Group on the Council of the Society.

THE MATERNITY AND CHILD WELFARE GROUP.

President: Dr. Thomas Y. Finlay, M.O. (M. & C.W.), Edinburgh.

Hon. Secretary: Dr. Isobel Wright, 1, Briton Close, Sanderstead, Surrey.

A dinner meeting was held on December 15th, 1933, at Pagani's Restaurant, Great Portland Street, London, W.1. In the unavoidable absence of the President, the chair was taken by Dr. Maitland Radford. A party of twenty-five enjoyed an excellent dinner. Professor Lancelot Hogben opened the discussion, "Heredity versus Environment as Affecting the Child up to Five Years of Age," with an *ex tempore*

speech that was erudite, amusing and extremely to the point.

Professor Hogben first expressed surprise that such a time-worn and false antithesis as that chosen as the subject for discussion should be enjoying the attention of the Group, and then proceeded to explain why it was impossible to consider the question of heredity from the scientific standpoint without at the same time considering the environment. Granted that there existed certain genes responsible for the appearance of unfavourable modifications as, for example, liability to succumb to smallpox infection, the malevolent effect of such genes could be thwarted and their very existence rendered unimportant by means of vaccination. In this instance, environmental medicine was able to protect the individual completely from the ill-effects of hereditary tendency. Continuing the argument, Professor Hogben explained that a certain school of thinkers, who attributed the difficulties associated with the social problem group to faulty heredity, did so without giving due consideration to the environmental conditions in which this supposed faulty heredity must function. For instance, the very same gene which in one social stratum may produce the inveterate unemployed dole-drawer may, in another stratum, produce the pleasant dilettante.

Although it was possible to assess the importance of the hereditary factor when considering individuals within the same broad social group, it was not, in the speaker's opinion, possible to express differences between individuals in different social groups in terms of such assessment. Before this could be done the social and economic structure of society would require to be modified so as to afford equality of opportunity to every individual.

In reply, Professor Louise McIlroy, illustrating her theme with examples drawn from her own experience, described the surroundings of the child of the lower, the middle and the luxury classes, and of the adopted, the country, the town child, and the child with a physical disability, and questioned the effect of their surroundings.

A vigorous discussion followed in which Drs. Wallace, Hull, Cassie, Hadfield, Churchill, Booth, Nicoll, Calver, Horne, and Professor Picken took part.

In proposing a vote of thanks to the openers of the discussion, Dr. Radford remarked that this was one of the most interesting meetings held by the Group.

JOINT TUBERCULOSIS COUNCIL.

A meeting of the Joint Tuberculosis Council was held at the house of the Society of Medical Officers of Health on November 25th, 1933, Dr. Lissant Cox occupying the chair. Twenty-six members were present. Drs. Burton Wood and Heaf, present for the first time, were welcomed by the Chairman.

The Hon. Secretary reported that Professor Cummins' memorandum had received satisfactory publicity, and had appeared almost *in extenso* in PUBLIC HEALTH and the *Clinical Journal*. Dr. Cox's memorandum had been well received by the General Purposes Committee and the Council of the Society of Medical Officers of Health. An article had appeared in the *Spectator*, "General Practitioners and Tuberculosis: an Indictment," and had been followed by correspondence. After consultation with the Chairman, the Hon. Secretary had written and inserted a letter announcing the work of the Joint Tuberculosis Council.

It was announced that Dr. Evelyn Holmes of the Southern Group Laboratory, Park Hospital, Hither Green, Lewisham, London, S.E.13, desired (1) specimens of cerebro-spinal fluid from cases of meningitis for culture, (2) specimens from pleural effusions, and (3) pus from cases of surgical tuberculosis. Members promised to do their best to assist.

It was stated that Dr. Robert Wodehouse, to whom the Council owed so much, had achieved cabinet rank in the Federal Government of Canada. The Hon. Secretary was directed to send him a letter of congratulation and good wishes from the Council.

Professor Cummins referred to a serious accident to Dr. Gilchrist, and the Hon. Secretary was asked to write expressing the Council's sympathy and best wishes for a speedy recovery.

It was decided that the following letter, dated June 22nd, 1933, addressed to the Hon. Secretary by the Minister of Health, should appear in the minutes:—

"Sir Hilton Young has asked me to refer again to your letter of June 2nd, and to say that he has read with much interest the views expressed in the memorandum which you were good enough to enclose with it, and with which he finds himself largely in agreement. With regard to the request in the last paragraph of your letter, Sir Hilton does not feel that the time has yet arrived for resuming the publication of the detailed statistics to which you refer, but the Joint Tuberculosis Council will, no doubt,

be aware that any local authority can obtain these statistics for its own area on application to this department."

It was thought that the Ministry might be able to accede to the request if various local authorities pressed for it.

Concerning the letter destined for the Ministry of Health anent tuberculosis village settlements, the Hon. Secretary announced that complete agreement had not yet been attained by those drafting the letter, and suggested that as Dr. Watt was unavoidably absent from the meeting through illness, the completion of the task might be left to the Chairman and Dr. Watt. This was approved.

Dr. Lissant Cox was nominated Chairman of Council for 1934; 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.

Mr. Girdlestone was elected to Council, in place of Sir Henry Gauvain, subject to his ability to accept.

The memorandum submitted by the Institutions Committee was considered and adopted after amendment. It was decided to circulate this to the medical press, the tuberculosis service, and to medical officers of health, together with, as an appendix, a memorandum prepared by Drs. Lissant Cox and D. A. Powell, concerning the erection of institutions.

The memorandum of the Children's Committee was discussed and adopted after minor amendment. It was decided to circulate this together with the previous document.

On behalf of the Artificial Pneumothorax Committee, Dr. Trail announced that forms were now being received, and records of some 500 cases were to hand. It seemed likely that some 1,000 records would eventually be received, and a meeting of the Committee to consider these would be held before the next Council meeting.

Professor Lyle Cummins made an appeal for the employment of Dr. Brieger, until lately Medical Superintendent of the Breslau Sanatorium.

Saturday, February 17th, 1934, at 10 a.m., was the date and time fixed for the next meeting of Council. Dr. Lissant Cox expressed the hope that members of the Joint Tuberculosis Council would lunch with him after that meeting.

The Literature of Preventive Medicine.

An Outline of Immunity. By W. W. C. TOPLEY, M.A., M.D., F.R.C.P., F.R.S., Professor of Bacteriology and Immunology in the University of London. London: Edward Arnold and Co., 1933. pp. 413. Price 18s. net.

Professor Topley, as appears from his preface, may be a little uncertain about when to impart such knowledge as exists with regard to immunology and the principles upon which it rests: he may not be quite sure that it is easy to teach it at all, since it is so difficult to be dogmatic: he may actually, as he says, have been unwilling to add to the long list of medical text-books. In spite of all these reasons for hesitating to teach and to write about the subject, it is impossible to be other than glad that he has done this book. There is no one more capable of doing it and of setting out what should be taught and learned in just the way it should be done. He admits, and everybody accepts, that the task he set himself was not an easy one, but he has done it and done it admirably. The book he has produced will be the leading volume on the subject. That may be claimed without hesitation. It deserves to be; that may also be claimed because Professor Topley knows his subject; is a teacher of experience and skill, and has produced a book that anybody anxious to understand, and with a reasonable amount of general knowledge of pathology and bacteriology, will be able to understand. If it is necessary to commend and recommend any work written by Professor Topley, the commendation and recommendation are most strongly offered.

V.D. The Monster Crime of Humanity. By ALBERT ROYSE. London: Arthur H. Stockwell, Ltd., 1933. pp. 61. Price 2s. net.

"There has been enough of quackery and mystery in relation to the topics with which this book deals," says its author; "now let the blackness of ignorance be dispelled by the brilliant rays of knowledge illuminating the path that leads to safe, sensible and sane living." Mr. Royse, according to the publishers, is well known as a lecturer on venereal diseases. His object in presenting the book is, again according to the publishers, that the knowledge gained through reading may lead

people of both sexes to walk the straight paths of purity, having learned that "few people are ever lost on a straight road."

THE Poisons Board established by Section 16 of the Pharmacy and Poisons Act, 1933, has appointed Mr. M. D. Perrins, of the Home Office, as Secretary, to whom any communications to the Board should be addressed.

THOSE medical practitioners whose approval for the purpose of signing recommendations under Sections 1 (3) and 5 (3) of the Mental Treatment Act, 1930, expired on December 31st, 1933, are being invited by the Board of Control to make application for renewal of the approval, and are being furnished with forms of application for this purpose. Any other practitioner who may desire to seek approval under the Mental Treatment Act can obtain a form of application on writing to the Board of Control, Caxton House West, Tothill Street, Westminster, London, S.W.1.

THE Medical Research Council have appointed Professor E. P. Cathcart, F.R.S., University of Glasgow, to be Chairman of the Industrial Health Research Board in succession to Sir Arnold T. Wilson, K.C.I.E., who has resigned on becoming a Member of Parliament. They have also appointed Professor Cyril Burt and Miss Hilda Martindale to be members of the board in succession to Sir John H. Parsons, F.R.S., and Miss M. Ritson, who have retired in rotation.

THE title of Professor of Malarial Studies in the London School of Hygiene and Tropical Medicine was conferred on Sir Samuel Rickard Christophers, lately Director of the Central Research Institute of Kasauli, who has been working at the school as Leverhulme Research Fellow with a grant from the Medical Research Council.

SIR FREDERICK MENZIES, Medical Officer of Health for the County of London, was amongst those who received the degree of LL.D. (*Honoris Causa*) at the recent celebration of the 350th anniversary of the University of Edinburgh.

PUBLIC HEALTH

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Editorial.

Sterilisation.

AS a general description there is none better that can be applied to the Report of the Departmental Committee on Sterilisation* in June, 1932, the Committee, as the report shows, has given the question the fullest and most careful consideration. Though the constitution of the Committee was mainly medical, the examination made was as largely from other angles as from the medical, and the final unanimous decision arrived at was based on findings following investigations into the legal and social needs and bearings of the procedure, and the effects in these connections likely to follow its adoption by the State.

Amongst the most useful enquiries con-

*H.M. Stationery Office, 1934. Cmd. 4485. Price 2s. net.

ducted by the Committee were those as regards the experiences of other countries. Interesting as are other parts of the report, that in which the laws and experiences of other countries are summarised (appendix VIII) is particularly so, and must have proved most helpful. It is from the United States of America, where always there has been readiness to make social experiments, that the greatest amount of information has come. Conceivably it may have been a study of the progress made in areas where a sterilisation law has been operative for some years, and a suspicion that the smallness of the numbers in those in which the procedure is compulsory, to some extent may have been due to the compulsoriness, that decided the Committee to recommend for adoption a voluntary scheme.

The possibility that to advise compulsion would be to court complete condemnation of the plan no doubt also was taken into consideration by the Committee. Already, indeed, there are signs that the suggestion of the Committee that voluntary sterilisation should be legalised will meet with strenuous opposition on religious and ethical grounds. Whether or not the interests and influence behind such opposition will be sufficiently strong to prevent the introduction of legislation is difficult to say. In the case of birth control the forces of religion, no doubt, are responsible for such withholding of recognition as exists in that regard. Here, however, there is absent a considerable amount of medical backing as well that presumably, in the case of sterilisation, will not be lacking.

On the part of members of the public health service, certainly, concerned as they are on eugenic as well as hygienic grounds, there will be definite inclination to stand behind the Committee, and to approve their recommendations. Even without the overwhelming evidence the Committee have been able to adduce, the health service might have been able to support a demand for legislation on the lines recommended. In face of such figures as are set forth in the report—that between seven and 13 years of age so many as 40 per cent. of the children of mental defectives may be mentally sub-normal; of those over 13 years of age up to 45 per cent.—it is impossible for anyone engaged in public health work and concerned for the welfare of the nation to range himself elsewhere than on the side of the Committee.

Amongst the reasons given against compulsion in the report, one of the strongest, even taking these figures into consideration, is that it is impossible to say in individual cases that some of the offspring of certain parents *must* be mentally defective. By adopting a voluntary scheme and providing the safeguards suggested at least, but in addition, any others that further research might reveal, this possibility at any rate can be obviated. In the case of a compulsory scheme the responsibility thrown upon the parties concerned in making a decision and carrying out sterilisation may be terribly serious. In the voluntary scheme the weight is tremendously lightened, whether the source of the request or consent is the individual

concerned or persons empowered to act for him.

The view expressed in the report that quite a considerable number of defectives of the higher grade are fully capable of making request and understanding what it is they are agreeing to, even such limited opportunity of gaining experience as comes the way of members of the public health service proves correct. By opponents doubtless this will be one of the objections most commonly urged, and health officers should be prepared to counter it.

As a matter of fact, it is not unlikely that members of the public health service will find themselves very frequently in the days to come called upon to offer advice and guidance to local authorities as to the attitude to be adopted. For this, if for no other reason, scientific or general, it is well that they should familiarise themselves with the contents of the report. This, not only because the subject itself is so interesting but because it is interestingly dealt with and there is no exaggeration but merely authority in what is stated, everyone will be anxious to do.

London County Council Medical and Hospital Services.

THE Central Public Health Committee of the London County Council, apart from other matters, have concern with hospitals and general medical services, and in Vol. IV (Part I) of the annual report of the Council for 1932* statistical and other information is given regarding the work done in the institutions—74 of them containing 41,372 beds—and the various laboratories, clinics and what not by the 18,842 persons employed in and about them.

Of the hospitals, 44 are within what is known as the "general hospitals division," the remainder being classed as special hospitals. These latter include 16 for infectious diseases. In addition to seeing to the carrying on of the routine hospital and other associated works, the London County Council have continued in the determination arrived at when the institutions and services were first transferred to them, of building up what is the most extensive municipal hospital organisation in the world. In 1932, as the

*London: P. S. King & Son, Ltd., 14, Great Smith Street, S.W.1. No. 3010. Price 2s. 6d.

report reveals, definite advance was made in this direction.

So far as the pathological services, for example, are concerned, considerable progress was made towards attainment of the aim that there should be a reasonably well-equipped laboratory at every general hospital dealing with acute cases, and five group laboratories where more difficult investigations could be undertaken. By the end of the year, in fact, eight hospitals had been equipped with laboratories, three of the group laboratories were functioning, and a central histological laboratory had also been established.

Special attention continued to be devoted to the important problems connected with antenatal care of expectant mothers and the treatment of maternity cases in the various hospitals. These it is hoped to report upon separately, but it is interesting to note that during 1932 the number of live births that took place in the general hospitals and institutions was 10,974, as compared with 9,696 in 1931. Stillbirths numbered 451 in 1932, and 495 in 1931.

District medical work, the volume of which greatly increased during the year, is undergoing re-organisation, and to ensure provision of insulin and pituitrin in cases of need, arrangements were made with out-patient departments of the various voluntary hospitals. Treatment for rheumatic cases is also arranged for at certain clinics, the cost being borne by the Council.

Under the heading "special hospitals," particular attention is devoted to the work done in the fever hospitals. Smallpox cases admitted during the year numbered 1,449, the number remaining at the end of December, 1932, being 68. The admissions for all fevers were 43,769, the largest number during the previous ten years. For the increase, measles was largely responsible, the year being marked by the occurrence of the usual biennial epidemic of this disease. In order to make provision for the increased number calling for treatment, certain changes were made in connection with the admission of patients suffering from scarlet fever and diphtheria and, as on previous occasions, worked quite satisfactorily.

Special note is made of work done in relation to cerebro-spinal fever, and puerperal fever of which 200 cases were treated with good results. There is reference also to

investigations carried out in individual hospitals with regard to diagnosis, treatment, and so on of particular diseases. The impression gained is that greater advantage is taken of the opportunities available of carrying out research, and publication of a supplement to this report, containing the results of some of these investigations and papers by members of the public health department staff, is promised at an early date.

The number of cases of tuberculosis admitted for treatment to the special hospitals provided for the purpose was 4,621, of which 801 were non-pulmonary. In relation to these cases it is interesting to learn that many more are being received in an earlier stage than previously, and that correspondingly better results are being obtained.

As a matter of fact, in regard to most of the work discussed in this section of the report of the London County Council, the feeling in general experienced is that better results than formerly are being secured, and on this the Council and its officers may be congratulated.

* * * * *

The Diploma of the College of Obstetricians and Gynaecologists.

IN its annual report for 1932, the fourth of the series, the British College of Obstetricians and Gynaecologists submits further proof that with every year that passes it becomes more and more firmly established. Produces evidence also that great and steady progress is being made in the direction of securing the main objects of the College—the raising of the standard of midwifery practice and the bringing together of those working in the field of obstetrics and gynaecology. Seeking to improve education, the College has issued two memoranda on the training of medical students in the subjects with which it is concerned. These have attracted a great deal of attention, and must prove of value when re-arrangement of the medical curriculum comes to be undertaken. By means of specially designed examinations also, the College aims at improving the standard of midwifery generally, but particularly among those general practitioners who wish to hold obstetric appointments in voluntary maternity hospitals and in those under public health authorities, and to act as local obstetric consultants.

After long consideration, and after over

three years' experience gained by the examination committee, the College, recognising that the present training of students in obstetrics is insufficient to fit them for responsible work in maternity services, has decided to award a diploma (D.C.O.G.) to registered medical practitioners who have had special post-graduate training and experience in the subject, and satisfy the examiners appointed by the College.

The membership of the College, being intended for those aspiring to special practice in obstetrics and gynaecology, demands a larger and wider experience than is possible for those entering family practice. Many candidates for the membership, it is shown, have had to be rejected because they had insufficient training and experience, and for most of these candidates it is impossible, at the stage of their career which they have reached, to undergo further training and to hold further resident posts. Many of them will be suitable candidates for the diploma. A special regulation has been made for candidates whose names have been on the register, and who have been engaged in practice, for at least ten years.

The College aims at establishing post-graduate courses for this examination in most centres, and since it has the advantage of having the obstetric staff of all the university teaching schools of the country amongst its Fellows, is in the position to facilitate post-graduate work as well as the mere examining of those who have taken the courses. The prospectus and regulations for the diploma, recently issued, give full information with regard to the examination, and may be obtained at the College, 58, Queen Anne Street, London, W.1.

The Serum Treatment of Cerebro-Spinal Fever.

A CONSIDERABLE number of individual records of cases of cerebro-spinal fever treated with antimeningococcus serum has now been collected at the Ministry of Health in consequence of the request addressed by the Ministry to medical officers of health, hospital medical officers and medical practitioners, to which publicity was given in the medical press in January of last year. The request was made in order to obtain material to assess, in terms of case mortality and clinical course, the results obtained from the use of the several

antimeningococcus serums employed in this country at the present time. It was based on a memorandum ("Administration of Anti-meningococcus Serum in Cases of Cerebro-Spinal Fever," Ministry of Health, March, 1932), in which stress was laid upon the importance of the following considerations in serum treatment:—

(1) As soon as the patient is suspected on clinical grounds to be suffering from cerebro-spinal fever, lumbar puncture should be performed; serum should be injected intrathecally without waiting for bacteriological confirmation.

(2) The intrathecal doses given should ordinarily be in the region of 30 c.c. (concentrated serum 10 c.c.).

(3) The injection should be repeated every 24 hours over at least three or four days or until convalescence is obviously established.

Particulars have now been received of 811 cases treated in this way. Although this number is insufficient to justify a final conclusion, nevertheless, in view of the doubts sometimes expressed as to the utility of any kind of antimeningococcal serum, it is noteworthy that the case mortality in the 811 serum-treated cases is relatively low—26.9 per cent. at all ages—and to this extent is encouraging.

The Ministry of Health desire that it should be made known that the enquiry is still proceeding, and it is hoped that the medical officers and practitioners concerned will continue to aid the Department by completing the record forms which are sent out in respect of notified cases of this disease. It is only by the collection of sufficient numbers of cases in which serum treatment has been given on the lines above indicated that any satisfactory assessment of the effect of different serums can be made.

Temperature Averages for the British Isles.

A RECENT Air Ministry publication under this title* contains station averages for each calendar month and for the year, of daily maximum, daily minimum and mean temperature, the last-named being computed as the arithmetical average of the daily maximum and minimum.

Averages are given for 244 stations having

* M.O. 364. H.M. Stationery Office. Price 9d. net, postage extra.

ten or more complete years of observations in the period of 30 years ended 1930. Of these stations, 151 are in England, the Isle of Man and the Channel Islands, 13 are in Wales, 22 in Ireland and 56 in Scotland, the remaining two stations being Gibraltar and Malta. The averages now published supersede those printed in the Book of Normals (M.O. 236, Section I) which contains data for 170 stations referring to the period 1881-1915.

The introduction contains a historical summary of temperature observations in the British Isles, and also gives information indicating the effect on the averages of changes in the hours of setting and reading the thermometers, and of variations in the number of years used for calculating the averages.

The tables show that the highest mean temperature for the year is found at Penzance (52.5° F.), Jersey (52.4° F.) and Scilly (52.3° F.), and the lowest at high level Scottish stations such as Braemar (43.1° F.) where the average daily maximum is below freezing point from November to March. The highest summer temperatures are found in the London area.

The Extraordinary General Meeting.

FORMAL notice of the holding of an extraordinary general meeting on Friday, February 16th, for the adoption of the amended Articles of Association, has already been issued in accordance with statute.

It will be remembered that at the extraordinary general meeting held on May 19th, 1933, these Articles were approved, with the exception of those numbered 3 and 19. Intimation has been received from the Board of Trade that though last year's resolution was an inclusive one, two Articles were, in fact, referred back, and it will be necessary, therefore, at the extraordinary general meeting on February 16th, once more to pass an inclusive resolution. The fact that the notice is drafted in accordance with the Board of Trade intimation accounts for the omission of any reference to Articles 3 and 19 and the reference back from the previous extraordinary general meeting.

As reported in PUBLIC HEALTH (December, 1933, p. 90),* the Council of the Society have fully considered Articles 3 and 19, and have not found it advisable to make any modification in their original recommendations, which

therefore will be re-submitted with the other Articles to the extraordinary general meeting on February 16th, 1934.

Obituary.

ROBERT PROSSER WHITE, M.D., C.M. (EDIN.)

BY the death of Dr. Prosser White, which occurred at Southport, on January 4th, at the age of 78, Wigan has lost one of her most distinguished sons and the medical profession an outstanding personality. Dr. White took his medical degree at Edinburgh University in 1878, and, after serving as house surgeon at Halifax, joined his father in practice in the Wigan coalfield area. In 1885 he was elected honorary physician to the Royal Albert Edward Infirmary, Wigan, and later became a vice-president. He founded the skin department at that institution, and on retiring from the active staff ten years ago, was elected honorary consulting dermatologist. For many years, up to the time of his death, he was certifying factory surgeon for the area. This post gave him full scope for the study of occupational diseases of the skin, a subject in which he gained an international reputation as an authority. Dr. White was a past-president of the London Dermatological Society, of the Manchester Medical Society, and of the Certifying Factory Surgeons' Association, and a member of the Permanent Committee for the Study of Occupational Diseases constituted under the auspices of the League of Nations at Geneva. He was also Associate Editor of the *Journal of Industrial Hygiene*. Outstanding among his contributions to medical literature is the book entitled *The Dermatoses or Occupational Affections of the Skin*, a work which has been translated into several languages. Dr. Prosser White spent the greater part of his life in Wigan, and cherished a great affection for his native town, its history, traditions, and people. His benevolence in the town had many outlets, and the sum of his generosity was known only to a few. To his widow and two sons the sympathy of the Society, of which Dr. Prosser White was a Fellow, is extended in their great loss.

JOHN THOMSON PRANGNELL, M.D., C.M. (GLAS.), D.P.H.

The Society also records with regret the death of Dr. J. T. Prangnell, Medical Officer of Health of the Burgh of Falkirk. Born at

Gartness, Islay, in 1862, Dr. Prangnell took his medical course at Glasgow University, where he graduated M.B., C.M. in 1883, proceeding to the M.D. in 1889. In the following year he settled in private practice at Falkirk, and shortly afterwards was appointed part-time Medical Officer of Health of Falkirk Burgh. From 1906 he relinquished private practice and conducted the medical officership as a whole-time appointment. In 1895 he had taken the D.P.H. at Cambridge. In addition to his public health duties at Falkirk, Dr. Prangnell held several other appointments,

and for many years was Medical Officer of Health for Callender, Doune, and Dunblane, and also Medical Officer to Falkirk Post Office and to the Falkirk School Board. At the time of his death he had held for over 40 years the appointment of Certifying Surgeon under the Factory and Workshop Act for the industrial area of Falkirk. Dr. Prangnell, who was a Fellow of the Society of Medical Officers of Health, is survived by a widow, two sons, and three daughters, of whom one is a member of the medical profession practising in Yorkshire.

THE ROYAL SANITARY INSTITUTE.

DR. JAMES FENTON, Medical Officer of Health of the Royal Borough of Kensington, will open a discussion on "The Administration of the Housing Acts in Relation to Unfit Individual Houses," at a sessional meeting of the Royal Sanitary Institute, to be held at 90, Buckingham Palace Road, London, S.W.1, on Thursday, February 15th, 1934, at 5.15 p.m. The chair will be taken by the Right Hon. Lord Balfour of Burleigh (President of the Institute).

A SESSIONAL meeting of the Royal Sanitary Institute will be held at the Town Hall, Newport, Mon., on Friday and Saturday, February 9th and 10th, 1934, under the chairmanship of Professor Ralph M. F. Picken. On Friday, at 5 p.m., the following papers will be read: (1) "The Spread of Infectious Disease," by Dr. J. Greenwood Wilson, Medical Officer of Health, Cardiff; (2) "The Changing Outlook on the Control of Infectious Diseases," by Dr. H. W. Catto, Medical Officer of Health, Newport (who is acting as Hon. Local Secretary of the meeting); and (3) "The Housing Acts and the Need for Standards and Definitions," by Mr. C. J. Burr, Chief Sanitary Inspector, Newport Urban Sanitary Authority. The meeting will be preceded, at 2 p.m., by visits to works of public health interest, and at 4.15 p.m. by a reception by the Mayor of Newport. On Saturday, at 9.30 a.m., further visits of inspection will be made.

THE Royal Sanitary Institute has arranged a sessional meeting to be held at Chesterfield, on Friday and Saturday, February 23rd and 24th, 1934. The chair will be taken by Mr. W. T. Creswell, K.C. (Member of the Council

of the Institute). On Friday, at 4.15 p.m., in the Town Hall, the Mayor of Chesterfield will receive the members and entertain them at tea. At 5 p.m., in the Stephenson Memorial Hall, there will be discussions on "Some Recent Developments in Food Analysis," to be opened by Mr. John Evans, Borough Analyst, Chesterfield, and on "The Advantages of the Bio-aeration System of Sewage Purification," to be opened by Mr. S. Thornhill, Sewage Works Manager, Chesterfield. On Saturday, at 10 a.m., visits will be paid to the sewage works, new abattoir, and the municipal maternity home. Dr. J. A. Stirling, Medical Officer of Health of Chesterfield, is acting as Hon. Local Secretary of the meeting.

THE forty-fifth Health Congress and Exhibition of the Royal Sanitary Institute will be held at Bristol, from July 9th to 14th, 1934, under the Presidentship of Mr. Stanley H. Badock, LL.D., J.P., Pro-Chancellor and Treasurer of the University of Bristol. The following sections and conferences will be arranged:—

- Section A., Preventive Medicine.
- Section B., Engineering, Architecture and Town Planning.
- Section C., Maternity, Child Welfare and School Hygiene.
- Section D., Veterinary Hygiene.
- Section E., National Health Insurance.
- Section F., Hygiene of Food (in conjunction with the Food Group of the Society of Chemical Industry).
- Conference I., Representatives of Sanitary Authorities.
- Conference II., Medical Officers of Health.
- Conference III., Engineers and Surveyors.
- Conference IV., Sanitary Inspectors.
- Conference V., Health Visitors.

A Safe Milk Supply.

By HENRY WHITEHEAD, M.D., D.P.H., Medical Officer of Health, County Borough of Wigan.

The claim of Dr. Whitehead that the subject of a safe milk supply is of vital interest and calls for immediate action is one that will be generally accepted, as it will also be that, having regard to his experience and the work he has done in connection with it, it was entirely appropriate that he should choose to deal with it in his Presidential Address to the North-Western Branch.

THE subject I have chosen for this address is, I consider, of vital interest at the moment, and the present state of affairs calls for immediate action.

Innumerable articles and papers have been written on the subject of milk, but as far as I know, very little has been put before the North-Western Branch.

For 22 years I have been engaged in public health work, and have always been keenly concerned about a safe milk supply.

In 1923, I commenced a campaign of propaganda in Wigan, recommending pasteurisation of milk, and, as a result, a firm established an up-to-date plant. In 1924, the milk issued by the maternity and child welfare committee as free milk in necessitous cases to nursing and expectant mothers, and to babies, was in the form of bottled pasteurised milk. I think I am right in saying that Wigan was the first authority to do this.

The milk problem must be approached with an unbiased mind.

Cows' milk has been an important part of the food of man as far back as history records, and probably ever since man was on this earth. Consequently, it has been assumed until quite recently that milk was safe and wholesome.

It became as fixed an idea as views on religion and politics. No amount of reason or argument would change it for a long time. Prolonged and familiar customs and everyday objects often escape the critical eye; and it came as a great shock to the public when the purity and safety of milk were questioned.

Such a phrase as "the milk of human kindness" reflects public opinion as to the harmlessness of milk. Maeterlinck in his play, *The Blue Bird*, has depicted the character of "Milk" as a pure, beautiful maiden in white garments. He intended to show that milk was the example of purity and excellence. He was suffering from the same delusion as many of the general public,

We must forget past history and give judgment as though raw cows' milk were being used for the first time for human food. The two main points to consider are:—

1. Its value as a food. Is it nutritious?
2. Its purity and safety. Is it safe as it is?

The answer to the first question is in the affirmative. Ample evidence is forthcoming to prove its highly nutritious qualities. As a food, it has few, if any, rivals. It has its drawbacks for infant feeding as compared with human milk. It has varying deficiencies in vitamin content. On the whole, however, it compares very favourably with other foods when price and food value are considered.

The reply to the second question is definitely in the negative, and there is overwhelming evidence to support this.

(a) Milk is used in the study of bacteriology as a culture medium. Its very nature makes it an ideal growing ground for micro-organisms. Therefore, exposure to any extent is dangerous, and bacterial contamination from any source is multiplied quickly.

(b) Safety of milk is dependent on the condition of the cow—internal and external. Consumers of raw milk are at the mercy of the condition of the cow.

(c) The methods of production, distribution and storage give rise to contamination in many ways, and dangerous micro-organisms get into the milk and multiply in each and all of these stages from cow to consumer. These obvious dangers have been described in detail by numerous writers, and there is no time to discuss them here.

I have stated many times in public that a cow cannot be cleansed in the true sense of the word.

Clean dairies and clean milkers are mere names, being naked-eye impressions only.

In other words, the term "clean" is misleading.

Stenhouse Williams showed how "clean"

milk could be produced. *But it is not safe milk*, however clean in that sense.

We can study milk infection in two main groups:—

1. Tuberculosis.
2. Other diseases.

Both groups are to be considered seriously; the former is possibly the more important.

Tuberculosis.—I will first of all quote from Sir George Newman's Annual Report for 1932: " . . . probably not less than 40 per cent. of milch cows being more or less affected, and between 1 and 2 per cent. of them yield tuberculous milk. The general average of tuberculous samples taken by various towns is about 7 per cent."

These figures are advisedly on the cautious and modest side. Even so, they show an appalling state of affairs. All that 40 per cent. of milch cows are potential dangers, and may at any moment begin to throw out live tubercle bacilli into the milk, and this can occur in the absence of a localised lesion in the udder.

In London, 33 per cent. of cows slaughtered are tubercular, and Brittlebank stated that from 1920-24, of 16,249 cattle slaughtered, 44.8 per cent. were tubercular.

These records are sufficient to show the vast amount of tubercle there is in cattle, and the serious dangers of milk becoming infected from the cow, mostly before it passes from the cow, and in some cases no doubt afterwards, from excreta or urine containing tubercle bacilli.

The Tuberculosis Order of 1925, with veterinary inspection, ensures a little earlier diagnosis, but tubercle bacilli are poured into milk months before the offending animal is slaughtered. Tuberculosis is often difficult or impossible to detect by examination, unless the lesions are obvious, being gross and palpable. It is a common experience to discover the cow giving tubercle bacilli in milk by a process of elimination from guinea-pig inoculation tests, and then to find that this particular cow is apparently perfectly healthy with no obvious signs; in other words, it has the appearance of a perfect specimen. *Post-mortem*, the disease may be quite widespread. I have myself seen examples of this.

A great amount of work has been done to show the incidence of bovine tuberculosis in man, and I will quote from a paper by Cobbett (*Lancet*, May, 1922) the following table based

on the examination of 1,068 cases collected by Griffith and very largely his work:—

- 1.3%—Pulmonary tuberculosis.
- 5.5%—Bronchial glands.
- 50.0%—Abdominal.
- 46.0%—Cervical glands.
- 16.0%—General.
- 18.0%—Meningitis.
- 20.0%—Bones and joints.
- 18.0%—Genito-urinary.
- 50.0%—Lupus.

Other observers have reported similar findings.

These cases have obviously been infected by drinking raw milk containing live tubercle bacilli.

At the British Medical Association Centenary Meeting in London, Griffith said that 35 per cent. surgical tuberculosis were bovine, and of 365 cases of surgical tuberculosis under five, 52 per cent. were bovine.

At the same meeting, both Griffith and Lange stated that bovine tuberculosis was just as virulent as the human type.

One would expect the bigger percentage to be in young children, as they drink more milk, and so we find it.

In connection with the infection of milk by bovine tubercle bacilli, it is interesting to study its effect on pigs, and one important fact is worth noting; that pigs fed on farms on dairy waste in its raw state show a far higher incidence of tuberculosis than those fed in other ways.

The facts are before us, and we know and see for ourselves the gravity of the situation, and yet nothing drastic is done.

We see in hospitals, in clinics and elsewhere, children with surgical tuberculosis, and it is a tragic picture. A great deal of this suffering and death could be prevented by eliminating tubercle bacilli from milk.

Other Diseases.—So much for that disease. Now the other group of milk-borne diseases, which include the enteric fever group, enteritis, cholera, dysentery, food poisoning, poliomyelitis, scarlet fever, septic throat, diphtheria, undulant fever, foot-and-mouth disease, and anthrax. There may be others for which milk is not blamed; we do not know.

I will quote two local outbreaks of milk-borne paratyphoid. The first was the occurrence of nine cases in Wigan. Investigations showed that all these got their milk from a farm outside the town. It was found that the farmer had suffered from the disease five years

previously, and his three daughters were ill at the time of the visit with "influenza" which proved to be paratyphoid. The farmer's blood gave a positive widal, and paratyphoid B. were isolated from the faeces. The blood and faeces of the three daughters were positive. The farmer was ordered not to have anything to do with milking or distribution, and the daughters were removed to hospital. No further cases occurred.

The second outbreak was in Chorley, and was investigated by the Ministry of Health. There were 52 cases of typhoid fever and two deaths. The original case was nursed at the farm, and four others on the farm contracted the disease.

One month after the first cases we were notified in Wigan that milk was coming to us from this farm, and had been coming all the time. Fortunately for us, it went to a firm which pasteurised its milk, and there were no cases in Wigan.

Summer diarrhoea in children due to dirty milk—possibly from excreta of cows or other germ-laden dirt getting into milk.

In recent years, a big fall has been recorded in the number of deaths from this condition.

In Wigan the figures are as follows:—

	Average number of deaths
1883 to 1892	79.5
1893 to 1902	93
1903 to 1912	99
1913 to 1922	61.5
1923 to 1932	15.1

The figure for 1932 was 7.

Is this big fall in the mortality due to some extent to pasteurisation of milk?

Milk-borne outbreaks of scarlet fever, diphtheria, septic throat are well known, and need not be gone into now. There is no doubt that they occur from time to time under favourable conditions.

Of undulant fever due to *Brucella abortus*, there are approximately 500 cases annually (Selby Wilson).

For many years the minds of medical men, scientists and others interested in a safe milk supply, have been exercised in searching for a remedy. Well-known leaders in the medical and scientific world have signed a statement of their views on the matter. The Society of Medical Officers of Health and the Royal Institute of Public Health have given their views. The People's League of Health have

agreed as to what is best to be done. Two great towns proposed to seek powers to deal with milk in parliamentary bills. Many familiar writers on the subject have expressed their views. The societies and individuals appear to agree, with slight variation, that the remedy is as follows:—

1. That all milk sold to the public should be efficiently pasteurised, except grade A (tuberculin tested) and certified milk.

2. That all precautions should be taken to produce clean milk before treatment. In other words, our existing powers to be strictly applied.

3. That measures for eradicating bovine tuberculosis should be pressed forward.

4. Standardisation and efficient control of supplies of tuberculin.

These remedies, however, deal only with tuberculosis, and fail entirely to deal with, and in fact ignore, the group of diseases which I called group 2. Therefore, the remedy is only a partial one. I will take the eradication of tubercular cattle first. Seeing that we know there are 40 per cent. positive reactors, the task of clearing them out is a stupendous and impracticable one, and has no chance of ever being achieved.

Sir George Newman, in his latest reports says:—

"It would seem that complete eradication by means of universal and frequent veterinary inspection, tuberculin testing and the slaughter of reacting cows is not practicable in this country, partly because of the cost and the dislocation of the milk industry involved, and partly because we could not thus hope to exterminate the disease among cattle."

"It is true that the incidence of tubercle among cattle can be reduced by such methods and such reduction is all to the good, but it is not enough for the safety of the consumer. There happens to be available one prompt and safe method of protection, namely pasteurisation. It is significant that the extension of the practice of pasteurisation has synchronised both in time and place with a remarkable decline in the incidence and mortality from those forms of non-pulmonary tuberculosis which are attributable to infection of bovine tuberculosis."

This statement is plain enough, and shows clearly how the Chief Medical Officer of the Ministry of Health, and many others, are beginning to face facts at last.

In the House of Lords, Lord Moynihan, in February, 1931, said that the cost of slaughtering infected cows was prohibitive, and would be quite ineffective except for the immediate present, and for many reasons (infected cow-

sheds and missed cases, for example) the disease would become as widespread as before.

The late Dr. Niven, at the Royal Society of Medicine meeting in 1925, said that once tuberculosis was introduced into a tubercle-free herd, the spread among the animals was very rapid. Great precautions were needed to keep a herd free from the diseases.

Personally, I am convinced that the difficulties of eliminating tuberculous cattle in this country are insurmountable and reasonable people will agree that there is no hope of securing a safe milk supply by this method.

Dealing with the next recommendation, *i.e.*, the efficient pasteurisation of all milk except grade A (tuberculin tested) and certified. This is only a partial remedy as both grade A (tuberculin tested), and certified milk are liable to be infected by the second group of diseases.

Commenting on a statement by prominent men, Ledingham in a letter to the *Lancet* (December 20th, 1930) makes the following remarks: "Why do they draw the line at 'certified milk?' Has not certified milk produced septic sore throat, and undulant fever? It cannot be too widely known that no raw milk, certified or uncertified, can be regarded as safe. Improve the milk at its source by all means, but neglect to pasteurise is only asking for trouble. There is nothing sacrosanct about certified milk, and its pasteurisation will do it good."

I agree with the recommendation with regard to strict application of our powers for cleanly production. This is only common decency. The standardisation and control of supplies of tuberculin are necessary.

Medical inspection of milkers may be useful, but such dangers as typhoid carriers; cases of mild scarlet fever, and other infectious diseases in a mild form would be missed, and milk-borne diseases would still occur.

In the memorandum submitted by the Society of Medical Officers of Health to the Committee on Cattle Diseases of the Economic Advisory Council (PUBLIC HEALTH, August, 1933, p. 366) pasteurisation is recommended:—

"A practicable means of making milk safe for human consumption under present conditions is pasteurisation.

"... in some areas this measure is called for as the only practical step that can be taken in the meantime to protect the people from bovine tuberculosis in milk."

Why "under present conditions" and "in the meantime"?

I have heard Saváge, Macgregor and others speak at length on milk, and most of them apologise for recommending pasteurisation, and so does our Society. As recently as May, 1933, at a sessional meeting of the Royal Sanitary Institute, Saváge said: "As an immediate protection to the milk supply I do not think we can avoid resort to pasteurisation."

I cannot conceive what the objection to pasteurisation is, if efficiently done. The ordinary precautions for cleanliness of production should be carried out previously. Local authorities have powers to enforce this.

We are told that there are technical difficulties in connection with pasteurisation, but it is a bad advertisement for engineers and physicists if a perfectly reliable apparatus cannot be devised to heat a given volume of milk to a given temperature and keep it at that temperature for half an hour! This can be done, and is being done; technical difficulties can be overcome. Many so-called supporters of pasteurisation spoil their case by inferring that they do not *really like* pasteurisation, but *are driven* to it.

Has that high-sounding phrase "clean fresh milk" got into their bones? What we as medical officers of health, have to do is to stop bovine tubercle bacilli from getting into the bones, brains, joints and glands of children.

There is no other method of securing a safe milk for the public. It protects them from both groups of diseases, and that is absolutely essential at all times.

Pasteurisation has been attacked from many angles, and I will deal with *some* of them:—

1. It is often said that pasteurisation is not certain to kill tubercle bacilli.

The work of Campbell-Brown, carried out in 1922, followed by that of White, Macauley, Meanwell, and others, is quite convincing, and proves that pasteurisation, efficiently carried out, kills tubercle bacilli. There have been one or two exceptions, but it must be remembered that the tests were very severe, and for all practical purposes the results are eminently satisfactory.

(Tests in Wigan.—Many tests have been carried out locally, and although tubercle bacilli have been found on several occasions

before pasteurisation, in no case have they been found after treatment.)

2. That vitamin C is destroyed or diminished, especially in the presence of oxygen.

Corry Mann's experiments show that no symptoms occur due to lack of vitamin C. Raw milk is often lacking in this vitamin.

3. That calcium content is diminished.

It has been pointed out that although about 2 per cent. of diffusible Ca is lost, cows' milk has three times the amount of calcium as compared with human milk, and so this objection is ruled out.

4. That the general nutrient value is reduced.

This objection is raised in connection with the feeding of infants. It is accepted that raw cows' milk has deficiencies, and it has been demonstrated by several observers that there is no difference in the nutritional value between raw and pasteurised milk.

5. It has been suggested that raw milk will confer immunity to dental caries, while pasteurised milk will not. (Sprawson.)

The evidence for this assumption is not at all convincing, and can be ignored.

6. That it is an unnatural process.

Preventive medicine is one continual attack on the processes and tendencies of nature. There are thousands of examples of interferences with nature. Are we to allow flies, mosquitoes, micro-organisms, etc., to do as nature would lead them. We recognise the dangers of allowing nature to take its course. Lister for one showed us this. The very evolution of man from lower forms was brought about by continual warfare against nature.

Bottling of milk, which is usually practised in connection with pasteurisation, is essential for protection in production, distribution and in the home. Bottles must be efficiently sterilised, and perhaps sterilised containers which are destroyed when used once are the best.

Pasteurisation of market milk and cream, or some similar process, is essential for safety in the preparation of butter and cheese.

In 1925, I read a paper before the Edinburgh Congress of the Royal Sanitary Institute, on "Milk and Pasteurisation," and concluded with the following remarks:—

That a pure, safe, continuous supply of raw milk for the general public cannot be produced because:—

(a) The practical difficulties of eliminating

tubercular cattle in this country are insurmountable.

(b) No amount of care and supervision can produce clean cows, clean dairies and clean milkers in the true sense of the word.

(c) No amount of supervision or examination can prevent carriers or persons with disease in a mild form from contaminating milk.

Efficient controlled pasteurisation destroys tubercle bacilli in milk. It kills other pathogenic organisms.

I therefore strongly urged that universal controlled pasteurisation and bottling of milk be made compulsory; and that all milk should have a certain standard of cleanliness—tested by bacteriological methods—before pasteurisation.

That was my position in 1925, and it is my position now; I will go further and say now that I consider that any State allowing milk which may contain live tubercle bacilli or other pathogenic organisms, to be sold to the public as food, is guilty of grave negligence.

Immediate action should be taken even in face of vested interests and public opinion, and I venture to suggest that the latter is becoming every day more favourable to drastic steps being taken.

THE Sixth Congress of the International Union of Midwives will be held at the Midwives Institute, 57, Lower Belgrave Street, London, S.W.1, from May 25th to 29th, 1934. The subject to be discussed is "The Training and Education of Midwives." All information may be obtained from the International Congress Secretary at the address stated.

THE Secretary to the Minister of Health announces that Professor Sir F. Gowland Hopkins, D.Sc., F.R.C.P., P.R.S., Professor E. P. Cathcart, C.B.E., D.Sc., M.D., F.R.S., and Professor Edward Mellanby, M.D., F.R.C.P., F.R.S., as physiologists representing the Minister's Advisory Committee on Nutrition, will confer with Professor V. H. Mottram, M.A., Professor S. J. Cowell, M.A., M.B., B.Ch., M.R.C.P., and G. P. Crowden, Esq., M.Sc., M.R.C.S., L.R.C.P., as physiologists representing the British Medical Association Committee on Nutrition, in regard to the differences which appear to exist between the two Committees on the question of the amount of calories and first-class protein appropriate as a basis for suitable diets.

Ut Ita Dicam.

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

February Full of Meetings.

In the matter of meetings the position in January was reminiscent of the small boy's tea menu: "Jam yesterday; jam to-morrow; but never jam to-day." In a word, there were no meetings at all worth writing about, but February looks like providing a crop of really important ones. At headquarters, the General Purposes Committee meets on February 2nd, and then on the 16th there is a very full day with a Council meeting, and on its heels an extraordinary general meeting, and on top of that an ordinary meeting. The extraordinary meeting is, of course, to consider and finally to pass the Articles of Association. As this is the second time of asking, it may be hoped that they will receive approval, more particularly as almost in their entirety they proved acceptable the last time they came before the Society. The ordinary meeting is an important one, and may very well prove to be the most attractive and most largely attended meeting of the session. This partly because of its character, and partly because of the subject to be dealt with. In character it is a meeting for which the Tuberculosis Group is responsible, and the vice-chair will be occupied by Dr. George Jessel, President of that Group. Also Dr. Ernest Ward will concern himself with the making of the meeting, and an excuse for absence that he will accept must be a good excuse indeed. Certainly no one will dare to seek his excuse in the subject for discussion. This is calculated to interest everybody within the Society, and not only those who are engaged specially in work in relation to tuberculosis schemes. It may be remembered that on the last occasion when the Tuberculosis Group assisted at an ordinary meeting, members had an opportunity of seeing and hearing persons very prominent in all parts of the tuberculosis field. That the meeting of February 16th will be honoured also by the attendance of notabilities may be hoped.

Joint Meetings at Wakefield—

Talking of joint meetings, it almost seems that a fashion in this type of gathering is growing up. And commonly they are conspicuously well attended and definitely popular. At Wakefield, on January 19th, for

example, the Yorkshire Branch took part in a sessional meeting of the Royal Sanitary Institute. Appropriately enough, this was presided over by the President of the Society. What, if any, may have been the effect of this association is not easy to estimate; certain it is, however, that the attendance at the meeting was the largest at any provincial sessional meeting for a very long time. The subjects for discussion were town and country planning and the prevention and control of infectious diseases. This last was opened by Dr. Gibson, the Medical Officer of Health of Wakefield, and covered a great deal of ground and uncovered a great many points upon which discussion was hung by members of the Branch and others. Prominent among the speakers were Dr. Allardice, the Assistant Medical Officer of Health of Wakefield, who gave an interesting and useful description of the work done in relation to the prevention of diphtheria in Wakefield, and Mr. Rabagliati, who contributed an optimistic note on the problem of tuberculosis amongst cattle and its eventual complete eradication. Apart from the set discussions, an interesting programme of visits had been prepared to a local housing estate and the West Riding County Council pathological laboratory. At the latter, in addition to providing interesting bacteriological demonstrations, Dr. Sutherland, the County Bacteriologist, showed a number of medico-legal exhibits which proved particularly fascinating.

—And at Birmingham.

Having regard to the success of this joint meeting, equal success may be prophesied for the joint meeting of the Midland Branch of the Society and the Midland Centre of the Sanitary Inspectors' Association at Birmingham, on February 1st. The President, it is hoped, will preside, and Mr. Ben Davies, Director of Laboratories, United Dairies, Limited, who is very well known to and greatly liked by members of the health service generally, will speak. His knowledge and experience of all questions relating to milk are probably unequalled in this country, if not indeed beyond it, and his paper, in which he is to discuss the problem of

milk safety and offer suggestions based upon a series of successful experiments recently carried out, should be well worth hearing. As a subject it would be difficult to find one more appropriate for a joint meeting of medical officers of health and sanitary inspectors, and the hope may be expressed that not only will the practice of joint meetings, so happily inaugurated, continue in the Midland area, but that it will spread to others in which Branches of the Society and the Sanitary Inspectors' Association are centred. And there is very little likelihood that, as happens occasionally in the church, anybody will call upon the individual in the service who corresponds to an archbishop to take such steps as will prevent the establishment of close and friendly relations.

Dame Janet Campbell Retires.

The retirement of Dame Janet Campbell from the Ministry of Health is an event that may not be allowed to pass without comment here. The association of Dame Janet with the Ministry has been so intimate for so long that, particularly to members of the service who have known the department since its establishment, she has become very definitely a part of it. To individuals such as these it will prove a little difficult to recognise the Ministry, and more especially the maternity and child welfare branch of it, without her. In addition to being immensely capable, Dame Janet had a wonderful charm and personality and a tact that might have filled any diplomat with envy. Indeed, during the recent talk of woman diplomats, almost at once thought turned to Dame Janet as the type of such an individual. And remembering discussions in her room on schemes and policies, and the readiness with which she detected weak points, it is easy to imagine that even in the higher diplomacy she would have found a place amongst the most successful.

Appointment of Dr. Jane Turnbull.

One of the very pleasant thoughts that Dame Janet must assuredly take with her into retirement is that, by reason of the success with which she conducted the affairs of the maternity and child welfare branch, she has made it certain that it will be always a woman who will be at its head. It must be a further very real satisfaction for her to know that her immediate successor is one so distinguished,

so capable and so well qualified as Dr. Jane Turnbull. Dr. Turnbull has been attached to the maternity and child welfare branch of the Ministry for some time and, wherever she has gone and whatever public health departments she has visited, has won golden opinions. That she should have been chosen to succeed Dame Janet was inevitable. Indeed, no more appropriate and suitable appointment could have been made. That she will carry on the fine tradition, and maintain the very high standard reached during the period the department has been in existence and operation, is certain. In congratulating Dr. Turnbull on her appointment it is safe and right to assure her that in the service as a whole, and especially amongst maternity and child welfare workers, there is conviction that the friendly relations that have always existed between local authority officers and her department will not only be maintained, but will become even stronger.

The Honours List.

The name of one public health worker in this country—to be precise, that of a health visitor—appeared in the New Year Honours List of January 1st, 1934. She received a M.B.E. This is to be taken as evidence that in the place where honours come from there are people who know of the existence of a municipal public health service. That in that department much is known of the composition of the service, and of the work done by its members that is of national importance and deserving of recognition, is hardly likely. It is a pleasure, however, to record that Miss Baxter, the health visitor in question (she is, in fact, superintendent health visitor in Birmingham) has been singled out for an honour, and to congratulate her. Two others known to members of the service to whom warm congratulations are also tendered are Mr. A. B. MacLachlan, Principal Assistant Secretary, Ministry of Health, who received a C.B., and Dr. Wellington, Director of Medical and Sanitary Services, Hong Kong, the recipient of a C.M.G.

THE Sixty-third Annual Meeting of the American Public Health Association will be held in Pasadena, California, from September 3rd to 6th, 1934.

The Public Health Outlook on Nutrition.

By J. O. MURRAY, M.D., D.P.H., Medical Officer of Health, County Borough of Tynemouth.

As a subject for a presidential address, nutrition has much to commend it. At the present moment particularly it is definitely one for serious consideration by members of the public health service, and Dr. Murray, in addition to dealing with it most attractively, has succeeded in offering a number of useful hints and suggestions that will prove of interest and value to others. The address was delivered to the Northern Branch of the Society.

UNTIL comparatively recently the selection of diet, except in actual ill-health, was—and still is—more or less left entirely to the individual's æsthetic senses. Fortunately, the average individual did not come to much harm, although entirely oblivious to the advantage and even the name of biological protein and vitamin. But in the past the diet was rawer, fresher and less refined, and there were more cooks and fewer tin openers.

Nowadays most people know in a dim sort of way that what they eat and drink is connected with their health, but in spite of that, very little attention is paid to the diet, except by nutritionists, dyspeptics, epicureans and individuals under medical treatment for some pathological condition.

One of the problems of public health is to get the community interested and educated in the close relationship between diet, health and disease. Nutrition, of course, is something more than the supply of food and drink to the body. Ample fresh air and sunshine, sufficient rest, plenty of exercise and a contented mind are other factors all intimately connected with nutrition. In the present paper, however, I intend to confine my remarks as far as possible to the food aspect of nutrition.

It is unfortunate that civilisation, and particularly urban forms of civilisation, brings with it a less natural form of living. There is less exercise, less fresh air, more stress and strain in everyday work and pleasure, and, what is of more direct importance from the point of view of dietary, food manufacture has reached a stage in which many of the vitalising principles of the food are destroyed or dispensed with in refining or preparation. Now modern methods of food preparation, whether we like it or not, have come to stay, and any effect which such methods may have on the individual or communal health must be countered, not with a ban on their use but with the knowledge which modern science has given us. It is futile to tell people, not to eat tinned meat. Actually it

would be stupid to do so, because there is no inherent lack of nutriment in such food. Eaten for prolonged periods we know it may be productive of scurvy, and I have recently seen several cases of scurvy developing in elderly persons living by themselves on a limited diet largely composed of tinned foods and bread. The average individual can, however, eat tinned meat with relish and safety if it is a constituent of a mixed diet, and particularly if the mixed diet contains green salad and vegetables. Thus in our propaganda it is only necessary to tell the public that green salads and vegetables should be eaten with preserved meat. The majority of people serve salads instinctively with such food, and this instinctive selection of a balanced diet, which should be fostered, is no doubt one of the reasons why our natural dietary is so little at fault when a free choice of food is possible. Of course, we can also say that tinned food is expensive. It may be, but an appetising food is usually the decisive factor in selection, and I think so many of our efforts in the nutritional education of the public are unproductive because we pay too little attention to this psychological fact. In addition, such considerations as personal idiosyncrasy, age, work, etc., are all subconsciously referred to the palate and the sensations of the individual, and cannot be assessed by the nutritionist.

We so frequently pay too much attention to the purse, and not enough to the palate of the individual. We say that fresh herring is a fine source of biological protein, vitamins A and D, and iodine. If we imagine that there is a great need for economy in the family budget we even suggest bloaters, full of body-building material, for dinner. No doubt they are, but how many persons like bloaters. To the man in the street the bloater is a joke, not a food. I am not attempting to undervalue the use of fish in the dietary. Far from it. But the palate is a more decisive selector in the dietary than the intellect, and as nutritionists we are apt to forget this.

I have personally tried some of the cheap

daily dietaries advocated for diminished family budgets. I did not enjoy the experiment. No doubt my health did not suffer. It may even have improved, but I missed the pleasant anticipation of meal-time, and that to a healthy individual is somewhat of a loss. In spite, or perhaps because, of the nutritional problem, I feel that we should never forget the decided beneficial effect to be derived from a good palate and its proper treatment. After all, the enjoyment of a meal is a great asset in the promotion of a sense of physical well-being.

In this respect, too, we are often unduly hard and fast in prescribing the dietary of children. Children have a disturbing habit of destroying the best scientific conclusions. We have all met children who would not eat fat, and others who would not eat lean. There is no doubt a biological reason for it. The fat refuser may suffer from an undetected acidosis or a deficiency of the organic salts resulting in a loss of nutrition. To press fat on such a child is to aggravate his condition, which may be remedied by diet rich in carbohydrate. Certainly in the dietary of children of the well-to-do and over-anxious parents there is often an excess of fat and protein.

At the present stage of our knowledge we cannot be certain as to the amount or degree of interconversion which may occur between protein fat and carbohydrate in the body.

The evidence of the conversion of carbohydrate to fat is clear, but there is still controversy as to whether fat can be converted to carbohydrate. On the other hand, protein can be transformed to carbohydrate but not into fat, and carbohydrates are better protein spacers than fats.

In families of restricted means we frequently find children to all intents and purposes well nourished, whom we know are consuming a diet with an excess of carbohydrate and relatively small fat and protein intakes. In such cases the natural adaptability of the body no doubt synthesises a portion of the carbohydrate to fat and the carbohydrate spares the protein catabolism, thus making good to some extent the deficiency of protein and fat in the diet.

I must confess that the excellent nutrition of some of these children on an excessive carbohydrate diet has astounded me. They generally appear well nourished, physically fit and active. One must presume that although small, the vitamin and mineral content of their diet is ample. But before one could come to a definite

conclusion one would have to follow their after-history—how they resist disease and stand up to the shocks of adult life.

Similar observations reveal the large margin of safety that exists in the choice of a diet consistent with health, and it also shows the difficulty in assessing experimental and observational evidence. For instance, the Japanese carry on with a relatively low fat intake; the Eskimo subsists on a diet almost entirely of fat and protein (seal, blubber, meat and fish); the African eats chiefly maize and mealies with an occasional engorgement of meat. Yet all diets are compatible with health. The recent investigation into two native diets by Orr and Gilks, however, suggests that the superiority of the meat-eating Masai in stature, weight and muscular energy, to the cereal-eating tribes, may be nutritional. The meat-eaters with the high intake of protein, fat and calcium were on the average 23 lbs. heavier and 5 inches taller than the cereal-eaters who, in addition to their poorer physique, showed a greater incidence of anæmia, dental caries and pulmonary conditions, and tropical ulcer. This, of course, as the authors point out, raises the question as to what extent a diet can affect the physique of a race.

The meat-eaters, however, were more prone to rheumatoid arthritis and intestinal stasis, and this brings out the point as to the effect of an excessive protein diet. A protein diet has been supposed to be productive of renal and arterial changes, and probably is, but the Eskimo frequently eats 3 to 5 lbs. of meat at a sitting, has extraordinary endurance and survives comfortably, and exhibits no abnormal tendency to vascular disease. As against this, rats fed on a high protein intake suffer from renal deterioration, the degree of damage varying with the type of protein fed. For instance, it required 75 per cent. of casein in the diet before damage resulted, whereas beef protein caused more damage when only 31 per cent. was in the diet; but in the rat experiments the amount of fat was small as compared with the amount of fat in the Eskimos' diet. Is there then a protective factor in the fat intake which prevents damage to artery and kidney? I have noticed a considerable number of elderly prodigious meat-eaters with comparatively little arterial and renal deterioration, and all of them preferred fat meat. It is probable that arterial damage is the result of a diet unbalanced with an excess of protein in relation to the fat content. Cathcart states that protein fed to rats in proper

amount is growth stimulating, but in excess it is apparently growth inhibiting. There is still much to learn about protein.

In deficient diets the usual faults are lack of biological proteins and vitamins. As indicated above, protein in excess is detrimental, and Harris and Moore have shown that an excess of vitamin D is also harmful, over-dosage leading to rapid loss of weight, stoppage of growth and abnormal deposits of calcium in some of the soft tissues. Thus the usual deficiencies, if over-corrected, may produce evil effects.

The necessity for an adequate vitamin and mineral supply in the dietary has been clearly shown by the Mellanbys and others. We do not know, however, the amounts and the proportions of vitamin and mineral salts which are required by the body, nor is the vitamin content of many foods known. It is naturally a difficult problem, because the amount of vitamins and salts in plant life varies very considerably, according to the source of the plant and its conditions of growth. The lack of this knowledge is, nevertheless, unfortunate when it is realised that one of the fundamental necessities for proper functioning of the body is the maintenance of a proper balance of the tissue fluids and salts. For this reason, scientific investigation is urgently required to elucidate the relationships existing between salts and vitamins and the energy-producers in the body. We do know that, without salts and vitamins, the proximate principles will not nourish the body, but in what proportions and combinations they are needed in the metabolic process is not yet decided. Magee and Senn have also shown that the absorption of glucose depends on the concentration of calcium ions in the blood.

Until such time as scientific investigation remedies our ignorance as to the correct salt and vitamin balance in our daily food, we may comfort ourselves with the reflection that probably the selective instinct of animal and man is a safeguard against the grosser errors of salt or vitamin excess or deficiency. A deficiency is more likely to occur than an excess, and for this reason we prescribe the inclusion of a liberal supply of dairy produce and green vegetables in the diet. This selective instinct of man, as evinced by his balanced diet of meat with vegetables, porridge and milk, bread and butter, etc., may mean that the dangers of lack of balance in the vitamin and salt content of the dietary are more apparent than real.

Mellanby's observations have shown the need for a generous supply of vitamin D in ante-

natal and early life to prevent dental caries and rickets, and to promote satisfactory bony growth. The need for vitamin A is also evident to control epithelial growth and function, a deficiency of vitamin A resulting in a hyperplasia of epithelium which is a precursor of pyorrhœa alveolar. Mellanby, however, shows the great necessity for adequate feeding in early life, if pathological changes are to be prevented. It would appear that whilst a supply of vitamin A can prevent disease, the therapeutic effect has been so far very limited in its use in epithelial affections such as puerperal septicæmia. It will probably be generally admitted that in children and adolescents, a deficiency, and particularly a vitamin deficiency, in the diet is certainly serious, but in the adult there is little or no detrimental effect perceptible until gross deficiency has been operative over long periods. There must be large numbers of adults at the present time whose biological protein intake is imperfect, whose vitamin and mineral rations are low, and such is the limit of safety in such matters that months of defective feeding on our concepts is unproductive of recognisable disease. Such people will in all probability have a really good meal from time to time, and it may be that such a procedure will remedy days of deficiency. Witness the effect of glucose in a ketosis, and such a supposition of the corrective effect of one well-balanced meal may not seem too improbable. The human is the slowest growing of all animals, and for this reason the effects of a deficiency are longer in making their appearance than in lower animals. In any case, a deficient diet is a much more serious occurrence in children than in adults. And for this reason our efforts should be concentrated on the early stages of development.

I have already mentioned the instinctive selection by which the individual with no knowledge of dietetics will satisfy the requirements of his body in most cases, provided he has a free choice of diet. Numerous investigations have shown a remarkable constancy in the percentage energy yield from the direct sources of energy—protein, fat and carbohydrate—when the choice of food is left to the housewife. For example, a series of studies such as those conducted in St. Andrews, Cardiff and Reading shows that the ratios of the percentage energy yield are similar in each investigation, being approximately 11 per cent. protein, 30 per cent. fat and 60 per cent. carbohydrate, and these proportions are little affected by variation in income or by expenditure in

food (Cathcart). Such studies show that the ordinary housewife needs no instruction in the selection of food as far as energy production content is concerned.

So much of the nutritional problem is common-sense and subconscious selection that the task is not so difficult as it would appear. There is one factor in nutrition, however, which is worthy of more attention than it receives, and that factor is cooking. If cooking became a primary consideration and a matter of interest, the problem would to a large extent solve itself as far as the ordinary family is concerned. Unfortunately, it is among the low wage earners that good cooking is least evident and most needed.

A vast amount of work on nutritional studies has shown that remarkable benefits in growth and physique can be attained by slight alterations in the diet. The experiments of Corry Mann, Orr, and Leyton and Clark, show that by addition of protective foods, such as milk, to an ordinary diet the rate of weight and height increase can be greatly improved. Such experiments, however, were not continued for sufficient time to decide whether the improvement was more than an improvement in the rate of increase.

Other experimental work shows that the blood calcium content in natives on a cereal diet is low, being about 9.4 mg. as compared with 11.4 mg. in the white population, and that their blood calcium content can be raised by the addition of calcium salts to the cereal diet. Similarly, the inorganic phosphorus content of the blood is markedly affected by dietary factors. Orr has calculated the gross amount of salts in the adult daily diet as calcium 0.86 grams, phosphorus 1.7 grams, iron 0.015 grams, but data with regard to the correct balance of the mineral salts in our diet is still lacking. It is important, however, to ensure that during the period of skeletal growth the calcium phosphorus ratio should be high, and one of the great advantages of milk in a cereal diet is that it corrects calcium deficiency.

Again, the natural immunity reaction of the blood sera of animals may be markedly influenced by nutritional factors, which also affect the chemical composition of the blood (Orr); for example, bacteriolytic activity of the blood serum of grass-fed sheep is much greater than in pen-fed sheep.

The need for reform in the national dietary is viewed differently by nutritionists. McCarrison's view is that "there is no more important

problem before the country than the provision of a properly constituted diet for the people, and no more urgent necessity than its instruction in these matters." On the other hand, Cathcart remarks: "Nor is the problem of diet from a national point of view, in my opinion, one of fundamental importance, except in so far as it concerns those members of the nation who are unable, for economic or other reasons, to obtain the requisite supply of ordinary food material, or, if able to obtain them, are unable to use them to the best advantages."

The fact of the matter is we cannot assess or define accurately degrees of under-nutrition. The margin of safety in this matter is too great to permit assessment, and it is only the results of gross errors of diet that are readily recognisable. It is possible, in spite of this disadvantage, to prescribe a safe diet, and if the "safe diet" became general knowledge there would be "no urgent necessity for instruction in these matters."

The Basis of Improvement in Dietary.—The criterion on which we give judgment on a diet can be expressed for all practical purposes in a very few words.

Calories.—The needs of the adult man are 3,000 calories per day. The distribution of calories between protein fat and carbohydrate should be in the neighbourhood of 100 grams protein, 100 grams fat and 400 grams carbohydrate per day, but considerable variation in these amounts are not incompatible with adequate nutrition.

A boy of 14 or over requires as many calories as an adult, and the proportion of the adult calories requirements at different ages is roughly 0.2 at 1 year of age; 0.3 at 2 years; 0.4 at 3 years; 0.5 at 5 years; 0.6 at 8 years; 0.7 at 8 to 10 years, and 0.8 at 10 to 12 years.

Biological Protein.—Of the total protein requirements, about 40 grams would be derived from first-class protein, or what is otherwise termed protein of high biological value. For practical purposes the sources of first-class protein are all animal protein and dairy produce.

Protective Foods.—The foods which are rich in mineral matter are fortunately usually rich in vitamins, and their sources can, therefore, be considered together. The foods which are useful in supplying these essentials are dairy produce and eggs, fresh salad, vegetables and fruit, animal and fish liver, and fish, especially fat fish and their roes. These are known as the protective foods, and if present in the diet, the

mineral and vitamin demands of the body are likely to be completely satisfied.

The essential mineral matters are calcium, phosphorus, iodine, iron, and the essential vitamins are vitamins A, B, C and D. The chief sources of these are vegetables, dairy and marine produce.

In brief, a satisfactory diet, as we know it, must have :—

1. Sufficient calories (3,000) and sufficient bulk.
2. Sufficient first-class protein (40 grams).
3. Mineral matter and vitamins.

These can be obtained if the dictates of appetite are obeyed, and the protective foods are always included in the daily dietary.

The common cry that "an apple a day keeps the doctor away" should be amended or, at least, extended to include the protective foods. We should let it be widely known that a person may eat what he likes provided that the diet is mixed and contains :—

- 1 pint of milk per day.
- Cheese frequently.
- An orange, a tomato or a raw salad daily.
- 1 oz. of butter per day.
- Fat fish, such as herring or roes, once a week.

The dairyman, the fishmonger, the green-grocer and the butcher should be continually brought to the notice of the public as the sources of those articles of food which are most likely to be deficient in the dietary of this country. A national increase in production and consumption of these products will automatically be followed by an improvement in the health of the nation, and a little thought will show that the problem is not primarily one of public health propaganda, but one of stock markets, dairy farming, market gardening and economics. Improved production of protective foods at lessened cost, and improvement in the spending power of the low wage earner, will probably do more to solve the problem than public health propaganda. In spite of this, there is too much apathy and ignorance on this subject in our midst, and we can do much to destroy this obstacle to good nutrition by a continuous propagation of the knowledge which we have in our possession.

Indeed, the effect of nutrition on human physiology is so marked that one might even attribute an association between the unrest and distrust seen in the world to-day and the

dietary which is directly affected by the economic situation. The hungry man is proverbially an angry man, and consequently discontented. It is common experience that the temperament and general outlook on life is governed by one's diet, its digestion, and its effect on the liver. The jaundiced view of life is only an extreme expression of varying degrees of nutritional deficiency or excess. Our food refineries, tinned foods, rapid consumption of meals which we do not take time to enjoy or digest, may be affecting the mental outlook and destroying that peace and contentment to be found in adequately nourished individuals, particularly the beer-drinking, beef-eating Britisher.

BIBLIOGRAPHY.

- Mellanby, E. Diet and Health. *Brit. Med. J.*, March 21st, 1931.
- Magee. Nutrition and its Significance. *Scottish Health Magazine*, January, 1931.
- Orr. The Influence of Diet on Susceptibility to Disease. *Transactions of Highland and Agricultural Society of Scotland*, Vol. XLII.
- Orr and others. Nutrition in Relation to Immunity. *Lancet*, May 30th, 1931.
- Orr. Milk Consumption—Growth of School Children. *Lancet*, January 28th, 1928.
- Cathcart and Murray. A Study in Nutrition (St. Andrews). Medical Research Council, Special Report Series, No. 151.
- Orr and Gilks. Studies of Nutrition. The Physique and Health of Two African Tribes. Medical Research Council, Special Report Series, No. 155.
- Corry Mann. Diets of Boys during School Age. Medical Research Council, Special Report Series, No. 105.
- Cathcart. The Foundation of a National Diet. *Medical Officer*, March 21st and 28th, 1931.
- Memorandum to the Minister of Health on the Criticism and Improvement of Diets, December 5th, 1931.
- Hamill. Diet in Relation to Normal Nutrition. Ministry of Health Reports on Public Health and Medical Subjects, No. 9.
- Mottram. Practical Aspects of Modern Work on Nutrition. *Journal of the Royal Sanitary Inst.*, November, 1932.

DR. HERBERT J. PATERSON, C.B.E., has been co-opted to the Governing Body of the British Post-graduate Medical School, Hammersmith. Dr. Paterson was a member of the Committee appointed by Mr. Neville Chamberlain in 1925 to draw up a practicable scheme of post-graduate medical education centred in London, and is Chairman of the Executive Committee of the Fellowship of Medicine and Post-graduate Medical Association.

Public Health Work in San Francisco.

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Not merely because it provides an opportunity of learning of public health administrative methods adopted and practices followed elsewhere than here, this paper by Dr. Hilda Davis will be read with pleasure and profit. It was submitted to the Southern Branch and was greatly enjoyed, very largely because the description given was by one who had studied the subject from within.

BEFORE giving an account of the public health activities of San Francisco, it might be well to give a brief outline of the administration of public health in the country as a whole, compared with that of England.

The United States, being a diversity of countries, where conditions of climate and population vary to a marked degree, it would be difficult to work under laws of a central organisation, such as the Ministry of Health in this country.

The National Government deals with matters concerning the country as a whole, and all foreign affairs, but each of the 48 states has grown up independently and each one is a unit of government, having its own constitution and power to make laws dealing with matters within its own borders, provided they are in accordance with the federal laws.

Public Health Activities are thus divided into those administered under federal laws, by each state department of public health and by individual city and county departments.

I. The United States Public Health Service, a branch of the Treasury Department of the Federal Government, is responsible for port quarantine, examination of immigrants and inspection of food imported from abroad or another state. It has a consultant and advisory service for all the states, and research is carried out in vital statistics, sanitation and preventable diseases.

The Children's Bureau, a separate division under the Department of Labour, also has advisory and educational functions, and carries out investigations of maternal and infant mortality.

II. The State of California, after being under Spanish and Mexican rule, became United States territory in 1848. This same year gold was discovered in the mountains, and with the gold rush came the beginnings

of public health problems. Within two years the population had increased tenfold; cholera, scurvy and vermin were rampant, and with the opening up of the country and the building of roads and railways, there was an enormous influx of Chinese and European immigrants, most of whom remained to settle in the State. By 1880, the government was fairly well organised, and the State Board of Health was established.

At the present time the Board consists of a full-time director and six members, who must be "licensed and practising physicians," not necessarily public health officers. They are appointed by the Governor of the State for a term of four years.

The State Board of Health acts in an advisory capacity to the various county boards, who enforce the rules and regulations locally.

The State Department of Public Health, directed by the Board, works mainly in the extensive rural districts where there is no local health officer. California is divided into 58 counties, of which only 15 have a full-time public health unit. This work includes a travelling child welfare clinic and a diagnostic clinic with a portable X-ray, which visits the small town high schools and colleges. Other matters under State supervision are the inspection of maternity hospitals and laboratories, rabies and plague control, malaria and mosquito abatement, water supply and sanitation in general.

California covers an area three times the size of England, with only one-seventh of its population, and extends along the Pacific coast from Mexico in the south to the State of Oregon in the north.

III. San Francisco (city and county) is situated about the centre of the Californian coast, in the latitude of Sicily, has a fairly even climate, and a seasonal rainfall from November to March averaging 22-in. It is a

residential and industrial city, a trans-continental rail and air terminus and a port, with 15 miles of docks on the Bay, a land-locked harbour, which extends east and south from its entrance at the Golden Gate, covering an area of over 500 square miles.

The population of San Francisco at the 1930 census was 637,000, of which 30 per cent. is foreign born, the chief elements being Italian, Irish, French, German, Chinese and Japanese, though almost every nationality is represented.

The land area of the city is 46 square miles, giving a population of 21 to the acre. The only congested area is Chinatown.

San Francisco is the most important medical centre on the Pacific coast, containing the medical schools of two universities, and 22 hospitals.

The Public Health Department is governed by a Board of Health consisting of seven members, three of whom must be physicians, appointed by the mayor and confirmed by the city council, for a term of seven years. The Chief Medical Officer is appointed by the Board for an indefinite term.

The Public Health Department controls the following divisions:—

1. *The Bureau of Sanitation* which has subdivisions for:—

- (a) Housing and plumbing inspection.
- (b) Supervision of food, milk-supply, meat and markets.
- (c) Industrial sanitation.
- (d) Control of communicable diseases.

There is daily inspection at the city abattoirs of all livestock before slaughter, and of all meat, fish and poultry. Public markets, restaurants and bakehouses are inspected and licensed, and no food may be exposed for sale outside shops unless covered. Efforts are being made to encourage the medical examination of food-handlers, but so far there is only compulsory annual examination of milk-handlers by the Public Health Department, and of food-handlers in hospitals, the examination including Wassermann, throat and stool cultures. Many Chinese and Filipinos are employed as kitchen workers in hospitals and hotels.

There is strict supervision of all dairies and pasteurising plants, and 98 per cent. of milk sold in the city is pasteurised. According to the State Law of the Department of Agriculture, all milk, butter and cheese must be either

pasteurised, or from tuberculin-tested cows and labelled as such. No preservatives are allowed. The production of certified milk is supervised by a special medical milk commission. A physician visits all farms weekly, to inspect employees, and twice a year they are subjected to complete medical examination. Employees must be vaccinated, inoculated with T.A.B. vaccine, Schicked and immunised if necessary, and frequent throat, stool and sputum examinations are made. Cows are tuberculin-tested every six months, and inspected twice a month. Since 1927, agglutination tests for undulant fever have been made and reactors removed from the herd. The bacterial count for certified milk must be below 5,000 per c.c., a higher standard than that aimed at in this country. Funds for this work are derived from a levy on the dealers in proportion to the amount of milk sold.

In San Francisco, the list of reportable diseases includes measles, whooping-cough, mumps, trachoma and chicken-pox, and recently trichinosis and food-poisoning have been added. These are not quarantinable, but contacts are excluded from school and may only return on receipt of a card from the health officer.

Reporting is done by the attending physician, school nurse or hospital; no fee is given, which allows a greater number of diseases or chicken-pox is reported, a visit is out in a satisfactory manner.

The principal quarantinable diseases are cerebro-spinal meningitis, polio-myelitis, diphtheria, scarlet fever, smallpox and typhoid, and when a case of one of these diseases or chicken-pox is reported, a visit is made to the home by a medical inspector, who secures all available data concerning the source of infection and contacts, and establishes quarantine (except for chicken-pox) by placarding the house with a coloured card bearing the name of the disease. Nurses only visit reportable but not quarantinable cases, unless requested, and spot-maps are kept at the health centres to note distribution of cases in the area.

Smallpox contacts are kept under observation for 21 days, and though vaccination is offered free, it is not compulsory. Endemic smallpox is of the minor type, but occasional outbreaks of variola major follow its introduction from the Orient.

Terminal disinfection of houses is only carried out after cases of smallpox or plague.

The isolation hospital accommodation of the city consists of 160 beds in a special wing of the county hospital, and 30 beds in the women and children's hospital, a ratio of 1 to 3,000 of the population. Only 50 per cent. of diphtheria cases are hospitalised, 19 per cent. of scarlet fever, and 6 per cent. of measles and whooping-cough.

The hospital is run on the cubical and two or three bed ward system, and all cases, including smallpox, are dealt with on the same floor. Strict bed isolation is maintained and cross-infection is almost unknown.

The tuberculosis scheme is under a separate organisation, having its headquarters at the county hospital, where there are 350 beds for the treatment of pulmonary tuberculosis. The Public Health Department runs five chest clinics, and co-operates with the Tuberculosis Association and Visiting Nurses' Association of the city in the work of investigating and following up cases and contacts.

Tuberculosis is reportable, in all its forms, but the reporting is far from complete, and though detailed histories are kept while a patient is in hospital, the system used in this country of a permanent record, which can be transferred with the patient, is not adopted. When a case is reported, a card is sent to the doctor to ascertain whether any visiting or supervision by the Public Health Department would be acceptable. Otherwise only cases attending the clinic are visited.

The tuberculosis problem in California is particularly acute, owing to the tendency of advanced cases to migrate west, and also to the large numbers of Mexicans and Chinese in the State. The death-rate has been halved in the last 20 years, but is still higher than the average in the United States (84 in 100,000 in 1932).

Two years' residence in the State, and six months in the county are required for admission to the hospital, otherwise a case with no means of support is deported.

The State Department has no dispensaries or hospitals, but grants a subsidy of \$3.00 per patient per week to all county hospitals.

Venereal disease is reportable (by number) and the compulsory examination and quarantine of suspect are authorised. This is only carried out to a limited extent, principally in dealing with vagrants and prostitutes

known to the police, who are brought periodically for examination at the jail clinic and committed for treatment at the county hospital.

The Public Health Department is not very active in the matter. There are four afternoon clinics at the central office, but these are not well attended, and no follow-up work is done.

Most cases are treated at the clinics held at three of the general hospitals, where more adequate treatment and investigation are carried out.

The Wassermann test is made a routine procedure in all ante-natal cases, and in all medical cases coming for complete examination to the various hospital clinics.

There are no State requirements for the prophylaxis of ophthalmia neonatorum, but silver nitrate ampoules are distributed free by the Public Health Department, and their use is routine in all hospitals. The disease is reportable within 24 hours.

2. *The Bureau of Child Hygiene* includes the maternity service, infant welfare and school medical service.

The maternity service at the county hospital consists of beds for all primiparae and abnormal cases, a home delivery service attended mainly by students from the two medical schools, and ante- and post-natal clinics at the hospital. There are no outside ante-natal clinics under the Public Health Department, but ten other hospitals in the city have an obstetrical service, both for private patients attended by their own doctor, and for clinic patients. Eighty-four per cent. of all deliveries in the city are in hospital and 95 per cent. are attended by doctors. Hospital deliveries are performed with strict surgical technique, and yet the maternal mortality rate is 4 per 1,000 births (live and stillborn), with an average for the past ten years of 4.7. This rate is high, considering the rigid precautions taken to exclude extraneous infection, and is probably due to excessive operative interference. It is interesting to note that amongst the Chinese section of the population 80 per cent. of deliveries are at home, with a maternal mortality rate of 2.5.

Midwives play a very small part in America, except amongst the coloured population of the southern States. In California, midwives must register with the State and local health departments, but they are not inspected or controlled by the authorities. In San Francisco,

they attend about 65 per cent. of the Japanese births, otherwise their work is negligible.

In 1929, a birth-control clinic, known as the maternal health centre, was opened under the auspices of the American Association of University Women, and staffed by the two medical schools. It is hoped that this clinic will shortly be taken over by the Public Health Department.

Between 400 and 500 women are examined and advised annually, both physical and economic handicaps being considered as a just cause.

The importance of infant welfare and the health of the pre-school child is recognised to a far greater extent in America than in this country, and a recent survey in San Francisco showed that 70 per cent. of children entering school have had recent medical examination, with treatment of defects where necessary, and 26 per cent. have had dental treatment.

America is a country of specialists, where the general practitioner is in the minority. As a result, most children are attended by a pediatrician, and preventive medicine, in the form of periodic medical examination and supervision of infant feeding, is accepted and, in fact, demanded by most parents. The pediatric department in six of the general hospitals in the city has a "well-baby clinic," and there are 14 infant welfare centres, nine of which are under the public health department.

The methods of instructing mothers in infant hygiene and feeding are very similar to those practised in this country. All babies are weighed stripped, and all are seen by the doctor. Physical examinations are made when necessary, and are complete at the first visit and every six months subsequently. The mother is given a small book in which the weight and height are recorded, and any instructions about feeding are written. A far higher percentage of babies are artificially fed than in this country; probably not more than 15 per cent. of those coming to the clinic are breast-fed. It is routine practice to put all infants on orange or tomato juice and some form of cod-liver oil, either of the super D brand or viosterol (irradiated ergosterol). Additional food is given early, some form of cereal at the age of six months and pureed vegetable at the seventh month. Printed diet lists are in use for distribution to the mothers when the infant reaches the appropriate age.

Vaccination is urged at the age of three to four months, and diphtheria immunisation at ten months. These procedures and the subsequent Schick tests are carried out during the ordinary clinic session.

Dental treatment for pre-school children is available at three of the health centres, and there are two "habit-clinics" attended by a psychologist, for the treatment of difficult children and their parents.

The infant mortality rate in San Francisco is lower than the average for U.S.A., being 39.4 per 1,000 live births in 1932. The highest rate is among the negro and Mexican sections of the population.

Foster homes must hold both a State licence (for children under 16) and a permit from the local health department (for children under twelve). There is a compulsory clinic for the periodic examination of all foster-children under school age, and all foster-mothers must attend a lecture on child guidance once a month. The homes are inspected frequently, and new applicants investigated thoroughly as to their suitability for undertaking the care of children.

The school medical service covers all public schools, which are co-educational and provide free education for children of all social classes. Education is compulsory to the age of 14 and part-time to 16 years.

The grade schools take children from the ages of five to 14 years (kindergarten and first to eighth grade), and the high schools have a four years' course from 14 to 18 years of age.

The total public school enrolment is about 84,000. There is a separate school in Chinatown for 1,200 children, but there are many Chinese scattered throughout the other schools. In addition, about 15,000 children attend the Catholic parochial schools, where medical inspection is optional, but usually asked for. In the public schools, inspection is compulsory unless a written objection is signed by the parents.

There are a few private schools, attended by about 3,000 children, not controlled by the Health Department.

School health services are a joint function of the Health Department and the Board of Education.

The work of the Health Department is under a full-time medical director, assisted by twelve part-time doctors, twelve dentists part-time,

two dental hygienists and 36 nurses full-time. In addition, three part-time physicians and three nurses are financed by the San Francisco Tuberculosis Association for work in the high schools and part-time schools, where medical inspection is absolutely compulsory for all children taking any form of physical education.

There are no separate school minor ailment clinics, all the work of the department being carried out in the individual schools. In the newer schools a specially equipped room is provided for medical inspection and where the school nurse is in daily attendance at certain hours, to see any children referred to her by the teachers. The work of the school-nurse, apart from assisting at the medical inspections, comprises individual and classroom inspections, emergency dressings only (all treatments needed are referred to the private doctor or hospital clinics), the sending out of defect notices and notifying parents to attend for medical inspection. All children are weighed and measured once a term by the teachers, and the list referred to the nurse, who checks up on the underweights. The school-nurse also has supervision of contacts of cases of infectious disease and must inspect children on their return to school after being in quarantine. In addition to home visits to follow up defect notices, she receives daily lists of all children absent from school for more than three days, and is expected to visit the children to ascertain the cause and to report any case of infectious disease not being attended by a doctor.

Routine medical inspections are made on all kindergarten, first, fifth and seventh grade children, or about the ages of five, seven, ten and 13 years, and on all new entrants, and repeated when necessary where defects have been noted.

The usual routine examination is made, record cards are kept by the nurse and filed in each school, and transferred if the child moves.

Special services in the schools which are under the direction of the Health Department include:—

A nutritional class in each school, which includes children more than 10 per cent. under average weight, all tuberculosis contacts, and convalescents. These children are weighed each month by the nurse and weight curves kept, and they are medically inspected twice a year.

There are open-air classes in three schools, but no separate school. This provision is insufficient for the number of children who would benefit from the extra care.

Educable mental defectives comprise about 1 per cent. of the school population, and are taught in a special ungraded class, held in one school in each district.

A part-time specialist visits the schools to examine all children found at routine inspection to have defective vision or hearing.

There are three sight-saving classes where children, not defective enough to be termed blind, and yet unable to read ordinary school-books without injury to their eyes, are taught by means of large-type books, and to use the typewriter by sense of touch. Blind children are sent to the State residential school. It is estimated that 12 per cent. of the school population has defective vision, and that 1 in 500 would benefit by instruction in a sight-saving class.¹

No refractions or provision of glasses is undertaken by the Public Health Department, children being referred to a specialist or clinic.

Recently a hearing survey² was made of 36,000 San Francisco school children aged nine to 16 years, using the gramophone audiometer, and 9.5 per cent. were found to have impaired hearing (a loss of nine or more sensation units in one or both ears) and 1.2 per cent. were referred for instruction in lip-reading. Children are divided into three groups:—

1. Hard of hearing, who sit in the front row and attend lip-reading classes twice a week (loss of 15 to 25 sensation units).

2. Deafened children, who become deaf after attaining speech and are taught lip-reading intensively in a special class in each district (loss of 25 to 50 units).

3. Deaf (congenital or acquired early), having no speech. These are taught in a special school (over 50 units).

Children with defective speech are taught in each school by a visiting elocution teacher for half-an-hour twice a week.

The Department has five dental clinics in the schools and three in health centres for treatment, and two dental hygienists are visiting continually in the schools, giving class-room demonstrations and prophylactic treatments.

A separate cardiac centre has been established for the past four years for diagnosis

only (including X-rays and electro-cardiographs), to which all children found during a routine inspection to be "cardiac suspects" are referred. No treatment is undertaken, the child being sent with a complete report to its own doctor or clinic. About 2 per cent. of the school population are found to be "cardiac suspects," and half of these have attended the centre, the other half being already under treatment.

In 1931 37 per cent. of those examined were diagnosed as "organic" and of these, 44 per cent. were classed as congenital and 47 per cent. as rheumatic.³

Vaccination and diphtheria immunisation campaigns are carried out annually in the schools. There are no public vaccinators in California, and vaccination is not compulsory. On the whole, the public is fairly well educated up to these procedures, though there is considerable opposition from the large body of Christian Scientists and other objectors who flourish in the State. Language difficulties also arise amongst the foreign-speaking parents, who may willingly sign any permits brought home from school, but are apt to descend with incoherent wrath upon the school nurse or school medical officer when they discover that their child has a sore arm. Fortunately, a sight of their own signature usually has a calming effect, and they are convinced that something is not being "put over on them." It is well to keep all permits available; they may be needed urgently.

Although only 25 per cent. of school entrants are vaccinated, this figure approaches 80 per cent. in the twelve year age-group. About 6,000 vaccinations are done annually in the schools. The multiple puncture method is used, with one insertion.

For diphtheria immunisation, toxin-anti-toxin mixture was first used, in three 1 c.c. doses at weekly intervals, but after Schicking a large number of these children it was found that 17.5 per cent. remained positive. Four doses were then given with a reduction of non-immunes to 5 per cent. For the past year, formol toxoid (12 to 16 L.F.) has been given in two 1 c.c. doses with a fortnightly interval, with even better results. Between 3,000 and 4,000 children are immunised annually, this work and vaccination being done in the schools by the school medical officer during the usual nine to twelve morning session.

Of the special schools, those for the blind and deaf have already been mentioned.

Orthopaedic and cardiac children are sent to a special day school which provides health supervision in addition to routine education. The diagnostic school is for the study of behaviour problems in difficult children. The average stay is for two weeks, during which a complete study is made of the child, his parents, school and home problems. A complete physical examination is made, and the child is put through mental tests and investigated thoroughly by a psychologist. Reports are then made to the child's parents and school, and advice given as to how the difficulties may be dealt with. About 300 children attend this school annually. The school is not for the study of mental defectives, but about 9 per cent. of the children are found to be mentally subnormal.

3. *The Bureau of Mental Hygiene* supervises two child guidance clinics at the Department's health centres, and one at the University Hospital. It also undertakes the study of all delinquent children coming up before the juvenile court.

There is no notification or compulsory examination of mental defectives, and their control is purely a family matter. A child is exempted from school attendance by medical certificate, but if residence in the State mental defective home is desired by the parents or guardians, the child must be committed through the county court.

The sterilisation of mental defectives has been legalised (also in 20 other States in U.S.A.) but applies only to designated inmates of certain state institutions.

4. *The Bureau of Vital Statistics* is under the direction of the Chief Health Officer, who is also the Local Registrar. Deaths must be reported by the attending physician within five days, and births by the physician or midwife within four days. Stillbirths are registered as births and deaths.

5. *The Bureau of Hospitals* administers the general county hospital, three emergency hospitals and the relief home for chronic and aged cases.

The county hospital includes the tuberculosis and isolation blocks, and is staffed by the two medical schools.

Six months' residence in the county is required for admission to the hospital, and out-patient work is only carried on in connection with the tuberculosis and maternity services.

Conclusion.—It will be seen from this

account of the Public Health Department that it is well organised to deal with the child population, and that the child welfare and school medical services of San Francisco compare favourably with the best in this country.

Infectious diseases are well controlled, but the tuberculosis and venereal disease schemes are incomplete; and there is not a sufficient staff to deal adequately with these problems. This could be remedied to some extent by better co-operation with the numerous voluntary organisations at work in the city.

On the whole, the American public, and

American doctors, are more interested in public health than we are in this country. The importance of preventive medicine is more generally recognised as the concern, not exclusively of the Public Health Departments, but of the whole profession in the field of medical practice.

REFERENCES.

- ¹Rodin, F. H. California and Western Medicine. April, 1929.
- ²Rodin, F. H. Archives of Otolaryngology. April, 1930.
- ³Richter, I. M. Journ. Amer. Med. Assoc. Vol. 97, pp. 1060-1062. 1931.

AN AMERICAN LETTER.

Our Correspondent discusses mainly the Chicago Outbreak of Amoebic Dysentery and the Examination of Food Handlers for Amoebiasis—Studies on the Outbreak of Encephalitis in St. Louis—and Schemes to Relieve Unemployment.

The Dysentery Outbreak.

The outbreak of amoebic dysentery in Chicago is still occupying the minds of many persons in this country. Officially the outbreak is placed in August (*Jour. A.M.A.*, Nov. 18th, 1933), though there is good evidence that some infection took place in May, and in other cases certainly in June and July, and by September 1st, the laboratory of the Board of Health had examined 364 food handlers. On November 8th, at the request of the President of the Board of Health of Chicago, an officer of the Public Health Service was sent, who remained for eleven days, and then the Service issued a pontifical statement that "It appears that undoubtedly (*sic*) the outbreak was true amoebic dysentery due to the *entamoeba histolytica*." We are also assured that the Chicago Board of Health has instituted very thorough and effective methods of control. It seems that after the horse has vanished, the stable has been locked. There are included also the reports of committees appointed by the Board of Health to study the situation. Some of the lay papers of the country have criticised the lack of protection afforded to visitors to the Exposition. Some medical men, high in authority, have questioned the feasibility of the examination of food handlers for amoebiasis. This view does not seem to be held unanimously by the committee reporting on that point, though it falls short of recommending the general examination of food handlers, in spite of the fact that the outbreak there was traced to a

food handler discovered in 1927, but permitted to return to his trade.

Procedure Recommended.

It is now recommended that public food handlers in whose stools the *entamoeba histolytica* or cysts are found, shall not be permitted to resume their occupation until treatment has been given, and repeated examinations show that they are free from the amoeba. Hospitalisation is recommended for guests of hotels suffering from the infection, and for ordinary residents unless the conditions in their homes are excellent. In the case of the former, they are attended by nurses with special training. Carriers will be treated in a hospital, and only at home if conditions are satisfactory to the health authorities. In addition to this, reporting of all cases to the Board of Health is required. Isolation during the acute stage of the disease must be carried out. Cases of bacillary dysentery must be placarded. Cases of either type of dysentery must not be released from quarantine until two successive examinations at intervals of a week (taken not less than three days after the stools have become normal in appearance and acute symptoms have subsided) give a negative result. If the patient is a food handler, a third negative specimen is required, and two of these examinations shall be made in the laboratories of the Board of Health. "The examination," it is stated, "will consist of: (a) direct microscopic examination of the fresh preparation; (b) microscopic examinations of smears stained with iron hematoxylin, and

(c) cultures in suitable media. All three procedures must be negative for release." Those nursing dysentery cases shall not handle food for others, and all bowel discharges and soiled articles shall be disinfected. There are no restrictions placed on the family contacts unless they are employed as food handlers. Temporary permission to resume the occupation of food handler after three successive negative examinations is allowed, but an agreement must be signed to appear at the Board of Health Laboratory at intervals of one month for four months and, after that, once every six months. The technique of examination is that recommended by Professor Kofoid, of California, and his associates. The formula for liver infusion agar for cultures is given, with directions for its use. A news letter containing these various recommendations is being rather widely distributed by the Public Health Service as a basis for control methods for departments of health. It must be pointed out that the Chicago Exposition is to be continued in the summer of 1934, and the authorities are making strenuous efforts to allay the public anxiety which we believe to be well founded.

The Distribution of Dysentery.

One great danger connected with amœbic dysentery is that all of our medical schools have in the past called it "tropical" dysentery, and led the students to believe that there was little or no danger of its occurrence in the temperate zones. The average doctor does not recognise it, and is not on the lookout for it. A recent article* gives an account of a case in Canada, and warns us that the disease is not confined to the tropics, being found even as far north as Canada, although the infection seems to have been almost always, if not always, contracted elsewhere. The period of incubation, which is often long, makes detection of the source of infection more difficult. However, the article cites one case in a woman who had never been out of Canada, and reports two others which seem to have arisen in Canada. An addendum to this article points out that the patient described was a lumberman who had visited Chicago in June, 1933, and stayed at a "certain hotel." It is known that this particular hotel was the

*T. H. Belt, Amœbic Dysentery in Canada (Report of a Case). *Canadian Public Health Journal*, December, 1933, pp. 586-588.

chief source of infection, and entertained during the Exposition some 22,000 guests. It is stated, on the basis of a questionnaire, that amœbic dysentery has been spread from Chicago to more than 100 communities in the United States and Canada. This is also emphasised in another article recently published.* We cannot but believe that the situation is a serious one, demanding of our public health officials unusual vigilance. Our Public Health Service has requested reports from state health officers of all cases of amœbic dysentery occurring in their states, especially those which seem to have originated in Chicago. It will be noted that an investigation by the Public Health Service was not requested until November, though, as said before, cases of infection occurred possibly in May, and certainly in June and July, and the marked outbreak is given as having been in August. Studies on the outbreak of encephalitis in St. Louis and elsewhere during the summer of 1933 are still going on. Specimens of blood are being obtained from recovered patients throughout the country in an endeavour to determine whether or not the disease seen in other parts of the country was of the same type as in St. Louis. A protective substance has been found in the blood of recovered patients.

Employment in Sanitary Improvements.

The rehabilitation of our country is proceeding in strides which take away one's breath. We now have a list of agencies designated by letters, which the jokers are referring to as the "alphabet soup" of Mr. Roosevelt, and he has been accused of playing "dominoes with his alphabet soup." It seems that by the middle of December, at least four million unemployed had been given work. Relief rolls have been abolished and jobs paying adequate wages have been given to these dependents. The reforestation camps give the impression of being one of the most useful of the agencies so far instituted. In these, unemployed young men are given work at a living wage. They are well fed, well housed, and properly clothed. A recent article by an Army officer in charge of one of these camps says that it is remarkable how rapidly some of these young thugs are brought to an appreciation of decent living, though in

*Charles C. Lund and Thomas R. Ingham, *Jour. A.M.A.*, November 25th, 1933.

his own camp, cliques were at first organised to resist authority and to racketeer. Under proper administration the young men soon abandon the idea of resistance and grafting, and show an earnest desire for a decent life. We believe that there will be a far-reaching influence from these camps on the health and morals of the country. Other activities by the government include sanitation under the direction of our Public Health Service. One of these involves anti-malarial measures, and in the State of Georgia alone, 30,000 men are now employed, largely on drainage projects. A community sanitation programme is going forward in 21 states, and others are expected to join. One of the great projects being carried out is the installation of sanitary privies. Not only is work being given to the unemployed, but a nation-wide lesson in the proper disposal of excreta is being taught. We must acknowledge that the success of these projects is still to be proved, but we are hoping for the best. There is every reason to expect great good.

Alphabet Soup at the Gridiron Club.

At the recent dinner of the famous Gridiron Club of Washington, in one of the skits some 25 members carried banners with every conceivable combination of initials, not only those of the various bodies formed by President Roosevelt in his reconstruction programme, but others, such as BVD, NERTS, etc. Mr. Roosevelt smilingly commented that he would need a second alphabet, and pointed out that the jokesters had forgotten one organisation, created only that morning—ACP (Administration of College Professors). As you know in England, there are many jokes being made over what we call here the "brain trust." Many of these professors have made good. Some of them seem to have been dreamers, while others could not stand the bright lights and showed that their feet were made of clay. In spite of everything, however, we are progressing, and the mental attitude of the country shows marked improvement.

MAZYCK P. RAVENEL, M.D.

The Society.

Reports, Proceedings and Announcements.

THE NORTH-WESTERN BRANCH.

President: Dr. Henry Whitehead, M.O.H., Wigan.
Hon. Secretary: Dr. J. E. Spence, M.O.H., Eccles.

An ordinary meeting of this Branch was held in the Public Health Laboratory, York Place, Manchester, on January 12th, 1934. In the absence of the President, Dr. F. A. Sharpe occupied the chair. Seventeen members and three visitors were present, and apologies for absence were received from the President and eight members.

Dr. G. W. N. Joseph referred to the sudden death of Dr. Prosser White, of Southport, who had been a member of the Society for many years, and had gained an international reputation as an authority on skin diseases, particularly industrial dermatitis. It was resolved that the Branch place on record their deep regret at the death of Dr. White, and their appreciation of his work in the field of dermatology.

Dr. W. St. Clair McClure opened a discussion on "The Disinfestation of the Household

Effects of Families removed from Clearance Areas into New Houses." He stated that there was no evidence that bed bugs were the carriers of disease, but they were indirectly injurious to health as bites might lead to septic infection, irritation and sleeplessness. One person was said to have put on ten pounds weight after disinfestation, but this might have been due to other causes. The presence of bugs was repulsive and abhorrent, and this alone justified their extermination. The problem of disinfestation could be considered under three headings, namely: (1) the disinfestation of old property; (2) the disinfestation of new houses; and (3) the disinfestation of the furniture, etc., of the people being removed into new houses. The eradication of bugs from slum property was impossible by known methods, no real success having attended those which had already been tried. Cyanide gas was the only efficient means for the destruction of bugs and their eggs. New houses might be disinfested but the cost was heavy. Cyanide had been used, but it was difficult to make the houses gas-tight. The gas had been

found to penetrate through to the adjacent houses in four cases, and it was therefore necessary to evacuate temporarily the adjacent houses. The powers of the local authority to deal with bug-infested houses and furniture were contained in Sections 45 to 50 of the Public Health Act, 1925. The first experiment in the disinfestation of furniture in Manchester was made two years ago by a London firm who used Zyklon B, a heavy powder giving off hydrocyanic gas. The furniture was loaded into a furniture van in which a charcoal fire was placed to raise the temperature to 80° F., in order to assist diffusion of the gas and liven up the bugs. The fire was removed, the Zyklon B powder introduced, and the van closed and sealed for three hours. The van was then opened and ventilated, the bedding removed to a heated shed, beaten and retained overnight to ensure removal of the gas. On the following day the bedding was returned to the owners, who were advised to keep the windows open all day to secure thorough ventilation and removal of any residual gas. As a control, a test tube of bugs was inserted amongst the bedding during fumigation. The procedure had now been simplified. The vans were not heated, and the bedding was passed through a steam disinfector. The personal clothing was also disinfected and the families were bathed.

Dr. G. H. Hogben described the procedure adopted in Swinton and Pendlebury, where 184 houses and 20 caravans had been dealt with. As most houses in the area were bug infested, the authority had not re-housed a single family that had not submitted to the full disinfestation process, as they were of opinion that it was undesirable to make an exception in the case of any family. All household effects were disinfested by treatment with Zyklon B powder, personal clothing disinfected by steam, and bathing facilities were offered but not insisted upon. Two furniture vans were purchased and two experienced furniture removers engaged, two families being dealt with each day. The loaded vans were removed to the destructor yard and fumigated for three hours, after which the van was opened at each end and thoroughly ventilated, electric fans being used to assist in this operation. The air in the van was chemically tested for the presence of gas after one-and-a-half hours, and a certificate of

clearance given by a representative of the Company before removal of the furniture. Each member of the family attended the disinfesting station during the day or after working hours, when their personal clothing was disinfested and opportunity given for personal bathing. The bedding was retained for one night, other bedding being loaned to the families removed. The cost had been approximately £5 per family.

Dr. R. M. Galloway said that in Bolton the procedure was now somewhat similar to that in Swinton and Pendlebury. Before disinfestation was carried out it was found that 25 per cent. of the new houses were infested with bugs, and it had cost up to £30 per house to disinfest them. At first, bedding was disinfected by steam, badly infested furniture destroyed, and the corporation had made a loan to the tenants to purchase new furniture, the sum being repaid by instalments. In spite of this, however, 10 per cent. of the new houses had been infested by bugs. The cyanide process was now used and the vans were heated by electricity during fumigation. The bedding was disinfected by steam, but straw mattresses were left in the van as steaming ruined them. He thought that second-hand furniture, particularly old pictures, were a source of infestation in new houses.

Dr. G. W. N. Joseph stated that in Warrington the cost of disinfestation was less, but was probably less effective. They had one large furniture van which was lined with sheet metal and provided with means of ventilation in front and at the rear. The household effects of three families could be packed in the van, separated by wire screens, and disinfested at one operation. The bedding was disinfected by steam, but personal clothing in use was not disinfected, as bugs probably did not stay on the person during the day. The work was carried out by a Liverpool firm, and cost £2 per van load. Dr. Joseph was of opinion that second-hand furniture was responsible for the dissemination of bugs. He had interviewed several dealers in furniture who had agreed to the proposal that their goods should be disinfested, but much of their stock was worthless, and its amount so immense as to render disinfestation of all second-hand furniture in the town impracticable. He added that the firm employed to do the work in Warrington were prepared to deal with infested houses,

but owing to the permeation of gas they preferred houses in small blocks.

Dr. F. A. Sharpe expressed the thanks of the meeting to the speakers for the interesting description of the methods employed by them in dealing with infested furniture. He was particularly anxious to know whether the end results were satisfactory. He had had wooden furniture dismantled and thoroughly scrubbed with disinfectant solution, while iron beds, etc., had been subjected to the heat of a blow-lamp.

Dr. F. Hall desired to know whether any method of disinfestation had been practised in institutions, casual wards, and clothing stores.

Dr. A. G. Glass pointed out that no mention had been made of domestic animals in relation to bugs and disinfestation.

Dr. McClure, in reply, said that no evidence of bugs had been found on personal clothing, and the omission of disinfection of clothing would reduce the cost. Dogs and cats were not hosts of the bed bug, but mice had been found to act as hosts. The new homes of families disinfested before removal had been carefully supervised by an expert in the detection of bugs, and after six months the effectiveness of disinfestation had been found to be 100 per cent.

At the conclusion of the meeting, Dr. F. Hauxwell raised the question of domiciliary medical treatment for unemployed insured persons who had ceased to be eligible under the National Health Insurance Act, and it was agreed to discuss the matter at the next meeting.

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.

The second meeting of the session of this Sub-Group was held at the Institute of Preventive Medicine, Cardiff, on December 13th, when 13 members and visitors were present.

The Chairman and the Hon. Secretary were nominated to represent the Sub-Group on the Council of the Welsh Branch. The proceedings then took the form of a debate on a motion to the effect "That the Present System

of Ante-Natal Supervision is Unsatisfactory and Requires Revision."

Dr. Hilda A. Cohen, in opening the debate in support of the motion, drew attention to the fact that, in spite of the present system, there was no decline in the maternal mortality figures during the last 20 years, and that only some 50 per cent. of expectant mothers made use of the existing facilities.

Dr. Mary Gordon, speaking against the motion, held that the present maternal mortality was not due to the fact that the present system was unsatisfactory, but rather that sufficient use was not made by the public of the clinics of the local authorities, and that in some areas the scheme was as yet undeveloped. She dealt with alternative methods of supervision, and pointed out their deficiencies, after outlining the scheme at present operating in Monmouthshire.

Dr. McSweeney outlined an alternative scheme, and Drs. Laird, Jagger and Hooper also took part in the discussion.

Dr. Holmes thanked those who had opened the debate, and on voting the motion was rejected.

THE MIDLAND BRANCH.

President: Dr. G. N. Anderson, Deputy S.M.O., Staffs. C.C.

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

The third meeting of the session of this Branch was held at the Medical Institute, 154, Great Charles Street, Birmingham, on December 7th, 1933. The President and twenty-eight members were present.

The report and recommendations of the Branch Council were submitted with reference to an application from the Midland Maternity and Child Welfare Sub-Group. These were approved, and the Hon. Secretary was instructed to write to the Sub-Group regretting that the finances of the Branch would not permit of a grant being made by them towards the expenses of speakers at Sub-Group meetings. He was further instructed to state that the Branch would welcome any nominations that the Sub-Group cared to make in accordance with the Bye-laws for membership of the Midland Branch Council.

Dr. Ethel Cassie read a paper on "The Registration and Inspection of Nursing Homes," in which she described the way in which the

requirements of the Nursing Homes Registration Act were carried out by the Public Health Department in the City of Birmingham. Dr. Cassie's address contained a number of very interesting practical details, both as regards the standards adopted in Birmingham, and certain administrative difficulties which arose from time to time. Sir John Robertson, and Drs. Mackenzie, Wyndham Parker, Griffin and Jolly took part in the discussion which followed. The President warmly thanked Dr. Cassie for her interesting address.

Dr. Bracey read a paper on "Malnutrition." The author had made a series of observations on the rate of growth of the boys in two institutions in Warwickshire during the past 14 years, and the observations he submitted were based on the comparisons of these with the boys throughout the elementary schools of the county. Other interesting comparisons were brought out between the calorific values of the dietaries of these two institutions and that proposed by the Ministry of Health Advisory Committee on Nutrition. A cordial vote of thanks was passed to Dr. Bracey for his interesting paper.

THE HOME COUNTIES BRANCH.

President: Dr. Thomas Orr, M.O.H., Ealing.

Hon. Secretary: Dr. R. P. Garrow, M.O.H., Hornsey.

A meeting of this Branch was held at the house of the Society, on December 1st, 1933, the President occupying the chair. Fourteen other members were present.

A letter was read from Dr. Vynne Borland (Hon. Secretary of the Metropolitan Branch), suggesting the holding of a joint meeting of the Metropolitan and Home Counties Branches, and that Dr. E. J. Boome be invited to deliver a lecture on stammering. It was decided to suggest to Dr. Borland that the subject appeared to be one more directly connected with the School Medical Service Group of the Society.

Dr. Leonard Williams (Medical Officer of Health, Barking) introduced the subject of "Correspondence by Hospital Almoners," which was followed by an interesting discussion.

A further meeting of the Branch was held at the house of the Society, on January 5th, 1934. The President was in the chair, and 26 other members were present.

Dr. J. D. Kershaw (Assistant Medical

Officer of Health, Ealing) read a paper entitled "What is the Value of Tonsillectomy in Schools."

This was followed by a helpful discussion in which twelve members took part. The general view was that tonsillectomy was often performed without adequate cause. A cordial vote of thanks to Dr. Kershaw for his valuable paper was accorded on the proposition of the President.

THE YORKSHIRE BRANCH.

President: Dr. Gladys J. C. Russell, Asst. M.O. (M. & C.W.), Leeds.

Hon. Secretary: Dr. James Mair, M.O.H., Harrogate.

A joint meeting of the Branch and the Dental Group was held in the Town Hall, Wakefield, on December 1st, 1933, the President occupying the chair. Forty-three members were present.

Mr. Evelyn Sprawson, M.C., L.R.C.P., M.R.C.S., L.D.S., read a paper on "The Milk Supply as it Concerns Teeth." An interesting discussion followed in which Mr. Fletcher, Mr. Rabagliati, Dr. Scott, and Mr. Townend took part. At the conclusion, Mr. Sprawson was warmly thanked for his interesting and instructive contribution, and it was the unanimous wish of the meeting that the paper would be published in an early issue of PUBLIC HEALTH.

The members were afterwards entertained at tea by the Mayor of Wakefield, to whom the thanks of the Branch were expressed by the President.

THE British Association will hold its annual meeting in 1934 at Aberdeen, under the presidency of Sir William Hardy, F.R.S., Director of Food Investigation in the Department of Scientific and Industrial Research.

THE next election for the scholarships which the Grocers' Company offers with the object of encouraging original research in sanitary science, will take place in May, 1934. Each scholarship is worth £300 per annum, and an allowance is given for apparatus and other expenses in connection with the work. The scholarships are tenable for one year, but are renewable for a second or third year. Applications must be sent before the end of April, 1934, to the clerk to the Company, Grocers' Hall, London, E.C.2.

The Literature of Preventive Medicine.

The Teaching of Preventive Medicine in Europe.

By CARL PRAUSNITZ, M.D. (BRESLAU), M.R.C.S. (ENG.), L.R.C.P. (LOND.), Professor of Hygiene in the University of Breslau. London: Humphrey Milford, Oxford University Press, 1933. pp. 180. Price 10s. 6d. net.

To the many who attended the Heath Clark lectures of 1932, delivered by Professor Carl Prausnitz in the London School of Hygiene and Tropical Medicine, and to the very many more who read summaries of them, this volume, which contains the lectures, will be very welcome. Professor Prausnitz writes fascinatingly and with knowledge of the methods followed in European countries and Great Britain in connection particularly with the teaching of his subject. He shows also the progress that has been made in the fields of public health and preventive medicine during recent years in many areas, and thus provides information that is useful both for those interested in public health organisation and administration and those whose interests are chiefly in relation to teaching. By both groups the book will be welcomed, and to both it is commended.

The Physician's Art.

By ALEXANDER GEORGE GIBSON. London: Humphrey Milford, Oxford University Press, 1933. pp. 237. Price 7s. 6d. net.

There is something very scholarly and pleasant about this book, as might have been expected since it is Dr. A. G. Gibson who has made it. In it he has set himself to expand a fragment that John Locke wrote in 1669, calling it "De Arte Medica." Dr. Gibson opens with the fragment, and proceeds to expand the design of Locke upon a basis of similar general beliefs and assumptions, treating of his subject in separate chapters under the headings: "Art and Science"; "Diagnosis"; "Prognosis"; "Treatment"; "The Ethics and Management of Practice"; "The Doctor Himself"; and "Optimism." It is well described as "a meditation upon the character of the good physician, by one who has had long and wide experience, including the experience of teaching in a great School of Medicine," and is particularly commended to medical practitioners, and more particularly the younger ones.

Common Sense about Sex. By LEONORA EYLES. London: Victor Gollancz, Ltd., 1933. pp. 153. Price 2s. 6d. net.

Needless to say, this book was written because the author believed it would meet a long-felt want. Her (naturally it is a woman) qualifications for writing it are that she has written some ten or eleven other books, and was a journalist for five years. During this period many people submitted their problems to her, and most of these, it appears, had reference to sex. Indeed, "most of the points raised in this book answer problems that I have been called upon to answer at least 50 times, which gives me the idea that such problems must be fairly general." Of the matter in the book, she admits that much of it is the "result of reading." She claims, however, that she does not quote merely from reading without verifying it by personal experience. Out of this, aided by her reading, she writes as pleasantly as may be of masturbation and marital infidelity and with tolerance and in commendation of illicit intercourse of all sorts. If she does not condemn she certainly has few words of praise for what the old-fashioned call "virtue" in any shape or form, or for discipline of self or the appetites. Much of the matter, if met in a novel by a writer of any standing, would inevitably lead to an order forbidding the sale of the book. Because, however, it appears in the guise of an educational work, and it is claimed for the author that she has "had some years' work in psycho-analysis and social service," it can be sold anywhere and to anybody, and will be accepted by young people, not as a novel would be as a subject *pour rire*, for entertainment and amusement, but as something upon which a line of conduct might be based. In the State there should be some department to which a volume of this sort might be submitted with a view to obtaining a decision as to the propriety of its publication. So far as is known, there is no such department, and the only consolation is that the sale of books on health and hygiene have only a limited circulation, unless, of course, they get into the window of the "rubber goods" shop or the stall of the so-called "Continental bookseller" in the purlieus of places like Leicester Square. Apart from a regret that

the book should have come into existence at all, the only other that is felt is that Leonora Eyles did not include her photograph amongst the other attractive illustrations. No one who reads her book but would desire to see what manner of a woman she is.

Birth Control. By GEORGE RYLEY SCOTT, F.P.H.S. (ENG), F.Z.S. London: T. Werner Laurie, Ltd., 1933. pp. 60.

This book is designed to fill "a specific need," aiming to provide working women with reliable directions for preventing conception. The author, in addition to the qualifications set out on the title page, claims for himself that he is an expert on birth control. From the books he has written he would appear to be an authority on all matters relating to sex and sexual matters. The various contraceptive methods described in all the books on the subject, with all the usual "ifs" and "buts," are mentioned, with, by way of recommendation of one or two, a statement to the effect that they are practised by prostitutes in Japan or elsewhere. In order that there may be a chance of it getting into the hands of the "working woman" the book is priced at one shilling. The chances that, even at this price, it is likely to be purchased by the people by whom family limitation should be practised are very remote indeed.

IN THE ANNUAL REPORTS.

RENT AND NUTRITION.—Attention has been directed in the *Lancet* and other medical journals to the close connection between the relatively high rentals required from working-class tenants and their lowered standard of nutrition resulting from their diminished incomes. The facts are somewhat obscured by "average" figures which do not reveal the great variations which exist. Control has, of course, had the effect of keeping the general level of rent lower than it would otherwise have been, but the unfortunate tenant of the decontrolled tenement finds little consolation in this average for his own high rent. Moreover, rent is a fixed standing charge, while the income from which food, etc., have to be provided, is a fluctuating and frequently diminishing amount. I mention this matter to show that not only is housing intimately bound up with the public health, from the point of view of the physical environment, but there is a further consideration that where the present charge for housing is excessive, compared with income, the amount available for food is reduced and thus the danger of ill-health is accentuated. Various schemes have been designed to mitigate this danger, the most notable being one to allow a rebate from the rent according to the number of children in the family. While this may be quite practicable in public housing schemes, it does not seem likely

to be applied to housing owned by private individuals or commercial concerns.—*Dr. Vynne Borland, Bethnal Green.*

Correspondence.

The Editor does not accept responsibility for the opinions of correspondents.

DENTAL EDUCATIONAL WORK IN RURAL AREAS.

To the Editor of PUBLIC HEALTH.

SIR,—In your account of the symposium held by the School Medical Service and Dental Officers' Groups of the Society of Medical Officers of Health, you refer to the suggestion then made that the Dental Board appear to be doing little educational work in rural areas, and to consider it not worth while doing anything. I hasten to correct this view. Educational work in rural areas is no doubt more difficult to carry out effectively than in urban districts, but the Board have been fully alive to its importance. Offers have been made to every county local education authority to send a dental exhibit to be demonstrated to the children in their elementary schools; leaflets are provided free for distribution; and a pamphlet for children about to leave elementary schools has been prepared and is available free of charge. Lectures dealing with dental health are arranged in rural districts in co-operation with the British Red Cross Society and the National Federation of Women's Institutes, the demand for talks of this nature depending naturally upon local effort and interest.

Many local authorities have, in fact, taken advantage of the educational facilities offered and for several years past a great deal of work has consequently been done in country districts, and still continues. If, however, medical officers of health and school dentists feel that more might be done in the areas in which they are interested, they have but to write to the Board. Their suggestions, I can assure you, will be welcome and will receive most sympathetic consideration.

I am, Sir,

Yours faithfully,

HUGH S. BOMPAS,

Secretary for Education, Dental Board of the United Kingdom.

44, Hallam Street,
London, W.1.

January 16th, 1934.

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Editorial.

Health in the Army.

THE Report on the Health of the Army for the year 1932* must be one of the most satisfactory reports on health during that period. The claim made by the Director-General of the Army Medical Services, in his opening letter, is that "the health of all ranks was eminently satisfactory," but this is far too modest having regard to the results he shows as having been obtained, and the records that have been set up. The admission rate (412.5 per 1,000 of strength) was the lowest on record, while the invaliding and constantly sick rates (7.92 and 21.56 per 1,000 respectively) and the average sick time to each soldier (7.98 days) were the lowest recorded since the Great War. Practically without

exception the more important diseases have shown a decline, though none can compare in this respect with malaria, in which between 1921 and 1932 the ratio of admissions per 1,000 of strength fell from 98.8 to 28.4. The records provided with regard to work done in all branches of medicine and surgery supply much of the explanation of why these improvements have occurred.

That very much of the credit may be claimed for activities in the realms of hygiene the report shows, mainly, though not entirely, in that part in which this subject is dealt with. The matters discussed in this section cover an extremely wide and vastly interesting field. The evidence that attempt is made to ensure satisfactory conditions in every possible regard for the soldier is abundant. Accommodation, water supply, food,

* H.M. Stationery Office, 1934. Price 2s. 6d. net.

and clothing, naturally receive particular and detailed attention, though efforts are not limited to these. That there must be difficulties so far as accommodation is concerned is readily understood. These arise in some cases because the accommodation is temporary; in others, buildings of historical interest, because it is too permanent.

In some foreign stations trouble is experienced with vermin, and it is noteworthy that in the Army efforts have been no more successful in cases where the vermin, bugs especially, have been able to dig themselves in than in civil life. The fact that there is no evidence that the pests have originated any special disease or have led to any appreciable degree of inefficiency among the troops is worth recording. While on the subject of pests, reference may be made to the fact of a steady annual increase in the number of admissions for scabies. What makes this all the more interesting is that it compares with an almost equally steady decrease of venereal disease. Enquiry into the causation of this change revealed that "most of the infestations occurred in men returning from leave, that the condition is more prevalent than heretofore in the civil population, and that, whereas the decrease in venereal disease is due to the education of the soldier and the public in methods of prevention, these methods do not apply to scabies."

Water supplies continue to receive great attention and appear on the whole to be satisfactory (there were only seven admissions for enteric fever at home) and researches in relation to water sterilisation in the field are going on ceaselessly. The investigations at present in hand are into the use of ammonium chloride tablets and chlorosene in regimental water-carts (Harold-McKibbin method).

As regards clothing, the hygiene section has little to say calling for comment, except that the well-worn belief that in hot climates the wearing of wool is an absolute necessity now goes by the board. The consensus of opinion reached after discussion by the Army Hygiene Advisory Committee was that it does not appear to be "so vital a matter as was previously thought, provided that due care is given to changing damp garments or that special cotton clothing containing adequate air spaces, as are found in 'cellular,' 'plated,' or 'roughed' shirts, is worn."

Amongst other matters considered by the Hygiene Advisory Committee was the question

of milk supplies. The conclusion arrived at here was that they are not satisfactory and that, if practicable, "properly pasteurised milk from reliable sources should be introduced, that more milk should be consumed by the Army boys and soldiers' children, and that young soldiers should be encouraged by propaganda to drink more milk and less tea." Further reference to milk is made in the section on rations and feeding, where note is made that issues of dried milk were unfavourably received by the troops, who found the making of solutions troublesome and the taste and greasiness it imparted to tea disagreeable. Condensed milk, on the other hand, appears to be liked, some units being willing to pay 2s. 2d. a gallon for it when fresh milk was available at 1s. 4d. a gallon.

In the matter of food the soldier, not unlike the majority of the male sex, is prone to grumble, and no doubt it is with the object of counteracting this tendency that the Army School of Cookery is to be extended, and that attempt is to be made to make the Army cook, who "as regards the presentation of the food is the pivot of the system," both a better pivot and a better cook. The fact that, as a result of improvements in methods of preservation, a mild cured bacon is now available at most stations abroad may help to stifle complaints as to rations also.

Under the head of hygiene reference is made to special investigations and to experimental work carried out at the Army School of Hygiene. The most important enquiry made probably was into the causation of the high incidence of tonsillitis, a source of inefficiency of great and apparently growing importance. Following a study of returns from the various service schools, it was determined to endeavour to obtain evidence by mass investigation of the relative importance of dormitory infection, methods of washing mess utensils (the saliva theory) and nutrition. The fact that tonsillectomy is effective in diminishing local throat diseases is recorded. For this investigation it may be claimed that from the point of view of preventive medicine it has a very real importance, and that its results must possess an immense practical value.

Of the report as a whole, indeed, it may be said that it is chiefly valuable because it is practical, and in offering the Director-General (Lieutenant-General Sir Harold B. Fawcus) congratulations upon it, opportunity may be taken to congratulate also the British Red Cross Society on having secured his services as Director-General of that organisation, and to assure him that in that

office he has all the good wishes of the public health service for his success.

Housing Conditions and Respiratory Disease.

LITERATURE on the subject of the relation of housing to health or disease is curiously limited. It may have been because they recognised this that the Medical Research Council undertook the publication of a report of an investigation carried out in Glasgow by Dr. C. M. Smith, an assistant medical officer in the city, with the object of discovering the effect, if any, of housing conditions on respiratory disease.*

In the course of the enquiry, Dr. Smith dealt with the amount, nature, and incidence of the sickness occurring during one year among a population of approximately two thousand people in a poor district of Glasgow. Acute respiratory disorders accounted for almost half the total morbidity, while tuberculosis, acute infectious diseases, and chronic respiratory disorders came next in importance. The number of fatal cases of pneumonia was large in relation to the death-rate for this disease in the city as a whole, but reason was found for ascribing this to a higher incidence of pneumonia in poor-class districts rather than to an excessive fatality.

Half the population under study was housed in a poor-class district of the slum type, and the other half in a rehousing scheme area. Comparison of the morbidity in the two groups, it is not surprising to find, does not yield conclusive results. The value of the work from this point of view, indeed, lies rather in the attention which it draws to the difficulty of reaching reliable conclusions on the important question of the relation of housing to health. In this enquiry, for instance, there was found to be a possible source of fallacy in a substantial difference in the racial compositions of the respective populations. The inhabitants of the rehousing area, also, were adjudged to be better at reporting their illnesses, and thus may have tended to show greater morbidity.

Furthermore, a part of the rehoused population, who had not been long in their new homes, retained the slum habit of crowding into one room at night, especially in winter. As regards sleeping accommodation, therefore, they showed serious overcrowding, although on the conven-

tional basis of persons per available room there was only a fifth of the amount of overcrowding found in the slum. The author accordingly suggests that the standard of sleeping arrangements, rather than the cubic capacity of the dwelling, is the measure of environmental conditions that is important in relation to the spread of respiratory infections.

This is the second report upon an investigation carried out by a member of the staff of the Glasgow public health department to be published by the Medical Research Council. This must be gratifying to Dr. Macgregor, the head of that department. It is no less gratifying to members of the public health service as a whole that the Council should consider work done in the field by public health field workers no less worthy of recognition than investigations carried out in the university and the laboratory.

At the moment, indeed, having regard to the prominence given to the importance of slum clearance, it is not unlikely that the report on the bed-bug—the first of the Glasgow works to be published by the Medical Research Council—and this present one on housing and respiratory disease may not appear even more valuable than others deserving to be counted as, perhaps more naturally, contributions to science. For Dr. Smith's work certainly, claim may be made that it is vastly important; because the investigating was painstaking, thorough and complete; the conclusions were honestly, fairly and accurately drawn, and the report in general is appropriate and intensely practical in every detail.

Tuberculosis in Lancashire.

IN the nineteenth annual report of the Central Tuberculosis Officer of the Administrative County of Lancaster for the year 1932, Dr. Lissant Cox notably maintains the high standard of interest and scientific value its predecessors have made the rule.

The population with which Dr. Lissant Cox is concerned numbers 1,802,700, and the area covers 1,048,363 acres. Patients to the number of 1,215 died from all forms of the disease, as compared with 1,751 ten years ago, and the death-rate of '67 per 1,000 of the population is the lowest recorded. The gross expenditure on tuberculosis in 1932 was £196,856. It is interesting to note that, contrary to expectation perhaps, there were 137 male deaths to 100 female—much the same as in England and Wales (139 to 100)—but between the ages of 15 to 25, 121 females died

* Special Report Series, No. 192. H.M. Stationery Office, 1934. Price 9d. net.

in 1932, and only 95 males. Four-fifths of all new patients came on the dispensary registers, and 742 out of a total of 1,514 pulmonary cases had a positive sputum; of the total 4,357 cases of pulmonary tuberculosis on the registers, the sputum of 2,567 contains, or has contained, tubercle bacilli. Lancashire appears not yet to have undertaken a re-survey of these dispensary cases, as has been done in some Yorkshire districts, to ascertain how many of them are actually suffering from tuberculosis and, if not, what is the cause of their symptoms and disability. Possibly Dr. Cox considers the preliminary investigation adequate.

Among selected contacts, 5.1 per cent. were found to be tuberculous as compared with an incidence of 0.43 per cent. in the whole population, which shows at first sight a much higher disease rate among contacts; but it must be remembered that the contacts considered are specially selected for examination because of defective health, so that the figures are not strictly comparable.

Of patients entering institutions, 15 to 20 per cent. receive artificial pneumothorax treatment, and many continue this after leaving, which accounts, perhaps, for the increase of dispensary radiograms from 12,908 in 1931, to 15,680 in 1932. The majority of workers would agree with Dr. Cox that a tuberculosis officer should interpret his own radiograms, and not be dependent upon an outside opinion.

Extra nourishment in Lancashire is granted only to patients awaiting treatment in institutions, or after their return therefrom, but the maximum grant (7s.) is higher than in most counties. The number of war pensioners under dispensary supervision has dropped from 1,017 in 1922 to 182. Two hundred and eighty cases were written off the 1932 register as cured, although tubercle bacilli had previously been discovered in 70 of these. This provides an interesting figure for comparison with other areas, but considerable reflection would seem advisable before ceasing the supervision of potential sources of infection. The number of sputum examinations (7,041) remains about the same.

Especially attractive is the number of articles on special topics by members of the staff. This is a feature that, if adopted in other annual reports, would assist the tuberculosis campaign in a very practical way. Amongst these articles that on "Intravenous

Pyelography," by Dr. E. H. A. Pask, may be noted. Uroselectan B was the drug preferred, and of this 5 grams were injected, dissolved in 20 c.c. of a 10 per cent. solution of invert sugar. The sugar is designed to render the solution hypertonic, and so prevent loss of the drug in the tissues. Several films should be taken on account of the varying appearances of the urinary tract during peristalsis, only portions in diastole being visible on the radiogram. Dr. Pask admits difficulty in diagnosing early departures from the normal, but says that further information may be obtained by estimating the rate of excretion of the agent, of which a rough idea may be formed by watching the specific gravity of the urine. With a healthy kidney no uroselectan should be left in the blood after four hours.

Dr. Jessel writes on artificial pneumothorax treatment, which has been attempted in 139 patients out of 487 admitted to his hospital. Since 1929, 33 phrenicectomies were also performed. It is admitted that the numbers are too small and the time too brief for a satisfactory estimation of the results, but, so far, these indicate that with the assistance of artificial pneumothorax the time necessary before a patient can recommence work is considerably shortened.

Dr. Charnock gives an account of a study of the Mantoux test on rather original lines. One hundred consecutive admissions were so tested and an attempt made to correlate the findings with other features of the case, such as the family history, pyrexia, the type of skin, and the prognosis. It was noticed that, in addition to the specific reaction, there was a traumatic reaction varying with the individual skin. Hypersensitivity did not indicate a greater resistance to tuberculosis, which indeed coincides with the results of testing 100,000 natives in South Africa, where it was definitely ascertained that natives reacting strongly were the most likely to develop clinical tuberculosis. Dr. Charnock concludes that the test is of no real help in diagnosis or prognosis in adults. The reader cannot help noticing that in the tests here narrated a skin dose of 0.01 c.c. was employed, which hinders, to some extent, comparison with the result of other workers, for 0.1 c.c. is the amount usually employed. Moreover, it must be very difficult to introduce accurately such a small quantity of fluid,

and this might account for the variability which Dr. Charnock noticed in the readings.

The fourth of these excellent special articles is by Dr. Edgar Wallace, on "Lipiodol Radiography in Dispensary Practice." Thirty-two cases form the basis of the report, and the oral method of administration is preferred. No harmful reactions occurred; and 19 cases of bronchiectasis were discovered, only three of which had the typical profuse sputum. The author believes, as indeed do many writers on the subject, that the condition is frequently a sequel to the specific fevers of childhood. Dry and wet bronchiectasis are discussed, but this is surely rather an artificial distinction, as most dry bronchiectases are sometimes wet, and wet bronchiectases may become dry.

Finally, Dr. E. H. W. Deane writes of the treatment of four patients with multiple cutaneous tuberculous lesions (proved by guinea-pig inoculation) with sanocrysin. The total amount injected was from 1.6 grams to 3.3 grams, and the results were excellent. There is no mention of the use of chrisalbin, which elsewhere has given results equal to sanocrysin, and is considerably cheaper to obtain.

Only 37 cases in the county died before notification. These are analysed, and Dr. Cox wisely remarks: "The efficiency of notification varies directly with the efficiency of the county council or county borough scheme dealing with tuberculosis. If there is no really comprehensive scheme, if there are poor and newly-qualified, part-time, badly-paid tuberculosis officers, if there are insufficient means for expert diagnosis, and too few beds for treatment, then a high proportion of non-notified fatal cases will be the rule and not the exception."

There are 13 centres for light treatment, which is being continued with most satisfactory results.

Considering the individual work of different areas, it is noted that in area No. 1, twelve out of a register of 955 patients are now receiving artificial pneumothorax refills at the dispensary, 29 out of 1,148 in area No. 2, 16 of 1,546 in area No. 3, 46 of 1,658 in area No. 4, and 46 of 1,165 in area No. 5. In Furness sub-area, three are having refills out of 271; in Fylde, nine of 400, and in Wigan, nine of 768. The figures are rather higher than last year, but a similar difference in

different areas is still to be remarked. A number of phrenic evulsions have been performed, but the cauterisation of adhesions and thorocoplasty are employed little, if at all.

Statistical Review of 1932.

AMONGST the salient features dealt with in the Registrar-General's Statistical Review for 1932* is a table showing the populations of England and Wales, Scotland and Ireland as enumerated at each census from 1821 to 1931, and as estimated for each year from 1893 to 1932 inclusive. The population of England and Wales is now estimated to have passed the 40 million mark, having advanced to 40,201,000 as at the middle of 1932 from the 1931 census figure of 39,952,377.

The number of marriages solemnised in England and Wales during the year 1932 was 307,184, against 311,847 in the previous year. The rate was 15.3 persons married per 1,000 population at all ages, compared with 15.6 in the previous year and 15.8 in 1930. Of the total marriages, 31 per cent. were solemnised during the third quarter. This preference for the third quarter has been constant since the beginning of the present century, prior to which the fourth quarter had been the favourite quarter for marriage. Sixteen males and 758 females married at age 16, the lowest legal age at which marriages may be solemnised, and while the 16 males married females up to 19 years of age (except in one case where the female was 22), the 758 females married males of varying ages between 16 and 50 years; in only 4 cases were the bride and bridegroom both 16 years old.

The number of decrees nisi made absolute in respect of dissolution or annulment of marriage was 3,894, an increase of 130 over the number for the preceding year. Only in one year (1928) has this figure of 3,894 been exceeded.

The births registered during the year numbered 613,972, a decrease of 18,109. The consequent birth-rate of 15.3 per 1,000 population is the lowest recorded for England and Wales, being 0.5 below that for 1931, the previous lowest, and 1.0 below that for 1930.

The proportion of the sexes in the births registered during the year was 1,050 males to 1,000 females, a ratio higher than any during the previous ten years.

*Tables, Part II, Civil. H.M. Stationery Office. Price 2s.

The One-Pipe System of Drainage.

By CHARLES PORTER, M.D., B.Sc., M.R.C.P. (EDIN.), Barrister-at-Law; President of the Society of Medical Officers of Health; Medical Officer of Health, Metropolitan Borough of St. Marylebone; and W. H. DRAPER, F.S.I.A., Sanitary Inspector, Metropolitan Borough of St. Marylebone.

A little time ago the Council of the Society determined to unite with the British Medical Association in a deputation to the Ministry of Health to urge the necessity for simplification of sanitation and modification of drainage byelaw requirements. This suggests the existence of a certain amount of interest in the subject, and makes appropriate the reproduction of the following papers by two officers who have had exceptional opportunities of securing knowledge of simplification as a result of their experience with installations of the so-called "one-pipe" system. The papers are based on contributions to a Bossom Gift symposium, arranged in the London School of Hygiene and Tropical Medicine as part of the autumn series of Chadwick Lectures in 1933. Dr. Charles Porter dealt with the historical and administrative aspects of the subject, and Mr. W. H. Draper, who showed a number of illustrations which, unfortunately, cannot be reproduced, with the technical and practical sides of the question. Mr. Alfred C. Bossom, M.P., was Chairman.

DR. CHARLES PORTER.

OF the necessity for publicity, instruction and investigation in regard to this system of sanitation there is no question. Even in circles where there should be no difficulty in understanding exactly what the one-pipe system means and implies, there is still a great amount of obscurity, and still too great a tendency to regard any body or individual countenancing it, or advocating and permitting its adoption, as a revolutionary at least, if not actually a rebel. Very much of the attitude of opposition is due to lack of understanding, though a great deal arises because of the belief that something new is involved.

Fortunately, it is easy to dismiss the charge of newness so far as the system is concerned. Actually what is involved in its construction is the sort of thing that is continually happening, namely, a return to an arrangement previously employed, that had been departed from for reasons that have ceased to exist, or on account of objections and difficulties that progress has shown to be easy to overcome.

In these remarks it is not proposed to go far back into the history of the plumber and plumbing, or to do more in regard to early history than to suggest that there are few who, if they did not themselves in their own boyhood homes have such arrangements as almost inevitably involved some degree of one-pipe drainage, must, at any rate, have friends sufficiently old to have lived in such homes.

Health officers who live and work in districts where there are old houses, originally erected for the wealthy and well-to-do, from time to time come across such arrangements: the water-closet in the dark cupboard on a landing, for instance, or an old-fashioned lavatory basin or bath so situated that the waste-pipe inevitably finds itself connected with the soil-pipe; and so on.

That arrangements did not continue, and developments and improvements follow along one-pipe lines, was due to several causes. The awakening of what has been described as a sanitary or health conscience, that called for a fuller and freer use of light and air, no doubt was one. The attack of typhoid fever from which the late King Edward suffered, while as yet the young Prince of Wales, undoubtedly, however, was the root cause of the change; as it was the cause of so much improvement in sanitation and hygiene generally. The dreadfully defective condition of the drainage and sanitary arrangements in the place the Prince had been visiting being held responsible for the attack, little time was lost before there was found good reason for suspecting the arrangements in other premises, and for searching for the expert or experts who could show just what was wrong and devise a remedy.

The view of the experts of these days, as of everybody else indeed, was that all the troubles—and they were many—that were believed to arise from drains and sanitary fittings, were due

to emanations and smells, from the soil drains particularly. Safety lay, therefore, in sealing up the drains as tightly as they could be sealed: keeping all drains and all except the essential fittings outside the building; and trapping off any sanitary appliance that of necessity had to be in or near the premises, as completely as possible from the drains. Because it was the soil drains and fitments—the water-closets—that were held to be mainly dangerous and deserving of severe treatment, the possibility of dealing with them separately was recognised, and the necessity for special treatment decided upon.

To meet such desiderata it was obvious that the old-time indiscriminate reliance upon a single pipe was out of the question and must be abandoned. Since the pipes might no longer be inside but must be on the outside of walls, the centrally and so comfortably and conveniently placed water-closet was no longer possible. This convenience, and all others, must be got on outer walls also, so as to be near the soil and other pipes provided to receive them.

Partly because of the need for finding such positions, partly because anything associated with the drainage system was suspect, the number of sanitary fitments was cut down to the absolute minimum. Further, those introduced were provided with every safeguard ingenuity could devise against any possibility of emanations from the drains finding their way back through them into the building.

The main safeguard was the trap, an appliance to which faith was so completely pinned that, wherever there was an opening for it, there it appeared in a form and of a pattern suitable for the particular position. In some situations, to make assurance doubly sure that there should be complete isolation of the premises from the drain, the trap was placed actually upon the drain and not upon the pipe leading to it, the two (the pipe and the trap) being arranged in line but disconnected. The appropriate parts of the system suitable for treatment in this way were those provided for the lavatory and similar wastes, and for use in connection with these the trapped gully was devised.

In some cases the sanitary expert was so impressed with the need for disconnection that he sought to apply it to the soil system as well, and here and there buildings in which, for a time at any rate, the soil-pipe was made up of lengths capped with hopper heads, into which the water-closets discharged, were to be found.

The expert responsible for such an arrangement, it is clear, had lost sight of a certain number of possibilities in relation to his scheme, and in due course methods of obviating the objections had to be introduced.

That there were difficulties that had not been taken into account in connection also with the more orthodox scheme, it may be accepted revealed themselves when it came into operation. There was failure, for example, on the part of the traps to act as such, partly because they were given to siphonage, or again because of a tendency shown by some of them to act, not only as barriers against emanations, but as obstructions in the path of the drainage as well. To an extent, the siphoning objection was met, and the traps rendered effective and less ready to siphon out by arranging for ventilation. The other trouble—the too great liability of the trap to act as a barrier—was less easy to meet, and in the end obstruction came to be regarded as inevitable and as something that, being incurable, must be endured.

When the time came to legislate as to drainage, while the possibility of siphonage was met by requiring ventilation, the serious risks that might arise from obstruction by the traps were, in effect, disregarded. In addition, therefore, to traps on fitments, a varying number of trapped gullies, with a final grand obstructor in the shape of the intercepting trap, were required to be fixed. And, as a further complication and additional expense, manholes and access and turning chambers were required to be placed at various points.

Though the fact that such arrangements, which involved a minimum of sanitary conveniences and a maximum and multiplicity of pipes and traps and chambers, became in effect the law of the land, since most authorities specified them in their byelaws, there were here and there objectors. Some of these were opposed to the excessive trapping, while others could see no real necessity for complete abandonment of the one-pipe idea.

So far as the objections to traps were concerned, it is intensely interesting to note that medical officers of health were very prominent amongst those most vigorous in opposition. So far back as 1902, for example, Dr. Spottiswoode Cameron, the Medical Officer of Health of Leeds, asserted that gully traps and the interceptors were nothing more or less than cesspools: that they held back decomposable matters which fermented and underwent decomposition during

the night, and that when the various households woke and the drainage system again came into use, multitudes of traps discharged their foul-smelling contents into the sewers to set up all sorts of putrefaction and contamination. A little later, Lieut.-Colonel Butler, then Medical Officer of Health of Willesden, following a careful series of observations, led one of the earlier campaigns against the intercepting trap.

Though from time to time there have been other attacks directed against the interceptor, it was owing to the efforts of Colonel Butler that a Departmental Committee was set up to inquire into the whole matter. Speaking generally, the evidence submitted to this body was unanimous in condemnation of the trap, and it was as a result of the report submitted by the Committee that the central health department made such provision as left each local authority free to decide whether or not the requirement as to the introduction of an intercepting trap should be invariable.

The importance of this decision cannot be exaggerated, constituting as it did a declaration to the effect that the water-closet trap was a quite sufficient safeguard against both sewer and drain emanations. Having done that, it tended to raise doubts in the minds of many as to whether or not there was any particular reason why, if the water-closet trap was so effective, this appliance must always be on an external wall, and why, if the soil-pipe was soundly constructed and properly ventilated, it must of necessity remain outside the building.

As a matter of fact, it is almost safe to say that the decision to regard the intercepting trap as not quite absolutely necessary constituted the first big step in the direction of return to the one-pipe system. In this country, indeed, there were a number of individuals and a few authorities who did not wait for the appearance of this sign of disbelief in the multi-pipe and trap scheme, to show themselves in favour of the simpler one-pipe idea.

The majority of these persons and bodies, it is true, were in Scotland, where the flight from the one-pipe system towards the complete separation of the soil, waste and rain-water drainage had never been quite so complete as in England. For quite a considerable time, and more widely as the years have gone on, in the area north of the Tweed the tendency towards the one-pipe system has grown, and practically there is nobody connected officially or otherwise with sanitation in Scotland who does not know

enough about it to prevent him regarding with a blank stare any chance reference made to it. Which is something definitely more than can be said for persons of the same groups in the more southern parts of this island.

Nevertheless, it cannot be said that England and Wales stood absolutely still. Conceivably it was not the example of Scotland that provided the impetus. If it was not Scotland, however, there was plenty of inspiration obtainable outside; east and west, in Britain overseas and in American and even European countries. For, curiously enough, though Britain may claim to have been the originator of modern sanitation, and that most, if not all, other peoples merely followed the lead, there are very few that have been so ready as the British to accept the original arrangements as more or less of a permanency. In many countries, for climatic reasons—extremes of heat and cold or on account of scarcity of water—but in some instances because research and experimentation had revealed advantages, alterations and modifications in scheme, or fitments, or both, were made.

Practically universally, however, elsewhere than here, the first and most important change that was made aimed at securing simplification, and particularly at a reduction in the number of pipes and traps; at, in short, the introduction of the one-pipe system. There is little exaggeration, indeed, in claiming that to-day Britain is the only country in the world in which the one-pipe is not the standard system. Everywhere but here it seems (a) the soil-pipe is allowed to serve as the channel for all the liquid wastes of the building; and (b) the sanitary fitments are regarded, not as potential dangers, but as conveniences, and are placed where they are needed and are most readily accessible, and not only where safety appears to dictate. That there was not complete immobility here must be noted.

Whatever the source of the inspiration, eventually it arrived that the fact that there were other systems than the standard multi-pipe British system was recognised. The first move made was the introduction of a provision into the Model Byelaws of the Ministry of Health, allowing of the connection of waste-pipes to the soil-pipe. Moreover, allowance was also made for the inclusion in the byelaws of local authorities of provisions covering the placing of water-closets in such situations that they might be entered directly from bedrooms.

Of the extent to which these clauses in the models have been used by byelaw-making

authorities in the provinces is not recorded. So far as London is concerned, it may be said that in the byelaws that came into operation so recently as May, 1929, and that are still in operation, there is no reference to the one-pipe system. As a matter of fact, it is a very multi-pipe system indeed that is envisaged: so multi-pipe, in fact, that when a building of any size—a block of flats, for instance—is provided with all its pipes, and these are constructed outside and carried up to the point that the authorities may insist they shall be, it presents the appearance of being embedded in a forest of pipes.

So far as regards water-closets and soil-pipes, byelaws passed in 1930 show London to be even more advanced than most, if not all, provincial centres. Quite definitely the local authority in the Metropolis may approve a scheme showing the soil-pipe, even an iron soil-pipe, indoors, and a bathroom entered directly from a sleeping-room, even though there is a water-closet amongst the fittings. The introduction of this last provision may be counted as one of the most important advances in sanitation ever made in the Metropolis.

As in the case of other advances to be mentioned, it was action on the part of the St. Marylebone Borough Council that led to the making of the provision covering it. Conditions in St. Marylebone—limitations of space and the nature and construction of the buildings, for example—always seem to have necessitated departures from byelaws relating to drainage and sanitation. Moreover, the proportion of persons residing in the Borough desirous of having sanitary arrangements in advance of anything provided for in the regulations has always been considerable. Fortunately, the Council itself includes numbers of travelled, broad-minded and experienced individuals prepared to move with the times and the tide of progress, so that whenever they have been satisfied that departures from the strict letter of the requirements might be permitted with advantage and without detriment to hygiene, they have been prepared to allow them, and to take such risks as might be associated with countenancing breaches of the law.

The St. Marylebone Council has always been one of those which, following the American plan, place the Division of Sanitation in the Public Health Department under the charge of the Medical Officer of Health, who quite frequently finds himself called upon to submit reports upon

applications for permission to modify byelaw requirements in order to meet exigencies of one sort or another, or advanced or imported ideas on sanitation put forward, very commonly, by those who may be described as persons of refinement.

In the old days, most of the applications had reference to water-closets in basements of business or other premises, conveniences in this situation being forbidden by law except under certain circumstances. These provisions, which dated back to 1900 or so, it was impossible to obey in main thoroughfares such as Oxford Street, and permission was almost invariably granted. The present law, it may be said, is so very much wider that without exception almost, architects and builders can so plan and operate as to secure compliance with the requirements.

The position in regard to the bathroom and water-closet *en suite* with the sleeping room was very much the same. Unless there were very real objections, as the applications related generally either to very large houses or hotels, permission was always granted. The public demand for the bathroom containing a water-closet directly accessible from the bedroom becoming stronger, the London County Council was compelled to legalise it. The byelaws in which this was done were passed in 1929. Remarkably enough, they went very much further than had been contemplated, allowing completely internal closets and soil-pipes, and recognising artificial light and ventilation as adequate for closets. This arrangement had been anticipated in the case of Broadcasting House, and had been approved by the St. Marylebone Borough Council for this building some years before the London County Council made provision for it.

As already mentioned, although possibly the London County Council did not recognise it, acceptance of this arrangement of internal soil-pipe and waste-pipe, combined with the approval given to the bathroom-from-bedroom scheme, automatically almost, involved acceptance of the one-pipe idea. In St. Marylebone, at any rate, it was so considered.

Very soon after these byelaws came into operation, a well-known company determined upon the erection, near the Marble Arch, of an hotel with many bedrooms, each bedroom to be provided with a separate, completely fitted bathroom. When the scheme was first mooted, the picture that immediately presented itself was of a building set amid a forest of pipes.

Recollection came also of "rooms with baths," often in quite small towns, in other countries, and of the methods adopted for simplifying drainage, for securing access, and so on. It was suggested, therefore, that a scheme along these lines should be prepared, and special application for permission to introduce it submitted to the Borough Council. This was done, and after having given very full consideration to the whole subject, the Public Health Committee put a detailed report before the Council with a recommendation that the scheme be approved. This was adopted.

Almost immediately, something of a sensation was caused. Various Institutions, Institutes and Unions, indeed, at first adopted quite a threatening tone. Later, however, they became very complimentary and could hardly be restrained from passing votes of thanks.

About the same time the London County Council concluded that the situation must be regularised, and the one-pipe system recognised. Steps were taken, therefore to alter the byelaws of May, 1929, and to make such amendments and additions as would permit of work along these lines being carried out.

That there was need of such provision became more and more obvious every day. St. Marylebone seemed suddenly to erupt buildings suitable for one-pipe systems, and builders anxious to introduce them. Wherever there appeared to be good grounds for acceding to requests for special treatment, the Borough Council permitted departure from the byelaws, and thought no more of it than in the old days when there were no irate Institutes, and the exigencies in some particular building necessitated the construction of a water-closet in a position that did not comply with the byelaws.

The draft byelaws of the London County Council amending those of 1929, as circulated to the Borough Councils, appeared to contain everything that was necessary to permit persons desirous of draining in this particular way to do so. It was done merely by introducing a single clause saying in effect what persons discharging wastes into soil-pipes must do.

What exactly will be the effect of these changes and additions from the practical point of view is explained in the paper by Mr. Draper. To some they may appear to be the last word and to represent the final step. Further observation and experimentation, however, it is felt, will reveal the possibility of greater simplification and progress towards a *real* one-pipe system.

In Germany, in fact, it was adopted some time ago, and in Berlin, for example, in buildings of all classes, but particularly in blocks of flats, practically invariably the soil-pipes, which act also as the sole ventilators of the system, act as the main waste-pipe as well and receive the discharges from baths, sinks and lavatory basins. All this without apparently any detrimental effect upon the people.

Because the arrangement, so far as a close though not extended observation revealed, has no hygienic drawbacks, there seems no reason why it should not be tried here. From the economical point of view, of course, it has overwhelming advantages, and as a method of reducing the cost of housing and re-housing schemes for those dishoused by slum clearance, or living under overcrowded conditions, it deserves serious consideration. Observations of experimental installations are what are required. That the byelaws will allow of experimentation along these or any other lines, however, is unlikely. Nor is it likely that they will contain words permitting local authorities to exercise discretion. Byelaws never do. That is one of the reasons why byelaws in respect of such a matter as drainage are so essentially bad.

There is too much law about byelaws, and law and drainage, or sanitation even, do not mix very well. Almost it seems, indeed, that, though in this country there is great readiness to subscribe to the common view that the essential principle of sanitation is that domestic wastes of all kinds should be removed as quickly as possible from the building and its neighbourhood, there is an equal readiness to assent to the introduction of obstructions to its removal.

Of the obstructions to drainage, the two chief are traps and byelaws. The former there seems to be some sort of desire to get rid of. Some day perhaps the possibility will occur of so dealing with byelaws that they will be less obstructive of progress in relation to sanitation. To all really interested and concerned for progress, and not least to the plumber and sanitary engineer, with whom it is impossible not to sympathise when the extent and the complexity of the law with which they must conform and familiarise themselves is contemplated, this will be a happy day indeed.

MR. W. H. DRAPER.

Though there has been divergence of opinion as to whether the so-called one-pipe system is an improvement on that now generally in vogue or

a retrograde step, on the whole the tendency to favour its introduction with proper safeguards has become general in well-informed circles. That important body, the Institute of Plumbers, for example, has announced that, after careful consideration of much evidence, they find themselves able confidently to recommend its adoption.

As an argument against its adoption, it is urged that we are reverting to a practice discredited years ago. This, however, is not sound criticism, since, while it is correct to say that it was usual at that time to connect any fitting to the soil-pipe, the fittings in use and the method of connection adopted—container pans with D traps, sinks with a bell trap or no trap at all—must be taken into account.

The plumber who did the work was a craftsman in lead, skilful enough no doubt, but almost certainly ignorant of the physical laws governing plumbing. There was an entire absence of knowledge as to the value and need of ventilation. The science of pneumatics had not been applied to plumbing, and the effect of siphonic action on such traps as they had had not been studied and was not understood.

Sanitary plumbing has entirely altered during the last 50 years. Fittings have been improved, while materials, and particularly the methods of jointing pipes other than lead pipes, have completely changed. Knowledge of pneumatics is such that sanitary engineers can design installations to meet any and all of the arguments that may be raised against the one-pipe or combined system of drainage.

It is easy to envisage a system of plumbing designed with certain ends in view, in which, if the rules of pneumatics and hydraulics are violated, serious disturbances will take place. In a system of any magnitude it is obvious that the work should be entrusted to a competent sanitary engineer able to compute the relative sizes of the pipes that will be necessary to carry away all discharges and, more important still, adequately to protect the trapping of one set of fittings against any of the possibilities of siphonic action or compression due to discharge from other fittings. Properly installed, good plumbing will give years of safe and satisfactory service, and the first cost is the premium paid for ensuring safety.

It will be conceded that from the point of view of cost, saving of space and simplicity in design, the one-pipe system will be of advantage in many of the larger buildings, particularly

those with a number of varied fittings. Architects generally, it would seem, must welcome the alternative to existing requirements, though it does not necessarily follow that it will simplify their planning, for if full advantage is to be taken of the system, they must group their fittings, since it is not advisable to have long branch wastes, with correspondingly long ventilating pipes, serving fittings situated a distance from the main stack.

Its benefits, however, need not be confined to the large building. Consider only the work involved if an additional toilet is required, consisting of bath, lavatory basin, water-closet and bidet, on the upper floor of a house, and in an apartment so placed that the existing soil and waste-pipes cannot be utilised. A 3-inch soil-pipe would suffice to take these fittings, returning the ventilating-pipe from each fitting to the main stack, thus dispensing with a 2-inch waste-pipe from top to bottom of the building, and possibly a new gully and drain connection to take the discharge from the waste. And taking into account the danger from frost, which, it may be noted, will be greater from the continued dripping from leaky taps throughout the night than from the discharges of water during the day, the advisability of constructing the pipes inside the building is obvious.

Fears as to the *stability* of this system may be accepted as groundless. With good design, suitable material, and good craftsmanship, it may be claimed quite safely that it is possible to so construct the system that it is not only sound to commence with, gas-tight, with every fitting proof against the effects of aspiration, self-siphonage and back pressure, but that it will remain capable throughout of withstanding tests designed to show the slightest defect.

In this system, *ventilation* is of first importance, and the size of pipes must be carefully computed, having regard to the work they will have to do. Rough and ready and rule of thumb methods must not be followed. It is not sufficient to state that a 4-inch soil-pipe shall be provided with a 2-inch, 3-inch, or 4-inch ventilating-pipe, to take the branch ventilating-pipes from the several branches. There are other factors that must be taken into consideration: amongst them the height of the building and the number of fittings on each floor, and their probable use.

These figures must be ascertained and tables framed. A factor of safety is necessary, but that need not involve insistence on the installation

of pipes much larger than will be required. It is possible to increase the size of pipes or the depth of the water-seal in traps until the system is overburdened with unnecessary safeguards, and even then miss points, small but vital, that should have been considered.

The metal most suitable for the various pipes making up this system will depend, in a measure, on where they are to be fixed, and the work they will have to do. Coated cast iron, copper, lead and galvanised wrought iron, all have separate advantages or attributes.

To *coated cast iron*, a metal commonly used in this country for soil-pipes, objections are raised in certain quarters against its employment in the one-pipe system. The usual contention is that owing to the fact that the pipes will have to deal both with hot and cold water, the expansion and contraction that inevitably occur will force the caulked lead out of its socket. In this case the fear is exaggerated, since there is little likelihood that extreme changes of temperature will take place in the stack, the hot and cold water discharged tending to pass so rapidly that they will have small opportunity of effecting changes in temperature. Indeed, the sun would raise the temperature of a metal pipe fixed on a wall facing south, considerably higher than the hot water discharged after use from a bath. As a matter of fact, if shown anywhere, the effect of the hot water would be evident in the short branches from the fittings, and it may be noted that if the temperature of a cast iron soil-pipe 100-feet long were raised 40° Fahr. throughout, it would only increase the total length of the pipe by one quarter of an inch. The possibility, therefore, of the discharge of hot water from the every-day usage of fittings causing extreme changes in the temperature of a soil-pipe is very remote. Further, with a properly caulked lead joint in a grooved socket, it may be accepted that coated cast iron would give every satisfaction.

Copper is coming more and more into general use, both for water supplies and waste branches, and there is much to be said in its favour. It has, for example, a smooth bore and a long life. Compression joints are largely used with it, but the practice of welding is gaining ground, the introduction of deoxidised copper having overcome the difficulties encountered at first.

Galvanised wrought iron threaded pipe has been suggested as a suitable medium, and has been largely used in the United States and Canada. It has a much shorter life than coated cast iron, however, and if a building is plumbed

with any regard to its projected life, galvanised wrought iron cannot be regarded as the best metal to employ.

Lead, no doubt, will find a place in the system, but it is not suitable for the main waste stack and some of the waste branches. It may well be that under some conditions lead is easily the best metal for the main and many branch ventilating-pipes. It is indestructible, smooth, easily worked, and, of course, not subject to corrosion, with the jointing beyond criticism. It has this advantage also, that if it is properly fixed, and used in a suitable position, it will function for all time if not injured by such things as a nail.

In regard to *corrosion*, it may be noted that there is very considerable variation in its effects on different materials and pipes. Various organic acids arising from the decomposition of deposits of grease and soap, and the carbon dioxide always present in considerable amount, are absorbed by the moisture that gathers on the walls of the pipe and, unless it is protected, will attack the metal. This is most noticeable above the top fitting in that portion which is not washed, and in the upper part of a horizontal waste, where the results of condensation remain longer than in a vertical stack. This discriminatory action suggests that the coating of the slime, coupled with the flushing of the stack, in a large measure prevents attack.

The possibility of defect arising through corrosion in a ventilating-pipe should be stressed, more particularly since, unlike a defect in a waste-pipe which must be repaired owing to the nuisance arising from leakage, it may not be discovered unless and until a test is applied.

Coated cast iron resists corrosion and rust very much better than galvanised wrought iron. It would appear, therefore, that until plumbers have acquired the skill required to weld large copper pipes, the main soil-pipe should, and no doubt will, be constructed in heavy cast iron.

With the possible exception of the craftsman who has worked on and fixed them, no one wishes to see the pipes after they have been installed, and the architect strives to secure, and in most cases insists on, concealment. This is commendable from an æsthetic point of view, but there are other equally important points to consider. Modern buildings with solid floors and partitions present a problem in connection with the installation of waste and ventilating pipes. As an example, consider the fittings in a bathroom first, which at times prove somewhat difficult to drain perfectly. The waste from the

bath presumably will be either in the thickness of the floor, or just above it. If the low type of bath is used, rolled steel joists should be kept out of the way, and it is essential that the architect should consult the sanitary engineer before completing his design and detail, in order to prevent subsequent difficulties.

The bath waste usually presents more difficulty than other fittings, the fall of this branch to the waste stack often being nominal. It is very desirable that the ventilating-pipe to this branch should rise vertically from the point of connection to the waste. To obtain this, the branch waste should turn towards the foot or the side of the bath, and not run parallel with and under the bath towards the head. Further and most important, the ventilating pipe should be taken off the top and never off the side of the waste-pipe. Any ventilating-pipe taken from a horizontal branch waste of considerable length is liable to be submerged when the waste-pipe is running full and, as a result, gradually will become clogged. A better and safer method is to use a P trap with a short branch discharging into a vertical pipe, which could then be taken to the main stack at floor level. Wherever possible, the ventilating-pipe from fittings should be a direct extension of the vertical waste, so that any scale or solid falling down the ventilating-pipe will pass into the waste and be washed away, and thus prevent the stoppage so liable to occur in the course of time. The ventilating-pipe from the lavatory basin should rise above the overflow line of the basin in such a manner that it cannot be used as a waste-pipe.

The owner of a house usually has something to say as to the position of fittings, particularly those of the bathroom. If it can be managed the best arrangement is to have the lavatory basin at the top end of a branch that takes both bath and basin. If ventilation of both is insisted upon, however, the effect of placing the lavatory basin in the position suggested is to ensure a fully protected *washed* ventilating-pipe to the bath, since the discharge from the lavatory basin will always keep the ventilating-pipe open, and with the lavatory basin waste connected in the manner previously indicated, this branch is fully protected. It might be considered quite safe, with such an arrangement, to omit the branch ventilating-pipe to the bath connection altogether, since it is improbable that the 1½-gallon discharge from the lavatory basin would affect the 3-inch seal of the bath connected to the horizontal waste.

Having in mind that branch ventilating-pipes will more often than not be buried in the walls and partitions, the choice of the metal to be used should be carefully made. Lead, because it does not rust or scale, is the most nearly perfect metal for a ventilating-pipe, but it is easily punctured. If the bathroom is tiled, the risk of this is not so great, but it still exists. Copper is not so liable to puncture, and has many of the qualities of lead.

Galvanised wrought iron is puncture-proof and its claims may well be urged for such a buried pipe. The one grave objection to iron is that in the course of time it rusts, and scales will eventually tend to choke the pipe. The Institute of Plumbers recommend that a non-ferrous material be used for branch ventilating-pipes, and under many conditions that is a sound proposition, but galvanised wrought iron has advantages if the branch in question is to be built into the wall, as so often it is in modern buildings.

One of the principal questions exercising the minds of architects and sanitary engineers who wish to instal a one-pipe system of drainage, is the relation the size of the soil-pipe should bear to that of the ventilating-pipe, having regard to the work each will have to do, and apparently there is no authoritative work published in this country giving information that would enable the sanitary engineer as readily to determine the size of the pipes required for drain ventilating purposes as he can that of those intended for the drainage of the building or superficial area with which he is dealing. The question is not a matter of common sense, and certainly should not be a subject for guesswork, and theory is of little use in arriving at conclusions. Experimental work with actual fittings and study of effects of air flow through pipes and on the seals of traps is required, so that pipe sizes with accompanying data might be made available.

A 4-inch soil-pipe would appear adequate to serve any building which, up to this time, has been erected in this country; the possibility of danger arising from the overlapping of discharges from fittings is very remote. A pipe of this diameter, it is certain, would take all the fittings that are required in any particular section of any 8 to 10 storeyed building; and though it is only just recently that a 3-inch soil-pipe has been permitted in London, there is little doubt that such a pipe is better fitted than a 4-inch pipe for the work it would have to do in 90 per cent. of the houses erected.

It is worthy of mention that it is stated in the American publication, *Minimum Requirements of Plumbing*, that it is sufficient to provide a 2-inch ventilating-pipe for a 4-inch soil-pipe 280 feet in length. With this size of ventilating-pipe, the 4-inch soil-pipe, it is held, will safely take the discharge from 48 sanitary groups, each consisting of a water-closet with a 5-gallon flush, a bath, a lavatory basin and a sink.

In the one-pipe system it would appear to be better practice to connect the ventilating pipe to the soil-pipe at a point below the lowest fitting, and to continue the ventilating-pipe up independently, rather than to return it into the stack above the topmost fitting. The explanation of this lies in the fact that the pressure of air in plumbing systems varies with each discharge from a fixture. Excessive pressure is caused by water falling from a considerable height, compressing the air before it, and forcing this air through the various branches. This pressure is more marked at the lower levels of the soil-pipe. The air at the top of the soil-pipe is rarefied owing to the fact that replacement of the air that has been carried ahead of the falling water does not take place rapidly enough. As a result the air pressure is diminished at the top of the soil-pipe, where the water-seal of the traps will be *drawn* unless ventilation is adequate, while the traps at the lower levels will be *forced* by compressed air unless they are provided with a ventilating-pipe to take away excessive air. The problem of the sanitary engineer is to ensure that atmospheric equilibrium is maintained in the system in order that the occurrence of these phenomena is prevented.

It is not merely a question of pipe sizes; the lay-out is important, and more care must be exercised with the branch wastes and ventilating-pipes, particularly as regards the joints and methods of connection. A ventilating-pipe badly designed will not suffice to meet the conditions, and if it becomes choked is useless. Text-books do not emphasise sufficiently the importance of this connection and what will eventually happen to it if, with every discharge from the fitting, it is submerged. It is essential that this ventilating-pipe connection should be made correctly, for it is here that a stoppage is more liable to occur than at any other point in the system.

The waste and ventilating pipe from a greasy fitting should receive particular attention. The best connection would be a P trap with a short horizontal run to a vertical waste, the connection

to which should be below the hydraulic gradient, and taken in at such an angle that it could not back up the ventilating-pipe, with the run of the waste arranged so that the discharge could get away as quickly as possible.

It is the practice to-day to provide *access doors* at a number of points on the soil and waste-pipes. Indeed, they are sometimes placed at every junction and bend on the system, and in the event of a stoppage at such points they would be extremely useful. As a matter of fact, however, the place at which a stoppage might take place in a soil-pipe is at the foot, and here experience shows it occurs very rarely. In the case of ventilating-pipes, on the other hand, both main stack and branches are often found either completely choked or in such a condition that they are not functioning properly. As a further precaution, therefore, it might be suggested that the common requirement that a soil or waste-pipe shall be as straight and as free from bends and offsets as is possible, should apply equally if not more strongly to ventilating-pipes, particularly if they are constructed with a metal that is liable to rust or scale. Access doors also could with great advantage be placed at those points where an offset occurs in the vertical ventilating-stack, with additional means of access on the branch ventilating-pipes which are contiguous to the connection to the waste, particularly if there is risk that they may become submerged.

As regards *traps* in this system, the depth of water required for those connected with fittings has received very careful consideration, and the decision of the London County Council on this point is awaited with interest, since they have had the opportunity of studying the whole question thoroughly. It will probably be in the neighbourhood of 2½ inches to 3 inches.

There are many different kinds of trap on the market. The claim is made for some that they offer more resistance to siphonage than the plain trap, by reason of convolutions in their passages, bulbous projections or additional compartments. Speaking generally, though it may be said that one or the other may possess a feature that is interesting or useful, the majority lack the self-cleansing property which is probably the most essential feature of a satisfactory trap.

Without question the best trap is the plain P or S with an open web. It has two valuable features; it is self-cleansing, and the open web provides a valuable safeguard, in that a defect is

immediately shown, whereas in many other types of trap a perforation of the web may occur and never be recognised unless the trap is taken out or a test applied. If this perforation is above the water-seal the trap is not functioning as a barrier to drain air.

Every trap to a waste fitting should have adequate means, in the shape of an access cap and opening, for inspection and cleansing, as provided in existing byelaws. It should be made compulsory, however, to have the access cap below the water-level of the water-seal; such a provision will ensure that it must be kept water-tight, though it will be somewhat difficult to obtain this with the trap to the bath, owing to the fact that it will often be below the floor level.

Limited to a two-gallon flush, in London it is necessary to be content with a water-seal of 1½ inches or thereabouts for the water-closet. In view of the stronger influence required to produce siphonage in a column of water 4 inches in diameter than is the case with a smaller trap, this, it may be taken, should be sufficient.

If a fitting is not used for a long period the water in the trap will evaporate, but this contingency cannot be used as an argument against the one-pipe system, inasmuch as invariably the water in the trap of a water-closet evaporates very much more quickly than that in the 1½-inch or 1½-inch trap to a waste fitting. Experience shows that water evaporates more rapidly in a trap in which the surface of the water-seal is exposed than is the case with a trap well protected. It has been found, in fact, that while in a 1½-inch or 1½-inch trap the loss of seal was in the region of half-an-inch to 1½ inches in 60 days, a water-closet trap lost its seal completely in a shorter time.

It is said that diffusion of gas through the water-seal of a trap might take place. The amount of hydrogen sulphide or carbon dioxide present in the air of a properly ventilated drain is negligible; a current of air would always be passing through it, since amongst other things the effect of the sun's rays on a vertical pipe causes a perceptible upward draught.

Two of the most important joints in a sanitary system are that between the trap of the water-closet and the soil branch, and that of the anti-siphonage pipe to the water-closet, particularly if the pipe is taken off the earthenware trap. Both these joints are subject to strain, owing to possible slight movement of the fixture. The 2-inch earthenware anti-siphonage connection is not too strong, and a slight fracture may remain

unnoticed for some time. A better method is to take it off the metal branch below the fixture. It is usual to make these joints with Portland cement: a much more satisfactory joint, however, is obtained with red lead and yarn, since this gives the work time to settle down—an advantage which the rigidity of Portland cement does not allow.

The *method of testing* soil-pipes by air, at present favoured in this country, is not very severe, and in the one-pipe system something approaching a 5-feet head of water, or 2½ lbs. pressure per square inch, would appear desirable. This would generally be equivalent to any pressure that might be imposed in the event of a stoppage; the first fitting above the obstruction would overflow, and the charged length of pipe would be limited to this extent. This test would have to be applied before the fittings are connected, by plugging up the several branches. After the fittings are in position a final test should be applied to the whole system, equivalent to the depth of the shortest trap seal.

With regard to the installation of this system, certain trade organisations have suggested that only plumber operatives, registered and qualified by examination, should be allowed to do so. In this connection it may be noted that in many countries so much importance is attached to plumbing and sanitary work generally that all plumbers are required to be registered. The hope is entertained that one day a similar requirement may be imposed here.

DR. ROBERT HUTCHISON, F.R.C.P. (Physician to the London Hospital and to the Hospital for Sick Children, Great Ormond Street, London), will lecture on "The Food of the Growing Child," in the Great Hall of the British Medical Association, Tavistock Square, London, W.C.1, on Wednesday, March 7th, 1934, at 8.0 p.m. The lecture is the sixth "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 Rt. Hon. Lord Horder, K.C.V.O., M.D., F.R.C.P., 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, 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.

Ut Ita Dicam.

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

An Extraordinary General Meeting.

From two o'clock onwards on Friday, February 16th, it was a case of meeting after meeting at the house of the Society. Almost entirely, too, it was a Tuberculosis Group day. At any rate, two of the meetings were largely, if not mainly, directed by this Group: the extraordinary general meeting at four, and the ordinary meeting at five. The former was called for the purpose of adopting or otherwise the revised articles of association, and there was the Tuberculosis Group, flanked by the Fever Hospital Medical Service Group, massed ready to vote for the "otherwise" than adoption. So that there resulted what was described as an *impasse*, and the passing of a resolution referring back the articles for consideration by the Council for the umpteenth time. If for no other reason than it provided an opportunity of seeing a number of members, many of them now on the retired list, whose visits to the Society are rarer than those of angels, the meeting was a pleasant one. Besides, there was in the gathering a *cohue-bohue* of a type conspicuous usually by its absence that was definitely stimulating. The only drawback to it was, perhaps, that it provided more encouragement than was deserved to the interrupter, the point-of-order merchant, and the expert in law and legislation who never fails to find that a punctuation mark has been misplaced, or that there is a discrepancy between this article and that, and these provisions and those. In spite of the electricity in the atmosphere and all the determination to fight and vote to the last, the whole business ended, unsatisfactorily it is true, in the return of the articles whence they came, within the hour, and the way left clear for what was to prove a meeting of the extremest value and the pleasantest function of the day.

The Ordinary Meeting Discusses Tuberculosis.

This, of course, was the ordinary meeting at five, which took the form, typical of the present session, of a symposium arranged by a Group on a subject particular to the Group: the President of the Society presiding, and the President of the Group acting as vice-chairman. On this occasion the Tuberculosis Group was

responsible for the arrangements, and Dr. Jessel (Tuberculosis Officer, Lancashire), their President, in addition to occupying the vice-chair, contributed a paper to the discussion upon "Modern Developments in Dispensary and Sanatorium Work." Other contributors were Dr. Peter Edwards (Cheshire Joint Sanatorium); Dr. G. T. Hebert (St. Thomas's Hospital); Dr. R. C. Wingfield (Brompton Sanatorium, Frimley); and Dr. F. T. H. Wood (Medical Officer of Health, Bootle). The attendance was exceptionally large, and though members of the Tuberculosis Group predominated, there was at the beginning, at any rate, quite a sprinkling of medical officers of health. The quality of the various papers was markedly high; of not one of them could it be said that it contained a single word more than necessary, or that in what it said was there the slightest tendency to overlap what was said in other papers. Each, in fact, was complete in itself and perfect in itself, and blended with the others to make a perfect whole. The discussion inspired by the opening papers reached a very high level, the majority of the speakers being persons engaged in tuberculosis work either on the dispensary or the sanatorium side. Out of the discussion there very clearly came evidence that there had been progress since specific attention had been devoted to the subject, and tuberculosis schemes had been established. Though it may sound somewhat sweeping, actually what appeared to be the chief advance and development was in the direction of showing that the earlier ideas were wrong, and progress made had been along lines very different from those originally intended. In the case of the dispensary, for example, the idea had been that it should be largely an organisation from which touch should be made with contacts, and that as a result of examining contacts and detecting the infected amongst them early, the disease would soon be brought under control.

Progress and Developments.

To any who were associated with the movement when the dispensary idea was first developed, the references to the practical futility of contact examination must sound strange. So also must the suggestion that as good a place

as any for a dispensary would be in the administration block of the sanatorium. That there was a great deal more talk about treatment, both drug and surgical, might be another conclusion of the person not too closely identified with the work since the very early days of the movement. Even to such a one, however, the discussion would have appeared vastly interesting, and he could not have heard it to the end without being convinced that there had been wonderful progress and development, and that engaged in the work there is an astonishingly large number of extraordinarily able people, intensely keen and wholeheartedly concerned to see that everything possible shall be done to secure progress and the complete eradication of a terribly serious disease. Had such an observer been privileged to attend the luncheon to the Joint Tuberculosis Council, on the invitation of the President of that body, Dr. Lissant Cox, he would have been more convinced than ever of these things. This for the reason that he would have found himself in company with numbers of the most prominent members of the medical profession devoting themselves largely or exclusively to tuberculosis work. Amongst them he would have seen Lord Dawson of Penn, fresh from convincing the House of Lords—including the bishops—that birth control was part of the social fabric; Sir Henry Gauvain, urbane and genial, a living testimony to the excellence of the therapeutic methods he commends; parliamentarians, Captain Elliston amongst them; representatives of the Ministry of Health and of the press; distinguished physicians and sanatorium and laboratory workers; tuberculosis officers; and so on. A truly wonderful gathering, and Dr. Lissant Cox the perfect host, helping to strengthen the belief that against such a galaxy, tuberculosis cannot stand for long.

The Council Meeting.

The only not purely or mainly tuberculosis gathering on February 16th was the Council meeting. This was fixed for two o'clock, and largely no doubt because there was the extraordinary general meeting looming at no great distance, it was over in about an hour and a half, and more or less record time. Mostly the matters discussed had been dealt with by the General Purposes Committee, and were reported upon by that body with or without an accompanying recommendation. One of the pleasantest items had reference to a vote of thanks passed

by the Committee to Dr. G. F. Buchan when he vacated the chair. In this it was recorded he had given wonderful and valuable service to the Society, and there was recalled the part he had played in connection with the salaries campaign. The Council, glad of the opportunity, refused to accept the item in the minutes of the General Purposes Committee as a report mainly, endorsed the action of the Committee, and directed that note to that effect should be entered on the minutes of the Council. In other connections it was a matter merely of confirming, with or without specific endorsement, the action of the General Purposes Committee. For example, the Committee recommended that, in company with the President, Dr. Savage should attend to represent the Society before the Departmental Committee on Food Standards, etc., and put in a document (reproduced elsewhere) showing what these individuals were to say. "Very good," said the Council. Again when the Committee recommended that the President should be nominated to represent the Society at the Congress of the Royal Sanitary Institute at Bristol, and that Dr. John Buchan be re-elected representative of the Society on the Central Midwives Board, the Council acquiesced without further to do. And so it went: all very friendly and nice, and with a good time had by all. Until the extraordinary general meeting, at any rate, as already has been told.

Sir George Buchanan.

Last month it was the retirement of Dame Janet Campbell (Dame Janet Heseltine now, by the way), from the Ministry that was noted. This month it is of the departure from office of Sir George Buchanan something must be written. In the annals of the Society the name of Buchanan appears very frequently, and in the literature of public health and preventive medicine the references to works done and contributions made by bearers of that name are many. In some cases it is the Buchanan whose picture occupies a prominent position on the walls of the Council chamber, where former Presidents are shown and the period of their services recorded, who is meant. In other instances the reference is to the Sir George Buchanan of to-day; and though in many cases it is to some contribution made or work done in relation to preventive medicine or epidemiology in the international aspect, it is not always so. In the early part of the forty years

of his life that Sir George has devoted to the health service of the people, there was practically no aspect of the public health to which he did not give attention, and to the knowledge of which he did not make valuable contribution—infectious disease and its prevention, food supply and its protection, for instance. With these he was closely concerned, and though their numbers are to-day few, there are still some health officers who remember how wise and helpful Sir George Buchanan was when problems connected with them called for solution. Of recent years, his work has lain increasingly in the field of international hygiene, and it is rather more than doubtful if there is a state health department in which he is not known, and with which as intelligence officer he has not had intimate contact, and to which he has not offered wise counsel. As a matter of fact, it is not improbable that he has visited the public health headquarters of most nations. Connected for a number of years with the Office International d'Hygiène Publique in Paris, last year he had the signal honour of being elected President of the Permanent Committee. On the Health Committee of the League of

Nations he was prominent also; so prominent, indeed, that he occupied the position of Vice-President. This, like so many of the honours that have been conferred upon him, came not merely because he represented a great nation; largely it was because of the high regard in which he was held personally, and because he was recognised as a man of sound judgment, wise, and of wide experience. In his own country, amongst his colleagues in the service both within and outside the Ministry, the feelings of affection for him throughout all the long period he has been engaged have been of the warmest. Here also the opinion of his professional qualities as a health worker, an administrator, a practical epidemiologist and an exponent of preventive medicine has been no less high than that held elsewhere. Colleagues everywhere will hope, as is hoped here, that the wide knowledge and the sound judgment of Sir George Buchanan will be long at their disposal, and that though his retirement may afford him sufficient opportunity for the rest he has earned and deserved, it will not be so complete as to deprive them of all opportunity of sitting in council with him.

THE GROCERS' COMPANY SCHOLARSHIPS.—In regard to the election to scholarships of this Company, announced in *PUBLIC HEALTH* for February, 1934 (p. 178), to take place in May, 1934, it is to be noted that awards are now for the encouragement of original medical research and not of sanitary science. Under the present scheme no subject which does not come, broadly speaking, under the category of an inquiry into the causation of prevalent disease or as to means of prevention of premature death will be considered eligible.

THE Annual Provincial Meeting of the Tuberculosis Association will be held at Cambridge from March 22nd to 24th, 1934. Local authorities are invited to send medical tuberculosis workers (whether members of the Association or not) as delegates, in order that as many areas as possible may be represented. Full details of the programme, which will include subjects of clinical and administrative interest, may be obtained from the Hon. Secretary, Dr. F. R. G. Heaf, Colindale Hospital, The Hyde, London, N.W.9.

A SESSIONAL meeting of the Royal Sanitary Institute will be held at Hastings on Friday and Saturday, March 23rd and 24th, 1934, under the chairmanship of Professor H. R. Kenwood, C.M.G. (Vice-President of the Institute). On Friday, at 4.30 p.m., in the Lower Hall of the White Rock Pavilion, the Mayor of Hastings will receive the members and entertain them to tea. At 5 p.m., a discussion on "Certain Problems of the Housing Situation, both Present and Future" will be opened by (a) Dr. G. R. Bruce, O.B.E., Medical Officer of Health, Hastings (who is acting as Hon. Local Secretary of the meeting); (b) Mr. David Edwards, Borough Engineer, Brighton; (c) Mr. H. T. Taylor, Chief Sanitary Inspector, Tunbridge Wells; and (d) Councillor W. J. Beck, Chairman of the Housing and Improvements Committee, Hastings. On Saturday, at 10 a.m., members will meet at the Public Health Department, 44, Wellington Square, for visits to (a) the municipal hospital and the White Rock Baths, and (b) a controlled tipping scheme, the front line scheme and the White Rock Baths. At 12 noon, both parties will visit the open-air swimming pool.

The Composition and Description of Food.

A MEMORANDUM SUBMITTED BY THE SOCIETY OF MEDICAL OFFICERS OF HEALTH AND THE ASSOCIATION OF COUNTY MEDICAL OFFICERS OF HEALTH TO THE DEPARTMENTAL COMMITTEE ON THE COMPOSITION AND DESCRIPTION OF FOOD.

FEBRUARY, 1934.

IN preparing this memorandum we have had in mind that the terms of reference are limited to a consideration of the desirability as to whether the law relating to the composition and description of articles of food should be altered so as to enable definitions or standards to be presented, or declarations of composition to be required, for articles of food (other than milk), and, therefore, would seem to exclude a discussion of legal procedure outside composition and description. We have, however, considered it desirable to make certain recommendations with regard to warranty as affecting the retailer of packed foodstuffs.

Legal enactments relating to food should have as their aim to guard against:—

(a) Deliberate or accidental harmful abstractions or additions.

(b) Substitution of foods other than the one designated.

(c) The use in compounded articles of too high a proportion of the inferior or cheaper food.

(d) Deliberate or accidental use of poor quality materials.

(e) The use of manufacturing methods which deteriorate foods.

This great variety of kinds of adulteration which have to be guarded against, and the very numerous types of foods, make the task of control very difficult. Two broad lines of control may be adopted:—

(1) To use general terms as to purity and safety, and to leave it to the courts to settle how far analytical data may be interpreted to show that these general requirements have been infringed. As we are all aware, this is the plan mainly adopted, and we have such enactments as the following:—

"No person shall sell to the prejudice of the purchaser any article of food or any drug which is not of the nature, or not of the substance, or not of the quality, of the article demanded by the purchaser."

"If any person abstracts from any article of food any part of it so as to affect injuriously its nature, substance or quality with the intent that it may be sold in its

altered state without notice, or if any person sells any article so altered without making disclosure of the alteration, he shall be guilty of an offence."

(2) To consider each food and to lay down a definition, permitted methods of preparation (if a prepared article), composition or usual range of composition permitted, labelling allowing permitted additions (if any), and, in some cases, standard methods of analysis and standard analytical figures. This procedure is, we believe, adopted in many foreign countries and in many countries which are part of the British Empire.

It is obvious that either procedure alone is unsatisfactory. The lack of definiteness of the first is the cause of a great waste of public money in litigation, of difficulty to the prosecuting local authority, of added anxiety and sometimes added work to the public analyst, and last, but not least, of uncertainty and loss to the food manufacturer, and a definite loading of the scales in favour of the cheap food manufacturer at the expense of the producer of high quality goods.

So definite are the objections that the Ministry of Health have had to issue reports dealing with the standard composition of some foods, some of which have the form of law while others have not, but can only be adduced as standards at which to aim. Also the Society of Public Analysts have been driven to co-operate in the setting up of working standards for certain articles (for example, for jam and that of 4 per cent. acetic acid for vinegar) which have the drawback that, while useful and recognised in practice, they have no legal sanction.

The second procedure also offers great difficulties, and it is doubtful if any country has, or ever can have, a complete code.

Some of the conditions mentioned above, for instance, deliberate or accidental use of poor quality materials or use of manufacturing methods which deteriorate foods, are particularly difficult to control by any method of definition or standard. For example, the vitamins in a food are a vital content to conserve, but in the same food prepared by two different processes and yielding the same gross analytical

results, one may conserve all or most, while the other none of the vitamins. Here definitions must at present fail, but need not fail at some future date.

It has also to be kept in mind that in certain directions our knowledge is limited, and in a state of flux, an instance being in regard to aluminium or other heavy metal contents in foods.

Standard definitions are also likely to induce great complications in the definitions. A good example of this is standards for jams. The Committee of the Society of Public Analysts, in collaboration with the Food Manufacturers' Federation, has set up definitions, standards and descriptive labels. Of course, jam is a complicated food, but to obtain satisfaction it has been necessary to have first-quality jams and second-quality jams, and these are divided into single fruit jams and mixed jams. Also a good deal has to be set down under labelling and descriptions. Even then the possibility of such things as glass particles in the jam is not dealt with.

The use of the second procedure will, we believe, in some cases lead to the legal recognition of grading, with penalties for wrong descriptions. Trade grading is almost universal, but it is not legally recognised, we believe, anywhere (apart from designated milks).

A recognition of the difficulties should not blind us to the great advantages of the second procedure where this is practicable. It is obvious, however, that such definitions and standard requirements can only be adopted after most careful discussion, on the one hand with analysts, medical officers of health and others concerned with health and purity considerations, and on the other hand with the food interests concerned. When we remember the extraordinary difficulty of settling such a comparatively simple matter as the addition or non-addition of copper salts to green vegetables, it is obvious that the difficulties are extremely great.

In connection with the use of special or of standard designations there is room for considerable co-operation with food manufacturers. The method of analysis and legal supervision is not the only, or even the best, way to attain to a satisfactory standard of food composition. When definite standards have been fixed the manufacturers or traders who undertake to maintain them for their products should have the right to use specific designations which carry

with them definite guarantees of composition and purity. This would be a valuable commercial asset and incidentally a potent educational influence upon the public. Of course, analyses would be necessary to see that the designation was properly used.

The best way to obtain and maintain satisfactory food standards is to co-operate with the manufacturers and encourage them to set their own house in order. Care is necessary to prevent only the standards of the high grade producers being adopted to the exclusion of cheaper foods which may be equally nutritious on their cost value.

From the above general considerations we are of opinion that steps should be taken :—

(1) To bring about a strengthening and extension of the existing law and its general terms. For example, the change over to a system of food packages sold unbroken as supplied by the manufacturer demands extensive alterations of the law on the following lines :—

(a) All manufactured foodstuffs should be required to have attached a description of their contents. Any serious deviation from this description should be an offence.

(b) All food manufacturers' premises should be registered and open to inspection and sampling by the appropriate authority.

(c) The issue of a false or misleading description should be an offence.

(d) If a retailer can prove that an article found not to be up to standard was sold as he received it, the liability should be upon the food manufacturer (*e.g.*, The Rag Flock Act, 1911).

(e) Requirements as to description of contents should apply to imported foods.

(f) An invoice referring to goods sold in sealed packages should be accepted as a warranty, in a Court case, that the goods are as described.

(2) To press for the setting up of a small permanent committee, containing representatives of the Ministry of Health, of associations of local authorities, of analysts and of medical officers of health, to consider and formulate from time to time, with the temporary co-operation of manufacturers and other persons specially interested in the particular food under review, standards for individual foods as they seem to be required.

(3) To ask for suitable legal machinery so that the Ministry of Health could make these

standards legally effective, subject to subsequent modification, revision or even withdrawal.

(4) To encourage co-operation with food manufacturers so that standard designations may be adopted and permitted with the aim of maintaining suitable standards and educating the public.

We may sum up our recommendations, therefore, as follows :—

(A) The setting up of a permanent committee with power to institute, modify or remove standards for particular foodstuffs.

(B) Legal machinery to give effect to the standards so imposed.

(C) Alterations to the law in order to put the responsibility for the genuineness of all packed foods on to the manufacturers.

(D) Improved facilities for sampling foodstuffs in the premises where they are manufactured or packed.

(E) Tightening of the law as to labelling and false description.

The Society and the Tuberculosis Service.

A MEMORANDUM PREPARED BY THE TUBERCULOSIS GROUP, INDICATING THE ADVANTAGES TO MEMBERS OF THE TUBERCULOSIS SERVICE OF FELLOWSHIP OF THE SOCIETY OF MEDICAL OFFICERS OF HEALTH.

TO deal first with personal and material advantages. Among these we would place first* the opportunities afforded of contact with colleagues and fellow workers—a most important matter if we are to avoid the subtle but sometimes devastating professional degeneration which occasionally overtakes the isolated worker.

Second comes contact with workers in other departments, and with medical officers of health. Endless difficulties are removed by ventilation and discussion.

Thirdly, we are thus enabled to present a united front to wholesale reductions of salary, and to obtain help and advice in more localised attacks. None will claim that the salaries scale is ideal, but it is a great advance on pre-existing conditions, and represents a great deal of skilled and careful work on our behalf. The work was not altruistic, for everyone's interests were at stake, but it was the combination which succeeded. Isolated officers had previously obtained higher rates, but without the scale most of these would have been swept away during the last few years.

There are sure to be further contests, and the more departmental members the Society possesses the more authoritatively can their representatives speak, and the more attention they will receive. Reforms of the Constitution of the Society and representation on the Advisory Committee are necessary and can best be obtained by work within the Society.

It must be admitted that tuberculosis workers have a very excellent clinical organisation in the

Tuberculosis Associations and in local tuberculosis societies; but these do not touch medico-political work, which is indeed much less interesting, but yet vitally important.

Then there are minor advantages. For instance, the journal keeps us aware of events in the public health field; the Secretary is prepared with ready and tactful advice; assistance to obtain fresh appointments or advancements may be forthcoming; and for those who so desire there will be a better chance of transference to other branches of the public health service.

So far the material advantages of membership have been emphasised (and maybe over-emphasised), but there is another side to the work of the Society, especially as concerns tuberculosis workers. Our aims are to eradicate tuberculosis, to relieve suffering, and to promote research, and most of the time of the Group Committee has been devoted during the last many years to steps directed to these ends. A great deal of work which has borne fruit, and which is likely to bear fruit, has been initiated by the Group. Memoranda have been prepared by us for consideration by the Council of the Society, or by the Joint Tuberculosis Council, on the prevention of tuberculosis in children, contact examination, the improvement of the tuberculosis service, notification, the employment of tuberculous persons, and on the proper utilisation of institutions; while we have been able to express our opinion to the Society on various other matters brought to their notice from time to time.

The Society.

Reports, Proceedings and Announcements.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on Friday, February 16th, 1934, at 2 p.m.

The President (Dr. Charles Porter) was in the chair, and there were also present Sir Francis Fremantle, Prof. R. M. F. Picken, Drs. Vynne Borland, E. Cassie, J. A. Charles, R. Veitch Clark, James Fenton, James Ferguson, R. P. Garrow, C. E. Herington, A. Joe, G. C. M. M'Gonigle, C. Killick Millard, H. J. Milligan, W. A. Muir, E. H. T. Nash, Thomas Orr, W. Paterson, G. H. Pearce, T. N. V. Orr, T. P. Puddicombe, E. H. Snell, V. F. Soothill, J. A. Stirling, A. G. G. Thompson, Ernest Ward, H. Gibbons Ward, R. H. Wilshaw and F. T. H. Wood.

The minutes of the meeting held on November 24th, 1933, were confirmed and signed, and apologies for absence received from Drs. G. F. Buchan, T. W. N. Barlow, James Mair and P. H. Stirk.

Correspondence.—Letters were received from (a) Dr. George Millson and Dr. Wellesley Harris (through his daughter) expressing thanks to the Council for their election as life members; (b) the Association of Public Health Chief Clerks, thanking the Society for making available the use of its rooms for meetings of the Association; (c) the organising committee for "A Children's Minimum," asking the Society to support certain proposals in regard to the adequate nutrition of school children; and (d) the Metropolitan Branch, with reference to the charges made for the use of the Society's rooms for Branch meetings.

The Council decided to take no action in regard to the Children's Minimum Committee, and referred the question raised by the Metropolitan Branch to the General Purposes Committee for report.

Representation of the Society.—The Council elected the following representatives of the Society for the current year, and confirmed nominations made by the General Purposes Committee since the last meeting:—

Royal Sanitary Institute Congress, Bristol.—The President.

Central Midwives Board.—Dr. J. J. Buchan.

Joint Committee of the Midwifery Service.—Dr. J. J. Buchan.

National Baby Week Council.—Drs. James Fenton and Ethel Cassie.

National Milk Publicity Council.—Dr. Thomas Orr.

General Purposes Committee Report.—Dr. James Fenton presented reports of the Committee's meetings held on December 15th, 1933, and February 2nd, 1934, as follows:—

(1) *Dr. George Buchan.*—At the meeting held on December 15th, Dr. George Buchan stated that he did not wish to stand for re-election to the chairmanship of the Committee; his decision was accepted with great regret by the members. A very sincere vote of thanks to Dr. Buchan for his devoted and able services as chairman of the Committee since its inception was proposed by Dr. E. Ward, who referred to his great work in regard to the salaries of all classes of medical officers, seconded by Dr. Joseph, supported by the immediate Past-President, the President and others, and unanimously passed with acclamation.

(2) *Election of Chairman.*—Dr. James Fenton was elected to the chair for 1933-34.

(3) *Accounts Sub-Committee.*—Drs. G. F. Buchan, T. W. Naylor Barlow and James Fenton were re-elected for 1933-34.

(4) *Methods of Making Appointments in the Public Health Service.*—In view of Prof. Jameson's Indian tour, the joint memorandum by him and Prof. Picken on this subject could not be presented until later in the session.

Referring to this subject, a member of the Committee reported that candidates for a post of medical officer of health had been subjected to a "meat examination" test.

The Committee are of opinion that this is a most dangerous precedent, and recommend that Professors Jameson and Picken should be informed of it.

(5) *Circulation of a Memorandum on Staffing of Public Medical Services by the Kent Branch of the B.M.A.*—A letter was received from Dr. C. E. Herington (M.O.H. Erith) enquiring whether the action by the Kent Branch of the British Medical Association did not contravene the agreement as to medico-political action between the Association and the Society. The Committee felt that no objection could be taken to the B.M.A. Branches expressing their views in this way, and instructed the Secretary to send an appropriate reply to Dr. Herington.

(6) *Hygiene of Crews' Spaces in Ships.*—A letter was received from the Hon. Secretary of the Association of Port Sanitary Authorities in reply to the Society's enquiry of September 22nd, 1933. The Association had decided to make any further representations that appeared desirable to the Board of Trade; they were seeking the opinions of all member authorities as to what recent improvements had been effected in the construction of crews' spaces; the Association would

keep the Society informed of further developments, and would appreciate its advice and support in any action. It was decided to await further communication, and the Secretary was directed to acknowledge the Association's letter with thanks.

(7) *Reduced Subscriptions for Junior Fellows of the Society.**—Arising from recommendations by the Yorkshire Branch and by members of the Council, Dr. G. F. Buchan submitted two resolutions, which were passed, with slight amendments, as follows:—

(1) That a medical practitioner, on becoming qualified for fellowship of the Society, should have the full privileges of membership on payment of an annual subscription of £1 1s. 0d. during the period of three years from the date of his first becoming eligible.

(2) That a registered medical practitioner, having obtained a whole-time appointment in the Public Health Service, shall pay an annual subscription of £1 11s. 6d. during the period of three years from the date of such first appointment.

The Committee recommend that these resolutions be adopted by the Council and the Association as empowered by the Articles of Association (No. 12), and be made retrospective with the proviso that there shall be no refunds in respect of subscriptions already paid or overdue.

(8) *Tuberculosis Officers and Membership of the Society.*—Dr. E. Ward presented a memorandum drawn up by the Tuberculosis Group regarding advantages of membership of the Society of Medical Officers of Health and the Tuberculosis Service.

The Committee passed a vote of thanks to the Group for the preparation of this valuable memorandum which they submit to the Council with the recommendation that it be published in the Society's journal and reprinted as a leaflet, and that it be specially brought to the attention of the other Specialist Groups within the Society. (The memorandum appears on p. 201 of this issue.)

(9) *Presidential Badge for the Tuberculosis Group.*—Dr. Ernest Ward reported that Dr. George Jessel had offered to present a Group Presidential Badge, subject to the consent of the Council. The Committee thought that no formal permission was necessary, and were gratified at Dr. Jessel's generous offer.

(10) *Housing of the Society.*—The Secretary was instructed to keep this as a standing item on the Committee's Agenda.

(11) *Extraordinary General Meeting.*—The Chairman reported that in consultation with the President and Dr. Ernest Ward he had asked the Secretary to issue a statutory notice for the Extraordinary General Meeting to take place at 4 p.m. on February 16th, 1934. In view of the fact that the Secretary had been advised by a Board of Trade official that the adoption of all the Articles should be covered by one resolution, the

* The present rates of subscription are:—

Fellows: (a) All whole-time Medical Officers in the Government and Municipal Services, £2 2s. 0d.

(b) Part-time Medical Officers, Retired Medical Officers, and others eligible for fellowship, £1 11s. 6d.

Associates: £1 1s. 0d.

sub-committee had approved the action of the Secretary in submitting again the complete list of Articles, in spite of the fact that all but two had been approved by the Association at the Extraordinary General Meeting of May 19th, 1933.

The Committee had before them a letter from Dr. E. W. Goodall suggesting a small amendment to Articles 4(b), (5) and (6) in order to ensure that assistant medical officers of health, or departmental and specialist officers should still be eligible for membership after retirement from active practice. It was decided to approve an amendment being submitted that paragraphs (5) and (6) should read, "(5) Assistant Medical Officers of Health, *acting or retired*," and "(6) Medical Officers or Assistant Medical Officers holding or having held specialist or clinical appointments, etc., etc."

(12) *The Society of Veterinary Officers.*—The Chairman reported that he, with Drs. John Buchan and Ernest Ward, had, on December 16th, 1933, met Lt.-Col. J. A. Dixon, M.R.C.V.S., President of the recently-formed Society of Veterinary Officers. There had been a full discussion on the mutual interests of public health medical officers and veterinary officers, and Lt.-Col. Dixon had stated that he would place before his Society at some convenient time the advantages which would accrue from the formation of the Veterinary Officers' Society into a Group of the Society of Medical Officers of Health; it was not likely, however, that any decision would be taken within the next nine months.

(13) *Composition and Description of Food.*—The Committee received a memorandum prepared by the special Sub-Committee appointed to draw up the Society's evidence to be submitted to the Departmental Committee on the Composition and Description of Food. It was stated that the same memorandum had been approved by the Association of County Medical Officers of Health, who had agreed that Dr. Savage should, if possible, represent both the Society and the Association in giving oral evidence before the Departmental Committee. The Committee asked the President to accompany Dr. Savage as a witness on behalf of the Society. It was further reported that the Departmental Committee were particularly anxious to receive the Society's memorandum immediately, and to hear their spoken evidence on February 20th, 1934.

The Committee therefore instructed the Secretary to forward copies of the memorandum to the Departmental Committee forthwith, and ask the Council to confirm their action. (The memorandum is reproduced on p. 199 of this issue.)

(14) *Cost of Hospitals.*—Dr. Barlow reported that the Committee appointed to prepare evidence for the Departmental Committee on the Cost of Hospitals, etc., had now agreed the sections relating to tuberculosis institutions, isolation hospitals and mental deficiency institutions. They proposed to submit this part of their memorandum as an interim report to the Council on February 16th, 1934.

The Committee agreed to this course.

(15) *Appointment of County Medical Officer of Health, Dorset.*—The Secretary reported that he had, as instructed, written to two Fellows of the Society who were reported to have applied for the post of Medical Officer of Health of the County of Dorset at

the time when this vacancy was the subject of an "Important Notice" in the *British Medical Journal*. A reply had been received from one of these Fellows, and the Secretary was instructed to communicate further with him. It was understood that the other Fellow in question is at present ill, and it was decided to defer further action until he is well again.

(16) *Deputy Medical Officer of Health, Grimsby.*—It was reported that, as a result of the action taken by the British Medical Association, the resolution terminating the appointment of the Deputy M.O.H., Grimsby, had been rescinded by the borough council, and the officer is now seeking an appointment elsewhere.

(17) *Termination of Appointment of Woman School Medical Officer, Cheshire.*—Correspondence with a married woman School Medical Officer in Cheshire who had been given notice by the County Council was reported. It was noted that the Cheshire Education Committee had recently passed a resolution that "in future appointments of women school medical officers it shall be indicated that any unmarried school medical officer on marriage should resign such appointment, her marriage being held equivalent to two months' notice, and that no deviation from this rule should be permitted unless the special sanction of the Committee to her retention shall have been obtained."

The Cheshire C.C. not having yet applied the agreed scale of salaries to several of their existing medical staff, the B.M.A. have published an "Important Notice" in connection with the advertisement of the vacancy in question.

The Committee are not of opinion that any action can be taken on behalf of the woman S.M.O. who has been given notice. They recommend, however, that the attention of the B.M.A. should be drawn to Section IX, par. (3) of the Memorandum of Recommendations in connection with the employment of married women medical officers, which reads:—

"(3) Where a local authority either intends to dismiss the holder of a medical appointment who marries, or desires to reserve the right to do so, a specific statement should be inserted in the advertisement relating to the appointment."

(18) *Public Health (Meat) Regulations, 1924.*—A letter was received from the Association of Municipal Corporations, enclosing a resolution passed by the Smethwick Borough Council, and a memorandum by the Town Clerk, Smethwick. The observations of the Society upon this matter were requested.

The Committee recommend that the support of the Society be given to the Smethwick Borough Council's resolution.

(19) *Women's Health Enquiry.*—The Committee considered a request from Mrs. Margery Spring-Rice (representing a Committee drawn from various Women's Associations) for the assistance of Medical Officers of Health and their staffs in obtaining replies to a questionnaire on various questions affecting the health of women.

The Committee recommend that no action be taken by the Society, and that Mrs. Spring-Rice be informed that any help on this matter must be given by Medical Officers of Health individually.

(20) *Inspection for Repairs under the Housing Acts.*—A letter was received from a Fellow of the Society

stating that he had reported certain properties for repair notices. Consideration by the authority was adjourned for the Sanitary Surveyor (*sic*) to give an estimate for the cost of the repairs. The latter inspected the properties and submitted lists of defects with estimates for the following meeting. The M.O.H. contended unsuccessfully that the Surveyor had encroached upon the duties of the M.O.H. in making an inspection, and that his estimates ought to have been made on the schedule of the M.O.H. and not on his own inspection. He stated that it was argued that under Section 17 of the Housing Act, 1930, any official could make an inspection independently, whereas the M.O.H. contended that house inspections in the district were carried out under Section 8 of the Housing Act, 1925, and the Housing Consolidated Amendment Regulations, 1932. The M.O.H. argued that he and those working under him were the only persons to carry out these duties. On the advice of the Executive Secretary, the M.O.H. had consulted the Solicitors of the London and Counties Medical Protection Society, whose opinion was that under the law the Surveyor was justified in making his separate inspection in order to prepare his estimate.

The Committee agreed with the latter view, but suggested with regard to Section 17 of the 1930 Act, that if a local authority proceeded to serve notices without consulting their M.O.H., they might find themselves in a difficult position in the case of an appeal, if they could not show that they had acted on the advice of the M.O.H.

(21) *Compensation for Loss of Salary following Reduction of Area.*—The Secretary reported correspondence with a Fellow of the Society, the M.O.H. of a Rural District, who had accepted a reduction of salary of £125 per annum on the transfer of part of his district to an adjoining county borough. He held that he was entitled to compensation at the rate of 31/60ths (£64 11s. 8d.) of the amount of his salary reduction, but the county borough had offered only £25. The M.O.H. had been advised that he had a good claim to the larger compensation allowance, and he was now informing the county borough council that if his claim was not allowed he would appeal to the Minister of Health.

(22) *Hairdressers' Registration.*—The Committee considered a draft Bill to provide for the registration of hairdressers in Northern Ireland. The body who are promoting this Bill had asked whether there was any information which the Society could give in connection with this Bill.

The Committee were of opinion that there was no information the Society could usefully offer.

(23) *Reference in PUBLIC HEALTH to Resignation of a Departmental Officer.*—The Secretary reported that he had received a complaint from a Fellow who was M.O.H. of a county borough, regarding the report of a Group meeting in PUBLIC HEALTH, which stated that sympathy had been expressed with a departmental officer of the county borough who had resigned his appointment.

It was explained that the Group had expressly taken no action in regard to the departmental officer's resignation as they had been asked to take no action, and had not heard the views of the M.O.H., and for that reason they had merely expressed sympathy

(24) *Sale of Re-Constituted Milk.*—A letter was received from the Metropolitan Branch stating that there was a great sale of re-constituted milk in London. The Branch observed that it appeared that skimmed milk of a cheap quality was being used and imported dried milk added to it; and further that it would seem that under present legislation it is extremely difficult to detect this practice.

The Committee recommend the Council to draw the attention of the Ministry of Health to this matter.

(25) *Security of Tenure.*—The Secretary reported correspondence with two Fellows of the Society on points in connection with security of tenure. One Fellow had written with regard to security of tenure as set out in the Local Government Act of 1933, which, in his view, did not alter the position from the Public Health (Officers) Act of 1921. The Secretary reported that he had replied to the effect that the Committee had considered this Bill last year, but as it was merely a Consolidating Bill it did not seem to offer an opportunity of pressing for the extension of security of tenure to medical officers of health towards whose salary no contribution was received from the Exchequer or from the county council.

The other Fellow of the Society had written regarding the position of county borough medical officers. It was pointed out that when the Society gave evidence before the Departmental Committee on Local Government Officers they had reported that the medical officers of health of 42 county boroughs had no security of tenure under the Public Health (Officers) Act, 1921.

The Secretary was instructed to refer these questions relating to security of tenure to Professors Jameson and Picken, who are preparing a memorandum on the methods of making public health appointments.

(26) *Legislation regarding Shops and Shop Assistants.*—The Committee considered a letter and memorandum addressed by the Metropolitan Branch to the Home Office on the proposed legislation regarding shops and shop assistants. The Select Committee of the House of Commons had recommended that in London certain of the health and welfare conditions should be supervised by the borough authorities.

The London County Council now proposed to obtain control of all additional powers dealing with health and welfare conditions except those regarding ventilation, sanitation and heating. The additional powers which they proposed to obtain were those dealing with lighting and washing accommodation and other amenities which, under the Factory Act, were exercised jointly by the Home Office Inspectors and the Borough Council Sanitary Inspectors.

The Committee recommend that the Council confirm the action taken by the Metropolitan Branch in forwarding the memorandum to the Home Office.

(27) *Ante-Natal Records.*—A letter was received from the Midwives Institute regarding the forms issued by the Central Midwives Board for the keeping of ante-natal records. The Institute asked that the Society should advise its members to give the midwives in their area the choice of card or book for the keeping of these records.

The Committee recommend that the Midwives Institute be informed that this matter must be the subject of individual arrangement with the medical officers of health of local supervising authorities.

(28) *Cases of Food Poisoning arising from Canned*

Foods.—The Secretary reported that a press agency wished to circulate to medical officers of health a questionnaire on the above subject.

It was decided that the Society could give no official recognition to an enquiry of this nature.

(29) *Staffs of Public Health Departments.*—The Secretary reported that a questionnaire asking for details in regard to medical, dental and veterinary staffs of public health departments had been sent out to all local authorities with a population of 15,000 and upwards; so far full replies had been received from 20 Metropolitan Boroughs, 63 County Boroughs, 30 County Councils, and 91 Non-County Boroughs, Urban and Rural Districts. It was suggested that a summary of the information obtained should be prepared when as many replies as possible had been obtained.

The reports of the General Purposes Committee were received and adopted, subject to the following amendments and additions:—

Para. (1): That the Council place on record their appreciation of the splendid service given to the Society by Dr. George Buchan as Chairman of the Salaries Committee from its inception in 1920, and later of the General Purposes Committee.

Para. (7): That the resolutions regarding reduced subscriptions for junior Fellows be placed before the next general meeting of the Association on March 23rd next.

Para. (14): That having regard to the fact that the interim report of the Cost of Hospitals Committee was not available for circulation to the Council prior to the meeting, review of the whole report be postponed until the May meeting, and that the Departmental Committee be informed that the Society's evidence will not be presented before May.

Para. (18): That the Council approve the Smethwick Borough Council's resolutions, which suggest (1) that persons selling meat from stalls should take the same steps for guarding against the contamination of meat as occupiers of shops are required to take; and (2) that the reasonable necessary steps required to be taken for guarding against the contamination of food may be more clearly defined; but instruct the General Purposes Committee to examine more fully the legitimate public health requirements governing the handling of food, in order to ascertain how far the following foods can be brought within the scope of the Public Health (Meat) Regulations, 1924:—Rabbits, poultry, fish, butter, margarine, cheese, cooked meat, lard and sausages.

Para. (20): That it be an instruction to the General Purposes Committee to consider the position generally in regard to estimating for repairs under the Housing Acts.

The Council adjourned at 3.25 p.m.

EXTRAORDINARY GENERAL MEETING.

An Extraordinary General Meeting was held at the house of the Society on Friday, February 16th, 1934, at 4 p.m., to receive a Special Resolution of which notice had been given in accordance with Section 117 of the Companies Act, 1929.

The President (Dr. Charles Porter) was in the Chair and there was a large attendance of members.

The Executive Secretary having read the notice convening the meeting, Dr. James Fenton, chairman of the General Purposes Committee, moved that the Articles of Association filed in 1923 be rescinded and that the revised Articles (as circulated to members) be substituted therefor. Dr. Fenton added that the Council had approved an amendment to Article 4 suggested by Dr. E. W. Goodall, which would ensure the eligibility of departmental and assistant medical officers for membership after retirement from active work.

The meeting, therefore, approved unanimously that the following amendment be included in the Special Resolution:—

“That Article 4 (b) shall read ‘(5) Assistant Medical Officers of Health, *acting or retired*; or (6) Medical Officers or Assistant Medical Officers holding *or having held* specialist or clinical appointments . . . etc.’”

Dr. J. J. Buchan seconded the Special Resolution, including the above amendment.

With reference to Articles 3 and 8 (definition of Groups) an amendment was carried that Article 8 now commence “Groups of the Association may be *recognised, sanctioned* or constituted by the Council as they see fit.”

With reference to Article 19 (c) the following amendment, proposed by Dr. Ernest Ward, and seconded by Dr. A. Joe, was carried, that Article 19 (c) read “*Two* representative members elected by or from each Group.”

After further discussion, the Special Resolution, including the above amendments, was put to the meeting, and there voted, for, 28, against, 22. As a three-fourths majority is necessary under the Companies Act, 1929, Section 117 (1), the resolution was not passed.

The Special Resolution was then put to the meeting with the amendment relating to Article 4 (b), (5) and (6), and failed to secure the requisite majority.

On the motion of Dr. J. A. Charles, seconded

by Dr. J. J. Buchan, it was resolved that the Articles of Association be referred back to the Council in order that Article 19 might receive further consideration.

The meeting then adjourned.

ORDINARY MEETING.

An Ordinary Meeting was held at the house of the Society on Friday, February 16th, 1934. The President (Dr. Charles Porter) was in the chair, with the President of the Tuberculosis Group (Dr. George Jessel) as his Vice-Chairman. There was a very large attendance of members and visitors.

Dr. J. A. Stirling presented on behalf of the East Midland Branch a portrait of Dr. C. Killick Millard, President of the Society in 1931-32. In making the presentation, Dr. Stirling pointed out that Dr. Millard was the first President of a newly-created Branch (the East Midland), and the only Past-President so far to be depicted wearing the wings of a qualified pilot. The President made suitable acknowledgment of the gift of the East Midland Branch.

The following candidates were duly elected members of the Society:—

As Fellows:—

Davis, Hilda M., M.B., CH.B. (LIV.), D.P.H.; Gilchrist, Mary Lyle, M.D., CH.B. (GLAS.); Harding, Elizabeth M., M.B., CH.B. (LIV.), D.P.H.; Hartston, William, M.D., M.R.C.P. (LOND.), D.P.H.; Llewellyn, Tudor David, M.R.C.S., L.R.C.P., D.P.H.; Macartney, John Charles, M.D. (EDIN.), D.P.H.; Starkie, Colin, M.B., CH.B. (MAN.), M.R.C.S., L.R.C.P., D.P.H., B.S.C.; Vine, James Miller, M.B., B.S. (MELB.), D.P.H.

One nomination was received for the next election.

There followed a discussion on “**Modern Developments in Dispensary and Sanatorium Work**,” opened by Dr. Peter Edwards, Cheshire Joint Sanatorium; Dr. George Jessel, Tuberculosis Officer, Lancashire; Dr. G. T. Hebert, St. Thomas's Hospital; Dr. R. C. Wingfield, Brompton Sanatorium, Frimley, and Dr. F. T. H. Wood, Medical Officer of Health, Bootle. Amongst other speakers were Drs. T. W. Hill, A. J. Morland, G. Lissant Cox, P. A. Galpin, N. Tattersall, F. J. Bentley, R. Veitch Clark, Vere Pearson, James Watt, H. E. Watson and W. H. Dickinson.

A hearty vote of thanks was passed to the opening speakers.

A full report of the discussion will appear in a later issue of PUBLIC HEALTH.

The meeting adjourned at 7.10 p.m.

Branch and Group Reports.**THE MIDLAND BRANCH.**

President: Dr. G. N. Anderson, Deputy S.M.O., Staffs. C.C.

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

A joint meeting of the Midland Branch with the Midland Centre of the Sanitary Inspectors' Association was held in the Library of the Birmingham Medical Institute, on February 1st, 1934.

The meeting, which included over 120 members of the two associations, was honoured by the presence of the President of the Society (Dr. Charles Porter), who had kindly consented to take the chair. In the absence of Dr. Anderson, through illness, he was supported by Dr. D'Arcy Ellis, Past-President of the Midland Branch, and Mr. A. Kent, President of the Midland Centre of the Sanitary Inspectors' Association. Dr. Ellis expressed the great pleasure of all present at having Dr. Porter to preside, and said that it was a considerable number of years since the President of the Society had been able to pay a visit to the Midland Branch, and for that reason alone the meeting would always be regarded as a memorable event.

The subject for discussion was “Milk,” and Mr. Ben Davies, Director of Laboratories, United Dairies Ltd., read a paper entitled “**Solving the Milk Problem—The Only Way.**” As was expected, he advocated compulsory pasteurisation as the only method of obtaining milk supplies that were safe from a health standpoint. After referring to the production of clean milk, and the risks of contamination of milk supplies by the organisms of transmissible diseases such as tuberculosis and undulant fever, or by hæmolytic streptococci, Mr. Davies said that pasteurisation was neither a “cure-all” nor a “cover-all” for the faults of milk. It was not possible to secure satisfactory results except with milk of originally decent production, and pasteurisation could not be employed to cover up the indecencies of unclean production. The procedure was not the concealer of the faults of milk, but their great revealer.

So many of the audience wanted to take part in the discussion which followed, that the Chairman had to ration the time at their disposal. Those joining in the debate included Dr. Wyndham Parker, Mr. Llewellyn (Sanitary Inspector, Kidderminster), Mr. Edwin White

(Midland Counties' Dairy Co.), Mr. Long (Sanitary Inspector, Hereford), Mr. P. B. Tustin (United Dairies Ltd.), Messrs. H. Downes, H. Shaw and Steele-Bodger, and Dr. Matthew Burn.

Dr. Ellis and Mr. Kent warmly thanked Mr. Ben Davies for coming from London to deliver such an interesting and informative address. On the motion of Dr. Blaker, seconded by Mr. Skitt, the best thanks of the meeting were accorded the President for so acceptably presiding over the meeting.

THE METROPOLITAN BRANCH.

President: Dr. James Fenton, M.O.H., Kensington.

Hon. Secretary: Dr. Vynne Borland, M.O.H., Bethnal Green.

A meeting of the Council of this Branch was held at the house of the Society on January 19th, 1934, the President occupying the chair. Sixteen other members were present.

Recommendations designed to place the Branch in a sound financial position were made for submission to the Branch.

The Special Purposes Committee reported on an inquiry proceeding with regard to tenement houses.

The practice of the issue of certificates to children who had been immunised against diphtheria was discussed with a view to obtaining uniformity of action in London, and Dr. Harries was invited and promised to open a discussion on the subject at the next meeting of the Branch.

The sale in London of skimmed or poor quality milk with added dried milk was considered, and it was recommended that the matter be referred to the Council of the Society.

The Council decided to recommend the acceptance of an invitation made to the Branch by Messrs. Allen and Hanburys, Ltd., to visit their works at Ware.

The provision by tuberculosis officers of lists of tuberculous persons on relief in receipt of extra nourishment to the Public Assistance Department of the London County Council was also considered, and it was resolved that, provided the London County Council agreed, it be recommended that borough councils make their own arrangements in the matter.

The action of the Hon. Secretary in forwarding to the Home Office a memorandum setting out the views of the Branch on the proposed

legislation dealing with shops and shop assistants, was confirmed.

It was decided to discuss clearance schemes under the Housing Acts at the next meeting of the Branch Council.

THE MATERNITY AND CHILD WELFARE GROUP.

President: Dr. Thomas Y. Finlay, M.O. (M. & C.W.), and Asst. M.O.H., Edinburgh.

Hon. Secretary: Dr. Isobel Wright, 1, Briton Close, Sanderstead, Surrey.

The President and thirty members and visitors were present at a meeting of this Group held at the house of the Society on January 26th, 1934.

Professor V. H. Mottram, opening a discussion on "**Diet for the Pre-School Child**," said that very little was known scientifically of the diet suitable for children from two to five years of age: the guiding line was that of the adult, and the diet should contain the "protective" foods, obtained from the dairy, the garden, and the sea; the rest could be left to the child's appetite. The difficulty of the conditioned reflexes and the introduction of new items into the menu could be overcome by camouflage, either colouring the food or using a flavour already known and liked.

An energetic discussion followed in which those present produced their problems, and solutions were put forward. Particular reference was made to the breaking down of prejudices; inadequate storage facilities in poor homes; lack of time and the expense of gas for cooking; and the increased use of tinned foods, emphasised by the increase of tins in refuse content.

Professor Mottram, in reply, stated that in tinned foods, vitamins A and D were intact, B1 and B2 possibly, but C was destroyed. If cereals were given in excess in a diet, the amount of anti-vitamin D present might be greater than that of vitamin D; from that angle white flour was the least deleterious, as anti-vitamin D was probably refined away. Minced meat could be given to a child aged nine months. If cheese was used as a substitute for cows' milk, lactalbumen was lost.

A vote of thanks to the speaker, proposed by Dr. Maule Horne and seconded by Dr. Nicoll, was carried by acclamation.

BIRMINGHAM AND MIDLAND SUB-GROUP.

President: Professor Leonard Parsons, Physician, Children's Hospital, Birmingham.

Hon. Secretary: Dr. G. I. Brodie, Asst. M.O. (M. & C.W.), Birmingham.

A meeting of this Sub-Group was held in the Carnegie Institute, Birmingham, on Saturday afternoon, January 20th, 1934. In the absence of Professor Parsons, Sir John Robertson took the chair.

Three short papers on "**Some Present-day Problems in Maternity and Child Welfare Administration in City, Town, and Rural District**" were read by Dr. Cassie (Birmingham), Dr. Balsillie (Stoke-on-Trent), and Dr. Young (Warwickshire). The subsequent discussion was opened by Dr. Ursula Cox.

A cordial vote of thanks to the speakers was accorded on the proposition of the Chairman, seconded by Dr. McKail.

THE FEVER HOSPITAL MEDICAL SERVICE GROUP.

President: Dr. H. Stanley Banks, Med. Supt., Park Hospital, London County Council.

Hon. Secretary: Dr. Alexander Joe, D.S.C., North-Western Hospital, London County Council.

An ordinary meeting of this Group was held at the house of the Society on January 26th, 1934, the President occupying the chair.

A paper on "**Varieties of C. Diphtheriae**" was given by Dr. W. Mair, of the Northern Group Laboratory of the London County Council, and aroused very great interest on the part of the members, twenty-nine of whom were present. The main part of Dr. Mair's contribution dealt with the recent work of Drs. Anderson and McLeod of Leeds on the cultural characteristics of types of diphtheria bacilli which they had found associated with a severe epidemic of diphtheria in that city.

An exceedingly useful discussion ensued in which Drs. Joe, Anderson, McLeod, Leete, O'Brien, Sheldon Dudley, Parish, Sturdee and Goodall took part, and after Dr. Mair had replied to various points raised, he was warmly thanked by the President for his paper.

At a meeting of the Council of the Group, Dr. H. M. Leete of Hull was elected a member of the Council in place of the late Dr. Egerton Williams.

THE DENTAL OFFICERS' AND MATERNITY AND CHILD WELFARE GROUPS.

A well-attended joint meeting of these Groups was held at the house of the Society, on November 17th, 1933, the President of the Maternity and Child Welfare Group (Dr. T. Y. Finlay) occupying the chair. The subject for discussion was "**Dental Work in relation to Maternity and Child Welfare**."

Dr. Grantley Smith, apologising for the absence of the President of the Dental Officers' Group (Mr. Doswell Wallis), expressed the gratification of the members of the Group in having the opportunity of meeting their medical colleagues.

Opening the discussion from the dental point of view, Dr. Grantley Smith confined his remarks to the question of maternity welfare, and expressed conclusions reached after thirteen years' experience in that branch of work. He pointed to the frequency of "residual sepsis" in the mouth as proving that the extraction of septic teeth did not always cause an immediate improvement in bodily condition. Discussing various theories as to the causation of pregnancy toxæmias, he concluded that while the hæmolytic streptococci of the mouth might not be an exciting cause in puerperal sepsis, they no doubt played an important part in "preparing the soil" for bacterial invasion later, and thus acted as a predisposing factor. He considered, therefore, that the rôle of dentistry in pregnancy was relatively unimportant, and that rather should facilities be available for the young married woman to obtain dental treatment before pregnancy. Several local authorities had initiated such schemes with the object of keeping the married woman dentally fit and avoiding extensive operative interference at the period of pregnancy.

Dr. Agnes H. Nicoll pointed out that the aims of the dental surgeon and of the maternity and child welfare medical officer were similar—perfect health for the teeth and for the whole body—and that close co-operation in their work was desirable. The maternity and child welfare medical officer had responsibilities in dental care towards the expectant mother, the nursing mother, the young infant, the toddler and the school child in turn. The most important of these at every stage were the careful regulation of diet and the teaching of dental hygiene. The latter should be specially given to the mother, as she would hand it on to the next

generation. There was also the obligation to arrange for dental inspection and the treatment of early defects and, for the future, for orthodontics. The main difficulties were refusal of facilities offered owing to fear and indifference, and the rapid onset of dental decay in the toddler owing to grossly bad food habits. The former was being gradually overcome, but the latter, depending on economic conditions which made it impossible for the working class mother properly to supervise her young children, was more serious, and tended to undo the work of the infant welfare centres. Dr. Nicoll raised other problems for discussion, including the effect of bad health in the mother during pregnancy; the influence of breast feeding; and, arising out of recent dental work, and of some special interest in view of the pending adoption of general pasteurisation, the question of raw *versus* heated milk. Giving figures in proof relating to her own area, Dr. Nicoll concluded by expressing her conviction that mothers were coming earlier to seek dental care for themselves and their children, and that there was every hope that the high percentages of dental defect would presently be reduced.

Mr. George Thomson spoke of his interest in the teeth of young children for the past twenty years, and exhibited some excellent slides showing the infant jaws in various stages of growth. He claimed that the main object of dental care and treatment should be the child. Mr. Thomson dealt with the externalist theory of caries, and voiced the opinion that less sugar, better mastication and proper hygiene from earliest days would bring about the desired result as far as the child's teeth were concerned. He appealed to medical officers to read Dr. Sim Wallace's book, which set forth admirably the rules for the preservation of the child's teeth. Mr. Thomson also referred to forms of treatment suitable in welfare dental clinics, and though he did not favour multiple extractions at one sitting, considered nitrous oxide a perfectly safe anæsthetic when extractions were required.

Dr. E. H. T. Nash explained his scheme for the dental treatment of expectant and nursing mothers and young children in Heston and Isleworth. By the payment of a certain sum per patient by the local authority, mothers were admitted to hospital when multiple extractions were necessary, so that rest and care could be obtained after the operation. If necessary, children were also dealt with by this

method. He was firmly of opinion that the greatest good could be done by intensive propaganda. Treatment was necessary in expectant and nursing mothers, as the removal of oral sepsis led to the improvement of the digestive system and thus rendered breast-feeding more probable. Dental treatment should be urged as early as possible. Nursing mothers of more than five months' duration were not eligible for treatment under the Heston and Isleworth scheme.

Mr. J. Rhys Herbert said he was opposed to multiple extractions at one operation, and considered the shock far too great to expect any mother to stand. He pleaded for a close co-operation between the doctor and dental surgeon, and spoke of the splendid work done by the British Dental Hospital for those not coming under public schemes.

Dr. J. Sim Wallace agreed with the importance of providing dental treatment when necessary, but considered the preventive side of the work far more important. He commended a study of the leaflet issued by the Society on the care of the teeth, and urged that arrangements should be made for copies to be available for mothers to read. Dr. Wallace advised medical officers not to worry too much about dieting the mother for the purpose of improving the teeth of her offspring. He was certain that nature looked after her own extremely well, and that 99 per cent. of teeth erupted in perfect condition. That state could be maintained by attention to the rules laid down in the Society's leaflet.

Mr. H. F. Metcalfe did not agree with Dr. Wallace that 99 per cent. of teeth erupted perfect in structure. He referred to certain cases of immunity to caries in his district (Heston and Isleworth) all of which had daily doses of cod-liver oil. Mr. Metcalfe advised dental officers to carry out conservative treatment in young children as a commencement, as extensive extractions scared the child at future visits.

Dr. H. H. Chodak Gregory felt sure that nothing like 99 per cent. of teeth erupted in perfect condition. This being her view, she advocated treatment of the expectant mother so that her calcium metabolism could be perfected—a trait she would pass on to her offspring.

Dr. E. V. Saunders-Jacobs expressed the opinion that dental surgeons did not perform enough conservative work in young children.

Mr. J. F. Pilbeam, dealing with the point

raised by Dr. Jacobs, said that his experience had been that cases were referred from welfare centres only when the teeth were noticeably bad to the parent, therefore denoting a stage of dental disease which precluded all possibility of conservative treatment. In his clinic (Croydon) practically all necessary extractions could be performed on mothers either with local or continuous gas anæsthesia. He saw no justification for incurring expenditure in referring extraction cases to hospital as a routine measure, although he considered facilities should now be available in poor law institutions, should in-patient treatment be necessary. Mr. Pilbeam pointed out the possibility of the existence of gross dental infection without pain, and advised medical officers not to leave cases until pain developed, as judicious operative procedure, in his experience, caused no untoward effects during pregnancy or lactation.

Dr. Maitland Radford explained the scheme at the municipal dental hospital at Shoreditch, whereby mothers or pre-school children could obtain treatment when not covered by maternity and child welfare schemes.

The Chairman expressed some opinions on the effects of the feeding bottle, and enquired as to the cause of malocclusion.

Messrs. H. F. Metcalf and Bonython Webster replied to this query.

Dr. Grantley Smith, Dr. Agnes H. Nicoll and Mr. George Thomson, at the conclusion of the discussion, expressed their pleasure at so successful a first joint meeting.

THE YORKSHIRE BRANCH.

President: Dr. Gladys J. C. Russell, Asst. M.O.H. (M. & C.W.), Leeds.

Hon. Secretary: Dr. James Mair, M.O.H., Harrogate

An ordinary meeting of this Branch was held in the Town Hall, Wakefield, on January 19th, 1934, the President occupying the chair. Eleven members, including Dr. Charles Porter (President of the Society), were present.

The President reported the death of Mrs. Rabagliati, mother of Major Rabagliati, and the Hon. Secretary was requested to convey to Major Rabagliati the sincere sympathy of the Branch in his bereavement.

The members then proceeded to take part in the sessional meeting of the Royal Sanitary Institute, at which the President of the Society, as Vice-Chairman of the Council of the Institute, presided.

The Literature of Preventive Medicine.

Meat Inspection Handbook. A Guide to the Public Health (Meat) Regulations (Scotland), 1932. By GERALD LEIGHTON, O.B.E., M.D., F.R.S.E., Medical Officer (Foods), Department of Health for Scotland. Edinburgh and London: William Hodge and Co., Ltd., 1933. pp. 137. Price 6s. net.

That there should have been repeated appeals for a second edition of Dr. Gerald Leighton's book, when it became known that it had gone out of print, is easily understandable. The first edition was found to contain information of the greatest value to persons, not in Scotland alone but elsewhere, concerned in meat inspection and the administration of the law connected therewith, and when, with the passage of time, new legislation appeared, the necessity of learning what the handbook had to say about it set readers in search of a new edition.

In that now issued, for which a warm welcome is assured, Dr. Leighton has brought the matter up-to-date by entirely re-writing it. New matter has also been added, more particularly for the benefit of inspectors and calculated to be of use to them in preparing reports. A useful addition, too, is a set of suggested approved forms of records for use in public abattoirs and private slaughterhouses. The handbook is most strongly recommended to those for whom it is intended.

Food and Character. By LOUIS BERMAN, M.D. London: Methuen and Co., Ltd., 1933. pp. 384. Price 8s. 6d. net.

According to the title-page of this volume, Brillat-Savarin, described by its author as "the great French philosopher of the cuisine," once said: "Tell me what you eat and I will tell you what you are." More succinctly, again according to the title-page, Ludwig Feuerbach, in 1850, put it that "man is what he eats." Of the truth of these statements, Louis Berman, M.D., appears to be convinced, and he sets forth to prove it in his book. This he does by discussing very systematically the fundamental discoveries in food research, and considers them in relation to the function of the different foods and the construction of a diet. The ductless glands come in for a great deal

of reference, and the book, which is claimed to be revolutionary, just as Dr. Berman is claimed to be a celebrated gland expert, sets out to show that they are dictators both of the human mind and the human personality, though it is his view that the distinction between mind and body should be abolished altogether.

The book is dedicated to Professor William J. Gies, in whose classes Dr. Berman claims to have first learned of biochemistry.

A DISCUSSION on "Maternity and Children's Hospitals" will be opened by Mr. A. Saxon Snell, F.R.I.B.A., at a sessional meeting of the Royal Sanitary Institute to be held at the Central Middlesex County Hospital, Acton Lane, Willesden Junction, London, N.W.10, on Saturday, March 10th, 1934, at 10 a.m. The chair will be taken by Dr. George F. Buchan (Chairman of the Council of the Institute). After the meeting the members will be conducted over the new children's wing of the hospital.

THE National Baby Week Council, which offers for annual competition silver challenge shields and other awards for the most novel and effective maternity and child welfare propaganda conducted during the year, announces that Northampton secured first place for 1933 amongst the great towns for which the "Astor (1931)" shield is reserved. As Northampton, having won this shield for 1932, is ineligible under the regulations governing the competition to hold it for two years running, it will be held for the present year by Rothwell (Yorks.), the next in order of merit. The success of Northampton is to be recognised by the presentation of a special certificate of merit. The "Kettering" shield, the second award for the large towns, has been won by Sunderland. For areas of population of 15,000 and less, Bungay (Suffolk) secured the "William Hardy" shield. Buckhurst Hill (Essex) was second in order of merit, thereby winning the "Gwen Geffen" Rose Bowl. Gloucester, Middleton (Lancs.), Darlington, Wealdstone, Forton (Gosport), Lane End (Bucks.) and East and West Molesey were all highly commended. The awards will be presented on the occasion of the annual meeting of the National Baby Week Council on March 14th, 1934.

teeth are capable and upon which the arrest of caries depends.

From the report it is gathered that there are two main conditions which control the onset of dental caries—the better the teeth are formed, the more resistant they are to caries; and, independently of structure, the resistance of teeth to decay is directly influenced by the constitution of the diet. The chemical agencies in food which lead to the formation of well-calcified teeth are, at least in part, the same as those which increase or maintain the degree of immunity to caries shown by the teeth in later life. The knowledge available as to what foods produce well or badly calcified teeth can therefore now be applied also to make the developed teeth resist decay, and often, indeed, to arrest decay in teeth already attacked by the disease.

Of the practical importance of Mrs. Mellanby's researches the Medical Research Council have no doubt. In her own mind there is no question that she has established that perfectly calcified and regularly arranged teeth can be produced by including in the maternal diet during pregnancy and lactation, and in the diet of the offspring at the time of dental development, substances containing much fat-soluble vitamin, calcium, and phosphorus such as milk, egg-yolk, fish and animal fats. Vitamin D also can, she shows, be obtained by exposure of the skin to sunlight or other sources of ultra-violet radiation; while cereals, especially those rich in embryo such as oatmeal, tend to produce badly developed (hypoplastic) teeth and call for a correspondingly larger supply of calcifying foods for good development. It has been further established that the teeth of the majority of children in the British Isles are imperfect in structure and have a roughish surface; that dental caries is more likely to attack such teeth than perfect teeth with normal enamel and dentine and a comparatively smooth surface; that the resistance of teeth to caries can be increased independently of their original structure by giving a diet of high calcifying activity; and, on the other hand, that the resistance can be decreased by a diet rich in cereals and of low calcifying properties.

Another outstanding feature claimed for the experimental work was the demonstration that a deficiency of vitamin A or carotene played an important part in the development of the periodontal tissues and in the control of the onset of periodontal disease including pyorrhœa. Up to the present time these observations have not been applied to man, but that they can be so

extended is strongly supported by the distribution of this disease in different races. For example, it is found that natives in many tropical regions are nearly free from caries, but are subject to periodontal disease when their diet consists largely of white maize and little green vegetable and their bodies are exposed to sunshine.

In order to reduce substantially the incidence of dental disease, especially in temperate zones, it is necessary to introduce large changes in the diet and habits of pregnant and lactating women, of infants, and of children during the whole period of dental development and, indeed, during the whole life. The consumption of milk, eggs, cheese, animal and fish fats, and vegetables must be greatly increased and the consumption of cereals correspondingly diminished, and, for the very young, abolished. Breast-feeding must be general and prolonged even up to a year or more, provided a supplementary diet is given after about six months, which should include some iron and vitamin C. Cod-liver oil or some other source of fat-soluble vitamins should be given to all infants and children.

The final words of Mrs. Mellanby with regard to these general principles of feeding are that they "will certainly result in the formation of more perfect teeth, and surrounding tissues, more regularly arranged in well-grown jaws." And lastly, there is a consequence that "with better structure of dental tissues and increased resistance to bacterial invasion there is every reason to believe that both dental caries and pyorrhœa will cease to be the scourge they are at the present time."

* * * * *

Research in London County Council Hospitals.

THE thirty-nine papers and reports issued for publication in the medical supplement to the report on the hospital services of the London County Council* have reference to a wonderfully varied series of subjects. From the special sections come half a dozen, some short, others of a greater length, on, amongst other matters, the care of the squinting child; statistics of a thousand cases of pulmonary tuberculosis; and an unusual toxic effect of sanocrysin. The tuberculosis section, through Drs. Bardswell and Bentley, contributes further to the discussion

*Annual Report of the Council, 1932. Vol. IV (Part III), No. 3,013. London: P. S. King & Son, Ltd., 14, Great Smith Street, S.W.1. Price 5s.

on the subject of pulmonary tuberculosis in young women, and the part played therein by modern social conditions, and provides an interesting review of the rôle of settlements in the tuberculosis treatment scheme.

Naturally, the great bulk of the papers deal with clinical matters and come from members of the County Council staff engaged in the general hospitals. Among papers from this source, several are of surgical interest mainly, the minority perhaps treating of more purely medical matters. A note on autogenous infection in relation to puerperal morbidity by Dr. Kelson Ford of St. Olave's Hospital, contains evidence in support of the view that "latent septicæmia" may be responsible for, at any rate, some cases of puerperal septicæmia. The writer also shows that coliform organisms may give rise to severe infections.

Dr. Letitia Fairfield, who contributes the only two papers on maternity subjects, in one of these—"Maternal Deaths in the Council's Hospitals"—refers also to the question of puerperal infection, pointing out that, among 11,241 women confined, the deaths from sepsis numbered 12 (1.05 per 1,000). The rate in 1931 was 2.0 per 1,000. An analysis of the figures shows a marked improvement in the most regrettable class of death, i.e., those from sepsis after normal labour conducted in the Council's hospitals. In 1931, there were 7 such deaths, all in different hospitals. In 1932, among 1,000 more births, there were only 3, the result of an unfortunate spread from a virulent staphylococcal infection of the breast, admitted into one hospital. The remainder all followed complicated labour. Dr. Fairfield in her second paper discusses the question of anæsthesia in normal labour, and shows that if crushable chloroform capsules, which gave results "sufficiently encouraging," were used, the cost per case could be considerably reduced.

Under the heading "Laboratory Methods," though it is difficult to understand why, in addition to a survey of the Wassermann and Kahn tests in ante-natal cases, there appears a note on toxoid-antitoxin floccules, alum toxoid and formol toxoid in immunisation against diphtheria. In this a very favourable opinion is expressed of the alum toxoid, though it is admitted that in cases where reactions are liable to occur, floccules are to be preferred.

Reports on special units discuss the work done at the radium centre for carcinoma of the uterus, the radiotherapeutic centre, the plastic surgery centre, the rheumatism clinic and the

goitre clinic. At all of these, it is shown, work of the highest scientific value and for the benefit of the people of London is being done.

The papers emanating from the other hospitals show that this is true also of them, and though the inclusion of other papers in the report might have indicated still further the extent of the benefit, obviously a limit had to be fixed. That Sir Frederick Menzies, under whose direction the compilation was carried out, was faced with an *embarras de choix* may be accepted; further, it may be taken that every paper bears witness to the excellence of his judgment.

* * * * *

The Measurement of Atmospheric Pollution.

DURING the year ended March 31st, 1933, according to the latest report on the investigation of atmospheric pollution*, 73 municipal authorities, 4 industrial undertakings and 1 agricultural institute took part in the observations. This is a total increase of 13 over the previous year, and for its part of the credit is given to the Society, and the commendation of the work of the Department of Scientific and Industrial Research in this connection conveyed in the Society's resolution passed during the year. It is further evidence also that, as the reports states, "public opinion is awakening to the fact that the smoke pall spread over our urban areas is not an act of nature to be tolerated as inevitable, but is the result of unscientific use of coal. Its removal is merely a question of the exercise of national forethought and will. The scientific investigation of the nature and amount of pollution is an important means of keeping the national conscience alive to the extent of the smoke evil."

Ninety-one gauges were in use throughout the country during the year, and full details of the results are given in the report, where it is emphasised that the degree of improvement or otherwise in the purity of the air can only be estimated accurately when the results for a particular year can be compared with an average figure taken over four or five years. Taking a group of 48 stations for which such an average can be determined, the report gives figures showing the average deposit for the year in its percentage of this average. Thus the deposit of tar was 14 per cent. less for the year reviewed than for the average of the last five years. The

*H.M. Stationery Office. Price 5s. net.

decrease in deposit of total solids was 11 per cent. The corresponding figures for the previous year were 20 and 14 per cent. respectively. The report concludes from these results that "improvement is still going on, but not at such a rate as during the previous year."

The tar deposit, that is, the sticky oily matter in the air, has decreased at 26 out of 48 stations, whilst the total solids deposited, including tar and all kinds of dust, has decreased at 39 out of 51 stations. It is interesting to note that whilst the deposit of tar has apparently improved less than any of the other constituents, the figures for sulphate show an improvement at about 74 per cent. of the stations having general averages. As these indicate the amount of injurious sulphur compounds in the air which are mainly responsible for the deterioration of buildings, these signs of improvement will be welcomed.

The gauge at Ravenscourt Park, London, again it is noted, shows a great increase in pollution by sulphates. The total deposit for the year there was at the rate of 107 tons per square mile, which is also the maximum at any one station. The minimum annual sulphate deposit was 10.7 tons per square mile at Temple Newsam, Leeds. The maximum annual deposit of tar was found at Bradford Central, which had 22 tons per square mile, and the minimum of 0.6 tons per square mile at Whitley, Dewsbury. The figures for the total amount of solids deposited in any gauge were a maximum at Netherfield Road, Liverpool, of 596.4 tons per square mile, and a minimum at Temple Newsam, Leeds, of 89.0 tons per square mile.

Records with the instrument known as the "automatic filter," which indicates the amount of impurity suspended in the air producing smoke-haze, have been made at 13 stations, 4 in London, 5 in Glasgow, and 1 each in Cardiff, Coventry, Kew Observatory and Stoke-on-Trent. Figures are given showing the days on which definite smoke-haze or fog was observed during the winter months (October—March), 1932-33, at any time in the 24 hours on any of the days on which observations were made. At Stoke-on-Trent, observations on 189 days revealed smoke-haze on 126; whereas at Kew, out of 187 days there were only 19 with haze. The presence of smoke fog, judged in this way, means that over 2.16 lb. of suspended dirty impurity was present in one million cubic yards.

Measurements of the amount of sulphur dioxide in the atmosphere were carried out at a

number of places. In most of these the result was a decrease in the quantity of sulphur gases in the summer as compared with winter. The results indicate Cardiff as being remarkably free from sulphur pollution, whilst the highest average concentrations appear to be at Newcastle, London (Westminster Bridge) and Barnsley.

One of the most important factors on which the case for smoke abatement rests is the loss of sunlight suffered in urban districts owing to smoke pollution. Useful information on this point is being collected at Halifax, where day-light determinations are being made at places where there are pollution-measuring gauges. The results show that in the year 1931-32 the more heavily polluted of the two stations, compared with the other, lost as much as 20 per cent. of sunlight, while in the year 1932-33, the corresponding loss was about 17 per cent. The figures quoted relate to loss over the whole year; in winter the proportionate loss is much greater. Results of the same general character are recorded in the report from measurements carried out at Salford.

Another matter of interest which has received attention during the year is that of fumes from motor vehicles, and the conference of the bodies co-operating in the investigation called the attention of local authorities to the need for more extensive data than are available at present on this subject. In order to obtain these the research committee have suggested that local authorities should consider the advisability of making occasional determinations to learn whether under abnormal conditions, such as during foggy weather, concentrations of carbon monoxide occur at busy traffic centres greater than are generally supposed. Methods of observation suitable for such occasional observations are already well known, so that there was no necessity to enquire into the matter of developing new methods.

Taking it all round, this report may be regarded, like its predecessors, as providing strong proof of the need for continued effort to deal with the problem of atmospheric pollution. Being so, it is a publication certain of the approval of members of the public health service.

DR. MARGARET McDONALD MILLER of the Keighley health department, has been appointed Assistant Medical Officer of Health for Wood Green at a salary of £550, rising to £700.

The School Dental Service.

By ANDREW DAVIDSON, M.D., CH.B., D.P.H., Deputy Medical Officer of Health, Surrey County Council; and C. DOSWELL WALLIS, L.D.S., Dental Officer (Schools and Maternity and Child Welfare), West Sussex County Council.

These two papers served to open the first symposium of a session to be devoted to symposia arranged by the various Groups within the Society, and to be presided over by the President, supported in the Vice-Chair by the President of the Group concerned. On this occasion, two Groups taking part, Dr. Oscar M. Holden, President of the School Medical Service Group, and Mr. C. Doswell Wallis, President of the Dental Officers' Group, in addition to contributing notably to the discussion, acted as Vice-Chairmen. The meeting was held at the house of the Society on December 15th, 1933.

DR. DAVIDSON.

THE school dental service continues to grow in importance as an essential unit of the school medical service of this country, and if any justification of its existence is required, it is supplied by the single fact that 69 per cent. of the school children inspected dentally in 1932 were recommended for treatment. Its need is fully recognised, as facilities for dental inspection and treatment of school children are available in the areas of practically all education authorities. The inception of the dental service, as indeed of the school medical service, became necessary to ensure that school children were in such a condition of health as to derive full benefit from the education supplied by the authorities. While its origin was due to educational requirements, it soon became evident that it was a public health measure of far-reaching importance, as its effects have the wider application of aiding, very materially, to ensure a higher standard of health in the community, with all the obvious benefits to industry and to the State.

The importance of dental work was emphasised in 1919 by the Departmental Committee on the Dentists' Act. After indicating its grave concern regarding the enormous amount of preventable sickness and chronic invalidity resulting from the effect of oral sepsis and decayed teeth, this Committee expressed the following opinion:—

"The State cannot afford to allow the health of the workers of the nation to be continuously undermined by dental neglect. Steps should be taken without delay to recognise dentistry as one of the chief, if not the chief, means of preventing ill-health, and every possible means should be employed for enlightening the public as to the need for conservative treatment of diseased teeth. The dental profession should be regarded as one of the outposts of preventive medicine, and as such encouraged and assisted by the State."

The dental service is now recognised as an essential and most valuable part of the public health service, although its functions are still capable of further extension within that service.

The Dental Service in relation to other Public Health Functions.—The dental schemes of local authorities have originated and developed as part of the school medical service, but in many areas there has been an extension to include dental work within the maternity and child welfare scheme, while in some districts dental treatment has been afforded to tuberculous persons.

The organisation of dental inspection and treatment is a public health activity and should be considered to be similar to other special branches of preventive medicine, its usefulness being spread over the wider sphere of public health. In the early days of the school medical service, when the need for dental work was established, the duties of organisation and supervision of a scheme for dental inspection and treatment were placed on the school medical officer. Since these days, however, there has developed a new orientation in public health work, as indicated by an increase in volume and a change in character of the health functions of local authorities. In all county and in many municipal boroughs the school medical officer is the medical officer of health, and both maternity and child welfare work and school medical work come within his purview, so that continuous supervision of the child from birth to school leaving age is secured. In the counties, however, certain urban district councils are autonomous for maternity and child welfare work, and if they have dental schemes in association with that work, the result is that two authorities perform dental work in the same district—one for school children and one for pre-school children. In those districts where it is possible, the

sphere of the school dental surgeon should be extended to include other public health functions. He then becomes a unit in the public health service, and his work should be undertaken in close co-operation with the other officers, such as the assistant school medical officer, tuberculosis officer, and medical officers of the maternity and child welfare centres. This co-operation needs no emphasis, but its importance should never be forgotten, as the aim and object of all public health measures are directed towards prevention. The prevention, alleviation or removal of a morbid condition may be ensured by the appropriate dental treatment, and obviously the earlier this is undertaken the greater is the measure of success.

Principal Requirements of an Efficient School Dental Scheme.—A 100 per cent. efficient dental scheme is difficult to construct, as there are factors in dental disease which render it difficult to deal adequately with the problem, e.g., dental disease is the most widespread of all defects found in the community; its onset is insidious, so that the disease has developed before clamant signs and symptoms have made their appearance; the child inspected and treated to-day may have trouble in other teeth in a short time; the causes of dental caries may be secondary, not primary, to other morbid conditions, while they may be caused by errors of diet or other factors. When it is possible to define exactly the causes of dental caries, preventive medicine will have made one of its greatest advances, and then all efforts will be concentrated on prevention.

The organisation of dental schemes has as its object, within the limits of present knowledge, the prevention of dental caries and thus the removal of its influence as an ætiological factor in disease. The effects of a sound scheme should be to send the children forth, at the termination of their school life, with sound teeth and with a knowledge of the principles of oral hygiene.

The details of schemes may vary but the main ideas governing all are :—

(i) Dental inspection with a view to accurate and early ascertainment of the presence of dental disease.

(ii) Appropriate treatment—radical or conservative—given at the earliest opportunity.

(iii) Regular re-inspection.

(iv) Following-up to ensure that treatment is undertaken.

(v) Education in dental hygiene.

The administration of dental work is properly accomplished within the general public health

service in co-ordination with other branches of public health. The actual inspection and treatment are best done by dental surgeons who are specially equipped professionally for the work, and it is desirable that the person who inspects should treat. The inspection of teeth by an assistant school medical officer cannot be recommended on any ground, as he is not properly trained for the work, nor has he the time in large medical inspections to spend on the detailed examination of teeth and its recording. Furthermore, the assistant school medical officer only inspects a child, medically, three times in his school life, but dental inspection or re-inspection should be annual. The doctor's main functions in connection with a dental clinic are to refer to the dental surgeon those children with medical conditions which might be improved with dental treatment, and to assist by the administration of general anæsthetics at the clinic.

It is obvious that the success of a scheme, especially one dealing with young children, depends on the dental surgeon. Not only must he secure the confidence of the child, but he must be acceptable to the parent, so that he may succeed in obtaining consent to the necessary treatment. The best type of professional man should be attracted to the service, and this can only be secured by offering good conditions. There is so little prospect for the dentist in the public health service that many are deterred from entering, so the establishment of more senior posts, such as senior dental surgeons, would be an incentive. The further development of the public health dental service may bring with it more such posts.

The clerical part of the dental work, although unfortunately necessary, is doubtless a source of annoyance to the keen dental surgeon anxious to proceed with his actual clinical duties. In some districts, dental attendants are employed; they attend at inspections and clinics and relieve the dentist of much clerical work, leaving him to concentrate on his purely clinical efforts. Where dental attendants are utilised, the trained school nurse does not work with the dentist, and it is argued that her time also can be better spent than at a dental clinic. The arrangement is economical but there are times when the services of a trained nurse are invaluable, e.g., at a gas session or during a hæmorrhage. Yet, in private dental practice, the dental surgeon usually employs the dental attendant, often trained by himself, and apparently with satisfactory results. In areas where dental attendants

are employed, the results have also been satisfactory, and there is a tendency to develop the practice elsewhere.

Dental treatment should be "conservative and constructive and not palliative," so that the child may have healthy and efficient teeth. It need scarcely be mentioned that indiscriminate extractions may have a serious ultimate effect on the formation of the child's mouth and, perhaps, on health. Such conservative treatment, however, means that the number of children treated is reduced in proportion to the amount of such treatment undertaken. In the complete dental scheme mentioned in the annual report of the Chief Medical Officer of the Board of Education for 1930, it is stated :—

"To complete a school dental service, inspecting every child annually, offering treatment to all who will accept, and carrying out all the necessary conservative and other treatment, would necessitate, at the present time, a total staff of 1,300 dentists (i.e., about 1 to 4,000 of the school population), an increase of 800 on the existing numbers. As the work developed and measures for educating the parents and children were increasingly successful, the numbers attending the clinics would steadily increase to a stage at which they would include nearly all those referred for treatment, and a school dentist, instead of being able to deal with 4,000 children, would be able to undertake the care of 2,300 only."

The ideal scheme rests in the distant future, but this quotation does indicate that the present organisation is far removed from the object to be aimed at.

In a properly organised dental scheme it is important to provide adequate and convenient premises for treatment, with special attention to good lighting. Dentistry is a branch of surgery and should be treated with becoming respect; the operator should have all facilities to enable him to work aseptically. The urban districts are more favourably situated than the rural districts, where dental surgery has often perforce to be undertaken under primitive conditions. The mobile dental unit has helped to secure better conditions in rural districts. In some areas the mobile unit deals with inspection and treatment in a small country school on one day. Dental inspection followed by immediate treatment is the ideal method and should be arranged, if possible. The problem of distance complicates county dental administration, e.g., the dental surgeon may have a wide area which only permits him to attend, say, once monthly at a small treatment centre. Any child requiring three or more treatments may have to wait for three or more months. The establishment of large centres in country districts is expensive to

parents from the outlying areas, but ways and means are often found, chiefly through voluntary agencies, to bring the child to the larger centre if many treatments are necessary.

One most important essential of a sound scheme is education in dental hygiene. Comparatively little attention is paid to this aspect of dental work and, in fact, to propaganda in all public health work, that emphasis is necessary. In the early days of dental schemes, tooth-brush parades and lectures on dental hygiene were features of the school routine in many districts, but nowadays attention is concentrated on treatment sessions and the necessary inspections. Dental surgeons and their assistants, particularly school nurses, can exert a strong influence on parents and children to secure the appropriate treatment, and they can instil into them the principles of oral hygiene with a view to preventing dental disease in later life. Friendly co-operation with head teachers and assistant teachers is also a valuable measure of propaganda. The exhibits of the Dental Board are of considerable interest, and the talks on these exhibits, given by one of the Board's lecturers, are of great assistance.

The Surrey Scheme.—The dental scheme in Surrey has passed through an evolution from two full-time dental surgeons with sixteen clinics in 1914, when the school population was 68,200, to thirteen full-time dental surgeons in 1933 with 38 clinics and a school population of 82,827. In addition, there are now twelve maternity and child welfare dental clinics in the county. The Surrey problem is complicated by the abnormal growth of population, viz., 10,000 additional school children in the last two years, and still increasing.

The county is divided into thirteen dental areas, and in those areas where the county council is the maternity and child welfare authority the school dental surgeons give a portion of their time to maternity and child welfare work, including dental treatment of children under five years and of expectant and nursing mothers.

Schemes of dental inspection and treatment for both elementary school children and secondary pupils are in existence, and the number of children allotted to each dental surgeon varies between 5,000 and 7,000, depending on the character of the area. The figure of 7,000 is higher than that aimed at, but the recent growth of population in Surrey has been so rapid in certain areas.

Trained nurses are employed at the clinics

and assistant medical officers give the anæsthetic at gas sessions.

The clinic accommodation varies from rooms in village halls in rural districts to specially built clinics in eleven of the populous districts. More *ad hoc* clinics are in contemplation.

Every child is inspected once per year, and the stage has now been reached when treatment follows closely upon inspection.

The scheme works smoothly, but many minor difficulties constantly occur, *e.g.* :—

(i) How to deal with the "broken" appointment so as to conserve the dentist's time.

(ii) Changes in personnel.

(iii) Distances travelled by children in rural areas for treatment.

The initiative and enthusiasm of the dental surgeons usually overcome the minor difficulties which arise and which cannot be foreseen; and, very fortunately, in Surrey there is a very high standard of dental officer who has a keen interest in his work.

It is manifestly difficult to record in figures the benefits of preventive work. Statistics should be used with great hesitation, but the following figures are impressive :—

	Cervical Glands.	Anæmia.	Tuberculosis suspected.
1926.			
Recommended for treatment ..	174	234	27
Recommended for observation ..	844	83	109
	1,018	317	136
1932.			
Recommended for treatment ..	60	40	4
Recommended for observation ..	666	68	35
	726	108	39

These figures show an improvement in these particular conditions, and when one realises that the ascertainment is keener and there has been an increase in school population of 26 per cent., the improvement is more marked. This most satisfactory state of affairs may, of course, be due to several factors, but dental work is doubtless an important one.

In conclusion, dental organisation should be directed towards prevention of disease, and its place is in the comprehensive sphere of public

health work. Co-ordination of all branches of this work is necessary, and is best accomplished by unified control through the medical officer of health. The medical officer of health in large areas, however, has need for assistance in controlling and guiding the clinical work of the dental surgeons. The appointment of a senior dental surgeon on the same level as senior officers of other branches becomes necessary. Such appointments would give dental surgeons an outlook beyond routine work, and perhaps make the public health service more attractive to them.

In no branch of public health is propaganda more likely to bring good results than in dental work, and dental surgeons, assistant medical officers, nurses, and teachers should combine to advance the education of parents and children in oral hygiene.

MR. DOSWELL WALLIS.

The great importance of the school medical and dental services lies in the fact that during the most impressionable period of life, the bulk of the children of the nation are gathered together in an accessible way. Both before and after school-age it is vastly more difficult to approach them. This makes the consideration of the organisation and administration of such vital services of great interest.

A number of years ago the educational authorities in this country started to realise that efforts to train scholars under their care were minimised or, in some instances, defeated by various physical defects and ailments that rendered the children to a greater or less extent incapable of taking full advantage of the instruction given in school by their teachers.

In an endeavour to remedy this state of affairs, medical officers were appointed who soon found that they could carry out their duties more efficiently with the assistance of various experts and specialists. So the position arose that the chief school medical officer was allowed a staff of school doctors, and the assistance of a number of specialists for attention to affections of the eye, ear, nose and throat, teeth, deformities, mental defects, and the like.

This accounts for the status of the school dentist, who is responsible, first to the school medical officer, and through him to the education committee, and leads to the anomalous position that the dental officer is not part of the public health organisation but of the educational system.

As the time at the dentist's disposal was limited, the number of children great, and the defects in their mouths very numerous, it was, at first, thought well to restrict dental treatment to an age-group (six to eight years), it being supposed that special attention to the molar teeth erupted about this age was of paramount importance.

The scope of the dental officer's work, however, soon expanded, partly because those children who received attention were followed-up at subsequent inspections, and because casuals, specials and younger children were also included, so that gradually most of the children attending the schools came within the dental scheme. Further, as teeth are in most instances sound when erupted, and caries develops at some subsequent time, it was but reasonable to take care of them from the earliest age possible.

This led to dental schemes being extended so as to include the babies in attendance at welfare centres and similar organisations for the care of the pre-school child. Growing quite naturally from this came the offer of the dental surgeon's services for mothers and prospective mothers. In some instances provision has also been made for dental care of adolescents between the time of leaving school and eligibility for national health benefit.

Scope of Dental Officer's Duties.—Thus, the actual field covered by a "school" dentist has, in many instances, quite outgrown its original limitations to education and schools, and may cover attention to individuals from early babyhood to advanced adult age.

Status of the Dental Surgeon.—Surely the time has come when this growth should receive official recognition. A number of difficulties would be automatically swept away if the dental surgeons were attached to the staff of the medical officer of health and not to that of the school medical officer, and their work recognised as being "public health dentistry," rather than "school dentistry."

The dental surgeon is included above with the other specialists, though in some respects he is in rather a different category. Dentistry is, distinctly, if perhaps unfortunately, a profession apart from medicine and surgery, with its own traditions, training schools and ideals.

In school and public health work the numbers requiring dental attention are very different from those for other ailments. Whereas some 15 per cent. to 20 per cent. only of the children inspected are reported as needing treatment for some kind of ailment, about 90 per cent. need

dental treatment (if they have had no previous attention), and even amongst those previously treated some 50 per cent. show defects at subsequent inspections.

So that dental defects are about four times as common as all other defects, reported by the medical examiners, taken together.

The other specialists usually find employment for short periods, as compared with the employment by a dental department of the services of a number of full-time dental officers throughout the year.

These considerations make the position rather different as between school dental surgeons and other specialists, and it is desirable in the interests of the service to put the dental department under the direct charge of a chief dental officer, of such age and experience as to be capable of organising and administering a complete dental scheme.

There are those who do not consider that experience is an important asset, but rather favour the employment of newly-qualified dental surgeons, holding that they are more up-to-date and instructed in modern technique.

As the science of dentistry is advancing with great rapidity, there is something in such a contention; this point could well be met by arranging for school dental officers to attend post-graduate courses in order to study the latest developments. That such courses do not, in fact, exist should not prove any hindrance, as with the demand for such instruction, arrangements could easily be made to meet it; at the same time it would be of great value to institute courses in public dentistry, so that newly-qualified practitioners might have the opportunity of learning the routine of this speciality.

At present, most dental services are under the control, nominally, of the school medical officer, who is, not infrequently, also medical officer of health, and may hold other appointments. Naturally his interests are catholic and divided, his duties multifarious, and his outlook "medical," so that but a small proportion of personal attention can be devoted to dentistry.

This leads, in actual practice, to much of the organisation being left in the hands of the office staff, and such an influence, with its inelastic routine and outlook statistical rather than psychological, must inevitably have a paralysing effect on the whole venture.

Organisation and Administration.—The organisation and administration of any scheme of school or public dentistry should be as simple as possible. This is quite possible, though it is

sometimes difficult to convince that simplicity and efficiency can go hand in hand.

To obtain a true conception of the lines along which to proceed, it is well to recall the underlying principles upon which the practice of dentistry for children should be based :—

1. Diseased conditions should be remedied, and all damaged tissue removed.

2. Restoration of function should be as complete as possible (this should include orthodontics).

3. Prevention should be aimed at (this should include persistent propaganda).

4. Good habits should be established (this should include questions of diet, correct methods of eating and exercise for the mouth and associated parts, the toilet of the mouth, and the knowledge that the dentist is really their very good friend, to whom to go regularly for advice and help).

In planning dental schemes, generalisations are not possible, and may lead to difficulties and misunderstandings.

Confusion arises between the needs of, and what can reasonably be accomplished in, metropolitan, provincial, urban, suburban, rural and mixed areas, it being commonly, though quite wrongly, supposed that because some method or line of procedure has proved a success in one area, it can be applied with equal success in other districts.

Again, confusion arises between schemes for complete attention given at short intervals to every child in every school in a given area, and partial schemes where this care is limited, either to certain age-groups or to particular schools or districts.

Present Conditions.—The present chaotic condition of the school dental service would appear to be attributable to a variety of causes, being due, amongst other things, to the fact that in the beginning a small number of pioneers each evolved schemes and methods for dealing with the dental problems as presented in the particular districts or schools (both elementary, industrial, and poor law) of which they were in charge; working more or less independently; and having to originate methods, instruments, apparatus, recording systems, etc., but with little or no previous experience or information to guide them.

Such schemes, often excellent for the circumstances for which they were designed, were copied by inexperienced folk and applied under different and often quite unsuitable conditions, with unfortunate results.

Many schemes have been handicapped by the traditions of the school medical service, and by the addition of all sorts of unnecessary and unsuitable details.

The employment of private dental practitioners for short periods is also at times a handicap, as they take no interest in the administrative side of the work.

Co-ordination of Schemes.—Most of these difficulties would disappear if dental departments were under the charge of a chief dentist, and co-ordination between the schemes of one authority and its neighbours could be attained by the appointment of regional dental officers (perhaps some half-a-dozen for the whole kingdom), whose duties would be administrative with the object of securing greater uniformity throughout the country. Dental surgeons should also be attached to the Ministry of Health, who could assist in this work of co-ordination.

Publicity and Education. No matter how kindly and expert the dental officer in charge of a clinic may be; no matter how excellent the treatment and advice given, or how satisfactory the results obtained, it still remains an incontrovertible fact that one of the main factors in getting the children to come along for treatment is the influence of the head teacher in the school itself, and, to a lesser extent, the influence of the nurse in the home.

From this follows that it is most essential to make sure that both teacher and nurse are themselves well instructed in all details bearing on the subject, so that their influence may be used in the right direction and to the greatest good.

Municipal authorities, education committees and others, should also have the importance and usefulness of dental care kept before them, and so too should parents and the general public.

Accommodation.—The accommodation provided at many treatment centres, more particularly in country districts, leaves very much to be desired.

This is the more to be regretted, as such clinics should be in the nature of an "object lesson"—cheerful, well-equipped and clean, on lines similar to those obtaining in a good-class private practice, rather than on the colder and more unfriendly model of a hospital.

Now that central and senior schools are being built in so many places, it would seem to be a favourable opportunity to press for the inclusion of rooms for use as clinics, both for dentistry and minor ailments.

Conferences.—It would be time well spent to

arrange (say quarterly) conferences between the professional staff, head teachers, nurses and school managers, at which points of interest could be discussed and ideas interchanged. Such meetings would keep the importance of the medical service and dentistry constantly in the foreground, and form a means of clearing up all sorts of minor doubts and difficulties.

A judicious selection from a record of their proceedings would make more interesting and instructive reading in the annual reports than a mere list of somewhat bewildering statistics and tables.

It is also an added advantage for the chief dental officer to present his report separately from the general medical report.

Appreciation of Dentistry.—The innovations suggested above should help to excite a greater appreciation, in the minds of parents, of the benefits received by the children.

There is a fairly widespread impression that as the attention to the children's needs is provided at a merely nominal charge, it must, in fact, be cheap and inferior. To combat this feeling, would it not be a useful proceeding to present each parent, at the conclusion of treatment, with a statement of costs, based upon the agreed scale of fees in use in connection with national health insurance?

Records.—The keeping of records should be as simple as is consistent with a full report of the conditions found and the remedial measures adopted. The avoidance of complication and redundancy must be pursued along the right lines. There would seem to be of late, a lamentable tendency to concentrate attention on the amount of tangible work done; failing to appreciate that the main and highest aspirations of dentistry should be to preserve all that is to the good, and to anticipate and prevent the occurrence of defects and deviations from the normal; in a word, the curtailment of actual surgical operations to a minimum.

To report that certain teeth require attention, and to let it go at that, is not nearly so important as a record of the number of "sound" teeth and efficient occlusion. For a mouth to be classified as "good," function must be in evidence to, at least, a reasonable extent.

The particulars entered on a well-designed "chart card" should be all that the dental officer is expected to write up personally. All further statistics, tables, etc., should be kept by the office staff. The most valuable asset that we possess is professional time and skill, and this should be conserved in every way possible.

Co-operation with other Branches of Public Health Work.—The closest co-operation between the dental side and other branches of public health work is essential to success.

There can be nothing more disturbing to that confidence which it is so needful to establish between the public, general practitioners and the health services, than any hint that we speak with other than a united voice. Divided councils and overlapping are alike to be avoided.

School doctors should refer bad mouths to the dental department for diagnosis, advice and treatment, and not indicate any definite line of procedure as being necessary. Neither should a dental officer give any advice as to diseased tonsils, for example, but should refer the case to the medical clinic.

Mutual understanding and unity are strength, and together contentment and success; herein lies the very essence of true "team-work."

Prevention.—The highest efforts and ideals of medicine are directed towards prevention, and the first outpost of prevention is dentistry.

The mouth is "the gateway of the body," being a very important factor in nutrition, as well as the main channel of entrance for numerous infections.

The dental surgeon is "the guardian of the gate," through which constantly pass supplies of foodstuffs.

We ask that diet recommended shall be such as will leave as little debris behind as possible, and not be detrimental to the very fabric and structure of the "gate-house." The dentist strives to be a faithful "guardian" but has no desire to be constantly on "fatigue duty."

A mouth in perfect order is a sure shield against attacks on health, and dentistry the spear-point of attack against disease, but only the point, not the shaft, or the driving force behind the spear that makes its use effective.

It has been shown conclusively that where an efficient scheme of school dentistry is in operation, the incidence of minor ailments and general lack of cleanliness are noticeably reduced.

Conclusion.—Whilst we, as dental surgeons, ask that medicine shall give due appreciation to the importance of the mouth, and the great value and usefulness of dentistry, we realise that we are but a part of a great whole, every section of which must work in harmony, realising its own particular limitations, and striving to fit its own special niche in a general scheme.

Wise organisation and administration, coupled with tolerance and co-operation, leads to efficiency and real economy.

DISCUSSION.

Dr. J. Sim Wallace, reviewing the question of preventive propaganda, said: "Presumably, the first requisite for an 'organised scheme for propagation of a doctrine or practice' is to see that it is true and useful. The second dissemination of this true and useful knowledge should be made by recognised institutions or fit and proper individuals with established status. There are two institutions which may be considered as eminently suited for the dissemination of the knowledge required for propaganda for the prevention of dental disease, *viz.*, the Society of Medical Officers of Health and the Dental Board of the United Kingdom. Each of these bodies has issued leaflets which may be, and often are, used as a basis of instruction for nurses, child welfare workers, and the public. Unfortunately, trouble sometimes arises when two such institutions give different advice, and this you will remember happened some few years ago. Fortunately, the Dental Board in its later leaflets has fallen into line with the Society of Medical Officers of Health. Thus we now have a very important asset with regard to these two institutions, namely, unanimity, without which propaganda is useless or even harmful. It may be remembered that in the first decade of this century the dental profession introduced certain new ideas with regard to the prevention of dental troubles. Before this the only form of prevention was tooth-brush drill and antiseptic mouth washes. Gradually the importance of natural oral hygiene, brought about by suitable foods came to be appreciated by a few eminent medical men such as Dr. Harry Campbell, and later, about 1910, a few medical officers of health took up the subject. If my memory is right, the first was Dr. Sidney Davies, medical officer of health for Woolwich. He found that there were certain differences of opinion between the new school in the dental profession and the older 'calorie school' to which the medical profession usually adhered. On comparing the views of these different schools, although a medical man himself, he threw in his lot with the dentists. Similarly, the late Dr. James Wheatley, whose work will remain a most important landmark in preventive medicine, more particularly with regard to the prevention of dental disease as well as others of similar dietetic origin, stoutly championed the views of the dental school. It was largely on account of his enthusiasm and work that the Society of Medical Officers of Health joined hands with the new school of the dental profession and was responsible for drawing up the leaflet, authorised by the Council of the Society, with regard to the prevention of decay in teeth. Long before this, however, there was what might be called official recognition of the newer teaching of the dental profession, for from 1910 onwards till the appointment of the Caries Committee in 1921, Sir George Newman threw the weight of his authority into the movement. He tersely summarised authoritative statements which were to be found in the text-books on dental surgery, and among other things said, 'It cannot be too clearly emphasised that by far the most important factor in the production of dental caries in children is unsuitability in the character of the diet provided from infancy onwards. The immediate cause of the disease is the accumulation about the teeth, particularly in the interstices of the teeth and in the interdental spaces, of fermentable

carbohydrate material.' We are fortunate in having information which, I think, shows the satisfactory results of the early propaganda, and incidentally the fact that war conditions aided it in a very marked manner. Figures are also available with regard to school entrants in Cambridge borough. Other corroborative statistics might be given, but as far as I know those of Cambridge borough are the most complete.

"There are, however, other institutions which, though they may know little or nothing about teeth, are in the eyes of the public equally entitled to disseminate knowledge with regard to diet. This introduces a consideration of the lamentable fact that the medical curriculum is so framed that doctors pass out into the world by the thousands almost oblivious of any knowledge of the pathology of the teeth or the physiology of oral and alimentary hygiene. Our medical scientists, physiologists, biochemists, dietists, etc., are apparently all, *ab initio* at least, as ignorant of dental matters as I was when I graduated in medicine. They may pursue their special studies after graduation and come to know a great deal about food and the multitudinous changes it undergoes. Nevertheless, they seem to remain ignorant of many of the most noticeable and wonderful of nature's achievements. One which specially concerns us is that notwithstanding all the strange and varied diets upon which men or animals are generally compelled to subsist, if they can live on it to maturity at all, the form and microscopic structure of the teeth are always found to be the same, though differing greatly but very exactly according to the requirements of the species.

"It appears to be recognised that animals develop good teeth. Civilised man is supposed to develop 'bad' ones. Why? Biochemists, who know nothing about dental histology or developmental anatomy of the teeth, would apparently have us believe that all mammals or other animals with teeth get cod-liver oil or its equivalent, while the children of poor man—perhaps more properly we should say rich man—are deprived of this! The development and calcification of teeth have been carefully studied and certain facts of interest and importance have been elucidated. Calcification begins in the neighbourhood of the cusps, and after these are formed the calcification spreads downwards. No alteration or deficiency in food as consumed by man has ever been shown to alter this calcification or the thickness of the enamel. Certain diseases do so, and as a result of this the cusp or a zone of the enamel some distance from the neck of the tooth may be thin and badly formed, but on recovery the enamel is again laid down in normal quantity and thickness towards the neck of the tooth. Drastic attempts with rachito-genetic diets on dogs have been made in the attempt to influence the formation of the enamel and dentine but, notwithstanding claims made, without the slightest success. If biochemists had known that dentine and enamel were not formed horizontally inwards and outwards on the sides of the crowns of the teeth, I wonder if we would ever have been entertained with the beautiful photomicrographs, purporting to show the effect of cod-liver oil and deficiency diets, when in reality they only show that nature took not the slightest notice of these vagaries and simply went on forming thick or thin enamel and dentine, with or without interglobular spaces, according

to considerations not of what diet or drug was being given to influence the teeth, but with regard to the diet which the animal was to get after the teeth were formed.

"Just recently in a paper on 'The Problem of Dental Health Education,' the Director of Dental Hygiene in the Department of Health, New Zealand, after examining the views of biochemists, gently indicated that they would be best passed over in the meantime, and said, 'We would seem to be on reasonably safe ground if we continue to teach the public the principles that have already been widely accepted, namely, those based broadly on the avoidance of sticky refined carbohydrate foodstuffs, and on the consumption of fresh fruit, vegetables, etc., together with due attention to the various artificial aids to oral cleanliness. The main principles of this teaching were set forth some years ago in a pamphlet issued by the Society of Medical Officers of Health of Great Britain, and more recently in the educational books and pamphlets issued by the Dental Board of the United Kingdom.'

"Obviously, in order to get the unanimity which is so necessary, energetic propaganda should be instituted for the teaching of biochemists, physiologists and other experts concerned with the teaching of medical students. Without this the public will continue to be menaced by misleading propaganda emanating from pharmacologists, drug manufacturers, proprietary food merchants, dietists, biochemists and their followers in such a way that real progress with regard to the prevention of dental diseases and oral hygiene will be difficult; further, until the old spirit, which flourished on drugs for treatment, is superseded by the newer spirit which aims at prevention through rational hygienic methods, even so long will our efforts to teach the public be undermined."

Dr. Oscar M. Holden (Medical Officer of Health, Croydon) said he thought that Mr. Doswell Wallis was not quite correct in stating that the school dental service was not part of the public health service. He explained that the dental service was an important branch, but it was desirable that there should be a commander-in-chief at the head of the whole army of health services, who could, with his unbiased views, organise the various specialist departments and render them not only efficient, but arrange departmental co-ordination between them. While agreeing that the dental surgeon's area of interest in the body probably required more careful watching than any other, and that dental surgery had its own schools and traditions, the dental surgeons would doubtless realise they were only a part of a vast service to render the whole body perfect. Therefore, if the name "school dental service" could be dispensed with, this would be all to the good, as the dental surgeon would then feel himself to be more an integral part of the health service, rather than a member of an isolated branch.

Mr. Grantley Smith (Municipal Dental Officer, Bermondsey), dealing also with the question of the isolated status of the school dental service, said that at present the service, governed as it was by the Board of Education on the one hand and the Ministry of Health on the other, was in a curious position. Directors of education, school medical officers, and medical

officers of the Board of Education had not the expert knowledge to carry out inspections into the working of the service. It was desirable that the school dental service should take its proper position in public health, and not a subsidiary part in the school medical service. Tuberculosis and maternity and child welfare dental work were thrust upon the school dental officer, and at the moment he was under the Board of Education for one thing and not for another. In the case of maternity and child welfare this often made the position a difficult one, especially in view of the fact that the young child should be prepared for dental education in school life. All such activities should be confined to one department, controlled by its own superior, and responsible direct to the medical officer of health and the Ministry of Health.

Mr. D. E. Mason (Chief Dental Officer, Nottinghamshire County Council), dealing with the reference by Mr. Doswell Wallis to the present chaotic state of the school dental service, said: "In order to answer this question it is, of course, necessary to have knowledge, for comparative purposes, of the dental schemes of a number of representative local authorities; a knowledge which can be obtained to some extent by studying the dental sections and dental statistics contained in school medical officers' annual reports. A study of some fifty of these reports taken at random from the north, south, east and west, will bring to light that, in every aspect of school dentistry, there exist startling variations which cannot be by any means accounted for by varying local conditions. The only logical deduction, therefore, is that the dental statistics of any particular authority are peculiar to that authority, and cannot be used for comparative purposes with the dental statistics of another local authority. The reports convey many things, but probably the most important is that, speaking generally, far too many children are allocated to each dental officer, a fact which is at the root of the trouble. It is generally accepted that, in order to get the best value for money from any dental scheme, two factors must be recognised. The first is that the children under the scheme should be inspected (and treated, if necessary) at regular intervals, which do not exceed 12 months; the second is that the number of children allocated should be large enough to keep the dental officer continuously occupied, but small enough to enable him to give adequate treatment to each individual child. It is only by rigid adherence to these two factors that children's mouths will be maintained in a healthy condition without loss of teeth. In actual fact, we find that the numbers of children allocated to dental officers vary from 3,500 to 20,000 or more, and it is undoubtedly the honourable endeavours made by the dental officers to cope with this situation which have produced the state which our Group President calls 'chaotic.' To overload a dental officer must of necessity produce embarrassment by virtue of the fact that an officer who finds himself so placed must either take longer than 12 months to complete his circuit, or else spread his services to include this big number by giving inadequate treatment to the majority. Either alternative (or a combination of both) must result in the loss of permanent teeth due to decay, and surely one of the main objects of school dentistry should be to adopt a policy which will result in teeth being saved,

and not one which will result in their being lost through decay.

"The cure for any form of chaos is the adoption of law and order, in other words, standardisation, and I would suggest that the general adoption of a reasonable degree of standardisation of dental treatment schemes might do much towards producing a more efficient and certainly a more dignified service. By standardisation I do not mean that every dental officer in England should be instructed to do ten fillings on Monday morning, and 20 extractions on Monday afternoon, and so on throughout the week, but I do mean that each local authority might with advantage base their general dental policy in accordance with a policy that has been well tried in the balance and not found wanting. At the same time it must be borne in mind that rigid standardisation can be dangerous by confining activities to narrow channels, and thereby stifling originality and enterprise. How then are we to arrive at a reasonable standardisation which will be helpful towards constitutional progress, but which will not stifle the commendable efforts of the explorer? I would suggest that in order to do this we must carefully analyse our existing dental service. Such an analysis conveys that the service is made up of three parts—first, the treatment policy; secondly, the clinical work; and thirdly, the office administration. These three parts are separate and distinct entities, and yet they are inter-dependent, and weakness or failure of any one must upset the other two and, therefore, the service as a whole. The *treatment policy* is something which, if necessary, can be put into writing. It should convey, on broad lines, the general procedure to be adopted with all types of cases, but it must not interfere unduly with diagnosis, which is the sphere of the clinical officer. It should certainly define the goal at which the local authority wish the dental officers to aim. Sir George Newman, in his latest report once again most carefully sets out a treatment policy. The *clinical work* is, of course, the treatment which is actually done by the dental officers, and where a treatment policy is in existence, the dental officers will automatically adjust their work to fit in with this policy. If then, all local authorities would adopt a similar policy, we should already be several stages nearer reasonable standardisation. There remains one other factor, and that is the *office administration*; this should be woven round the others in a way which will enable the dental officer to carry out his treatment in accordance with the policy in a smooth, efficient and economical manner.

"It is very desirable that there should be one administrative head for all public health work—one man who can keep an administrative watch on the progress of all the different schemes and sections—but surely it is equally desirable that each individual treatment scheme, which is sufficiently large to justify such a procedure, should have a section leader, who, whilst working at all times under the chief administrative officer, should be made responsible for the smooth and efficient working of that section. A dental section leader must either be a layman, an assistant medical officer, or a dental officer. Laymen can, and do, carry out the pure administration to a high degree of efficiency, but they are not able to act as advisers on professional matters, neither can they enter into close professional contact with the clinical officers. An

assistant medical officer is certainly better placed as a dental section leader than a layman would be, but at the same time his lack of dental clinical experience must constitute a limitation to his capabilities. There only remains one other possibility, and that is for a dental officer to fill this position, and as the dental officer can combine actual clinical experience with his administration, I would suggest that each local authority which employs a staff of dental officers should make use of one of them as a dental section leader. Such a procedure, if generally adopted, would be in accordance with the recommendation of Sir George Newman; further, it would be a very gracious act on the part of chief medical officers, as each of such appointments would convey appreciation of dental officers' capabilities. At the same time, the chief medical officers would gain, simply by the fact that the dental treatment schemes would be under the critical eyes of senior dental officers, whose one wish would be that their own particular scheme should rank amongst the most efficient in the country.

"To sum up, I would claim that a reasonable degree of standardisation is very necessary, and can be obtained by the adoption of an approved treatment policy, and by the appointment of experienced administrative dental officers, who would maintain this policy."

Dr. A. A. E. Newth (Senior School Medical Officer, City of Nottingham) held that in wide areas, like his own county, it was exceedingly difficult for a medical officer of health to familiarise himself with all parts of the Service, and considered that the cost of altering the service so that the education committee had no part in it would be prohibitive. Dr. Newth said that Dr. Sim Wallace seemed to treat teeth quite apart from the body. That was an attitude that worked against co-ordination with other parts of the service. In Nottinghamshire the senior school dental officer was responsible for the dental scheme, as he felt justified in permitting such a specialist to carry out all the necessary organisation and administration in his own department.

Dr. Marjorie Back (Assistant County Medical Officer, Middlesex), speaking from maternity and child welfare experience in Surrey, urged that dental treatment should be pushed forward in spite of economic conditions. Continuity in the work was most desirable, and if treatment were delayed until the child was of school age many valuable years would be lost.

Mr. J. F. Pilbeam (Chief Dental Officer, Croydon) said that whether they were doctors or dentists, the general health of the school child was the main aim. It was easy to over-estimate one's own value as a specialist, and to forget the health of the child as a whole—a difficulty which could be overcome by joint meetings similar to that in which they were taking part that evening. Referring to Mr. Mason's remarks, he pointed out that in some parts of the country there was one dentist to 3,000 children, while in others there was one to 9,000 children. Those formulating school dental schemes would be well advised to start with a small number of children, taking in more and more as the staff increased. Expense, if necessary for the intelligent advancement of a scheme, ought not to stand in the way, as surely it was more economical to

appoint two dentists to treat properly 6,000 children than to have one dentist skimming over 5,000 or 6,000. Relatively, there was no greater expense with small urban districts than with big county areas; indeed, small urban areas often had better developed social schemes than many larger rateable districts. The whole question rested on gross understaffing of the service, and until the requisite number of school dental surgeons were appointed, it was advisable to restrict schemes to the treatment of smaller numbers.

Dr. T. P. Puddicombe, D.S.O. (Deputy County Medical Officer of Health, Essex), in proposing a vote of thanks to the opening speakers and to those who had taken part in the discussion, expressed agreement with Dr. Holden that the whole service should be co-ordinated under the medical officer of health. Most doctors would agree that the dentist should be in full control of the work within his department, but that the question of the administration of the scheme should rest finally with the medical officer of health.

Mr. George Thomson (Dental Surgeon, Royal

THE ROYAL SANITARY INSTITUTE.

DR. GEORGE F. BUCHAN (Chairman of the Council of the Institute) will preside at a sessional meeting of the Royal Sanitary Institute to be held at Portsmouth on Friday and Saturday, May 11th and 12th, 1934. On Friday, at 4 p.m., in the Guildhall, the Lord Mayor will welcome the members and entertain them to tea. At 4.45 p.m., there will be discussions on "The Housing and Slum Clearance Problem in Portsmouth," to be opened by Councillor A. E. Allaway, Chairman of the Health Committee, and on "Naval Hygiene," to be opened by Surgeon-Commander H. St. C. Colson, Naval Health Officer, Portsmouth Command. On Saturday, visits will be made to slum clearance and rehousing areas, the municipal hospital, tuberculosis dispensary, Haslar hospital, and places of interest in H.M. Dockyard.

A SESSIONAL meeting of the Royal Sanitary Institute, to be presided over by Dr. George F. Buchan (Chairman of the Council of the Institute), will be held at Bolton on Friday and Saturday, April 13th and 14th, 1934. On Friday, at 4.15 p.m., in the Town Hall, the Mayor of Bolton will receive the members and entertain them to tea. At 5 p.m., there will be discussions on "Public Baths in Relation to Health and Disease," to be opened by Dr. R. M. Galloway, Medical Officer of Health, Bolton (who is acting as Hon. Local Secretary of the meeting), and on "The Technique of Rehousing, etc., from Slum Areas," to be opened by Mr. Cyril H. Walker, Housing Director, Bolton. On Saturday, at 9.45 a.m., visits will be made to the Bolton waterworks, to public

Hospital for Diseases of the Chest), in seconding, particularly congratulated Dr. Davidson on possessing such a complete knowledge of dental schemes and the dentist's difficulties. The work of Mr. Doswell Wallis, particularly in relation to children, was also well known and appreciated by the whole service. Mr. Thomson stressed the need for greater co-operation between the maternity and child welfare and school dental services, for if dental disease was to be prevented, the child must be seen not later than at the age of two-and-a-half years.

Dr. W. G. Booth (Medical Officer of Health, Holland (Lincs.) County Council), supporting, asked why the Dental Board exhibitions had neglected the rural districts.

The President (Dr. Charles Porter), in conveying the votes of thanks, said that he had noted the remark of Dr. Booth, and, as the representative of the Society on the Education Committee of the Dental Board of the United Kingdom, would see what could be done regarding Dental Board exhibits in rural areas.

wash-houses, and to the Bolton sewage works, where there is an activated sludge plant.

IN connection with the Health Congress to be held this year at Bristol from July 9th to 14th, the Royal Sanitary Institute announces that the Presidents of the various sections and conferences will be as follow:

Preventive Medicine Section: Professor W. W. Jameson, M.A., M.D., F.R.C.P., D.P.H., Dean of the London School of Hygiene and Tropical Medicine.

Engineering, Architecture and Town Planning Section: Mr. R. G. Hetherington, O.B.E., M.A., M.INST.C.E., Chief Engineering Inspector, Ministry of Health.

Maternity, Child Welfare and School Hygiene Section: Dame Janet Campbell, D.B.E., M.D., M.S., late Senior Medical Officer, Ministry of Health.

Veterinary Hygiene Section: Professor J. T. Share-Jones, D.V.Sc., M.Sc., F.R.C.V.S., Director of Veterinary Studies, Liverpool University.

National Health Insurance Section: Mr. Frank Lewis, F.F.I., Chairman, Bristol District of the Faculty of Insurance.

Hygiene of Food Section (arranged in conjunction with the Food Group of the Society of Chemical Industry): Dr. L. H. Lampitt, D.Sc., Chairman of Food Group, Society of Chemical Industry.

Conference of Representatives of Sanitary Authorities: The Right Hon. Lord Mayor of Bristol (Councillor F. C. Luke, J.P.).

Conference of Medical Officers of Health: Dr. Charles Porter, President of the Society of Medical Officers of Health.

Conference of Engineers and Surveyors: Major Leslie Roseveare, O.B.E., M.INST.C.E., President of the Institution of Municipal and County Engineers.

Conference of Sanitary Inspectors: Mr. H. T. Perry, Chairman of the Sanitary Inspectors' Association.

Conference of Health Visitors: Mrs. H. B. Tate, M.P.

Ut Ita Dicam.

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

The Meeting of March 23rd.

From the point of view of attendances the ordinary meeting of Friday, March 23rd was disappointing. Particularly disappointing having regard to the fact that the Group responsible for arranging the symposium—the Maternity and Child Welfare Group—is one of the very live ones and always seems to be able to secure big and enthusiastic meetings. On that occasion, too, another reason for disappointment, surprise also, at the poorness of the attendance was in regard to the programme prepared. The subject set down for discussion was “Maternal Morbidity.” As opener there was Dr. Gladys Hill, Medical Officer, Ante-Natal Clinics, Shore-ditch. Having chosen so attractively, numbers of representatives, not only from the Group but from the general body of members of the Society, might have been expected. As it happened, however, the total attendance was the smallest of the three Group-arranged meetings so far held this session and the bulk of those present were of the Maternity and Child Welfare Group itself. Those who failed to attend may be assured that they missed a most excellent discussion. Dr. Hill's opening paper was a model of what such things should be: it was not too long; it was well balanced; and it offered a sufficient number of opportunities for those who desired to take part in the discussion, indicating the lines to be taken and the aspects of the subject that required greater elucidation and illumination than had been possible to the opener herself.

Maternal Morbidity.

Maternal morbidity as a subject was more or less due for discussion. As somebody indicated, indeed, there had already been enough of talk of the fatalities associated with child-bearing and it was time some of the equally important morbidities were brought under review. The great risk of discussing the possible illnesses and troubles that may follow parturition is, of course, that outsiders may attach more importance to them than those engaged in talking about them and in their discussion may intend; many magnify the dangers to such an extent that the true position is obscured and morbidity comes

to be regarded as almost an inevitable concomitant of child-bearing and a 4 per 1,000 maternal mortality rate as a gross understatement of the dangers to be run. In her opening paper Dr. Hill tried to keep as well to the front as possible that the process was a normal one and that risks and dangers in large degree could be obviated if there was proper preparation in the ante-natal period. If the provision made at ante-natal clinics, and the examinations carried out there, were reasonably adequate the chances that all would be well were correspondingly greater. More or less, those who followed Dr. Hill tried to sound the optimistic note also, though it must be confessed that the general impression created was less one of radiant motherhood, anticipated and realised, than could have been hoped. The main bulk of the suggestions having a preventive bearing had reference to the work that might be done at the clinics and the course to be adopted by ante-natal officers. Certain amusing references to what formerly happened in connection with obstetrics in private practice came from seniors who had had experience in general practice; the President's tales of the practitioner whose method of speeding things up at a confinement was to do a “Richard” (*i.e.*, turn, so named from “turn again Whittington!”), causing a considerable amount of rather horrified amusement. References to the risks of sepsis raised the question of abortion and led to a number of suggestions that something would “have to be done about” this by legalising it or otherwise.

Meddlesome Maternity.

As a matter of fact one of the rather astonishing things about the discussion was that there was so little talk of abortion. This, no doubt, was because thought was more for the mother who had gone through to the end and having borne a full-time child had sickness and suffering as part of her reward. The question, however, of how much of that suffering is due to what may be called “meddlesome maternity,” to distinguish it from “meddlesome midwifery,” is one worthy of consideration. Probably it is not too much to say that, amongst the poor, it is almost the exceptional infant that is other than “unwanted” and the exceptional expectant

mother who does not try in some way or another to prevent its arrival. That these attempts, no matter how elementary they may be, involving nothing more even than the use of strong purges or emetics, if unsuccessful, can fail to damage, in some degree, both mother and child is hardly to be believed. When interference is more determined the certainty of damage is greater and it was to cases of this sort that Dr. Joe, who spoke as Medical Superintendent of the North Western Fever Hospital of the London County Council, referred.

Control of Abortion.

It is the possibility of such cases also that prompts the suggestion that something in the nature not of legalisation but of control of abortion should be considered. It is all very well to talk of “criminal” abortion and to attempt to stop resort to the practice by bringing an occasional abortion-monger before the courts. This has been going on for a long time now and abortion is more rife than ever. Compulsion of this sort, it seems clear, will never prevent the woman who desires to rid herself of an unwanted baby from trying by hook or by crook to do so; and so long as she has the means she will find the crook ready and willing to help her. Infinitely better than merely compulsion and the associated punishment, would be control and compulsion.

The Abortarium.

In Russia, as is well known, abortion is now recognised as a method of birth-control and the abortarium is one of the institutions established since the revolution that seems to be working satisfactorily. As a result of its establishment and the provision of safe and skilled treatment it must be the case that many women must have been saved resort to improper and dangerous methods and the possibility of suffering and danger. Probably it could not be claimed that it had done away entirely with the unskilled abortion-monger. Even here, if views with regard to abortion were modified and control, somewhat on the lines of the abortarium were introduced, there would be women who, through fear or a desire for secrecy, would still resort to the abortion-monger. This is a risk that would have to be faced. In time, however, the tendency to avoid the unskilled and to seek the recognised practitioner or institution would become noticeable. If provision were made for penalising in some shape or form the woman who sought advice

or treatment through channels other than those provided by the authorities the opportunities of the abortion-monger and dealer in dangerous abortifacients would be correspondingly reduced. At the moment, the chances of recognition by the government are extremely remote; but the only real reason for resisting a temptation to consider the idea further here and now is that it leads too far away from the subject of Dr. Hill's paper and the excellent discussion that followed; and delays the expression of proper and well deserved gratitude to Dr. Hill for the pleasure she gave and the interesting talk she initiated. Dr. G. F. McCleary, who voiced the general desire that thanks should be accorded, actually was one of the few who adopted an optimistic tone, but in what he said he left no doubt whatever in all minds that real progress had been made and real improvement had been obtained. That, in fact, maternal morbidity was less in amount than formerly and that sickness and suffering for the mother were becoming less prominent as accompaniments of child-bearing as a result of the steady increase in the number of ante-natal clinics and in the work done by Dr. Hill and her colleagues of the Maternity and Child Welfare Group as part of the Health Service.

“THE National Food Supply and Public Health” will form the subject of a Chadwick Public Lecture to be delivered by Dr. John Boyd Orr, D.S.O., M.C., at the Royal United Service Institution, Whitehall, London, S.W.1, on Tuesday, May 29th, 1934, at 5.30 p.m. Sir Matthew G. Wallace, Bt. (Chadwick Trustee) will preside.

LIEUTENANT-GENERAL SIR HAROLD B. FAWCUS, K.C.B., C.M.G., D.S.O., D.C.L., M.B., K.H.P., has been appointed Director-General of the British Red Cross Society. Sir Harold Fawcus has had a distinguished career as an officer of the Army Medical Services, which he joined in 1900. He served in the South African War, and was awarded the Queen's and the King's Medal with Clasps. In the Great War he was six times mentioned in Despatches and received the C.M.G. and D.S.O.; he was also awarded the Croix de Guerre. In 1929 he was appointed Director-General of the Army Medical Services, a position from which he retired on March 1st, 1934, when he took up his duties at the Headquarters of the British Red Cross Society.

Congenital Hypertrophic Stenosis of the Pylorus.

By BASIL HUGHES, D.S.O., M.A., M.B., F.R.C.S. (ENG.), Senior Surgeon, Bradford Municipal General Hospital; Honorary Consulting Surgeon, Sick Children's Hospital, Bradford.

This paper, read at a meeting of the Yorkshire Sub-Group of the Maternity and Child Welfare Group, because it deals from the clinical point of view with a subject of some concern to them, will probably have its widest appeal amongst members of that Group. It is so attractively written, however, and so interestingly set forth, that other readers, whose orientation is more definitely preventive, will find it worthy of consideration also.

THIS condition appears to have been recognised as far back as 1788 by Bardsley, who describes a case of "Schirrhous of the Pylorus in an Infant." A century later it was taken up again by Hirschsprung, and of late years it has been referred to and much discussed by physician and surgeon alike.

Its ætiology is a matter of speculation, but there can be little doubt that the infant is born with the condition. The pyloric musculature is the tissue chiefly concerned for the time being, and it will be remembered that this is a landmark of sympathetic and parasympathetic overlap. The condition is practically confined to boy babies, and it attacks usually that bonny type of babe which at birth seems one of nature's finest productions. Further, it occurs most frequently in the first born, though this is not invariably the case. In view of other findings, an explanation would seem to be forthcoming in some sympathetic unbalance with a consequent upset in the balance of the endocrine secretions. It is of interest to note that in certain cases that have come to autopsy the suprarenal glands have been obviously enlarged. This has been noted on several occasions, although it is not a constant finding.

Pathology.—There can be little doubt that there are two elements at work producing the symptoms which characterise this condition:—

(a) Hypertrophy of the pyloric muscle.

(b) Spasm.

Spasm is not present at birth, but manifests itself only soon afterwards. Intake of food would appear to be the main factor in its production. Spasm not only affects the pylorus, for it occurs in the musculature of the pyloric end of the stomach which is seen to be hypertrophied, and in severe cases it attacks both duodenum and the small intestine. This latter is evidenced after the pyloric obstruction has been relieved. To

the naked eye, the pylorus presents as a cylindrical, hard, white, avascular tumour. When incised over the serous coat, the musculature is hard and brittle and is easily divided with the handle of a scalpel. Microscopically the muscle tissue is in excess, but scattered throughout it and varying in quantity in different individuals are bundles of fibrous tissue both of the elastic and inelastic variety.

The ratio of hypertrophy to spasm is important. If the hypertrophy be excessive, a very small element of spasm is sufficient to cause complete stenosis of the pylorus, and consequently no food can leave the stomach. In this case wasting is extremely rapid and constipation practically absolute. If, on the other hand, the hypertrophy is not excessive and the spasm is not severe, some food does get past the pylorus, though usually in insufficient quantities for the needs of the baby. In such instances wasting is not so rapid, and the child passes stools which usually contain a little mucus and are light and only partially digested. In cases of moderate hypertrophy with a moderate degree of spasm the effects of different food intake are of interest. Thus a baby may vomit diluted cow's milk, but retain for a variable period one of the patent foods. After a period the patent food is vomited, requiring another change which the stomach tolerates for a day or two, when it is rejected like its predecessor. In this way a host of different foods are tried; it may chance that one suits the child, but such a happy event is rare. It happened in one of the author's cases, when the parents, rather than let their baby be submitted to operation, took it home against better advice. They were told that the baby would almost certainly die, but this did not deter them. Six months later they brought this baby to the out-patient clinic loud in the praises of a condensed milk. In the slightest degrees of hypertrophy

the element of spasm predominates strongly. These are the cases in which careful and patient treatment can overcome the spasm, and these babies eventually settle down and do well without surgical interference. The stomach washings in this condition show an acid mucoid material, and its removal by lavage seems to have a very beneficial temporary effect upon the pylorospasm. A small feed left in the stomach after lavage will often pass the pylorus in cases showing moderate and advanced degrees of hypertrophy. This, however, is not lasting and the patient slowly wastes.

Symptoms will vary with the degree in which the hypertrophy or the spasm predominates.

In cases showing excessive hypertrophy with spasm, the three cardinal symptoms, "projectile vomiting immediately after a feed, rapid loss of weight, and constipation," are unmistakable.

The history is so typical: a bonny boy baby at birth, usually the first child, thrives on its feeds up to the tenth and seventeenth day. It then commences to vomit back, in projectile fashion, everything that it takes, and it loses flesh very rapidly indeed.

If the epigastrium be examined during the time that the baby is taking a feed (very dilute milk from a bottle) peristaltic waves can be seen travelling from left to right and it may or may not be possible to feel the hypertrophied pylorus.

Symptoms differ somewhat from the aforementioned when the pyloric hypertrophy is less marked. Vomiting commences about the seventeenth day, and frequently the medical attendant will order the babe to be weaned from the breast under the belief that the breast milk is at fault. The newly-substituted food is, perhaps, kept down for a day or two, when vomiting of a projectile kind commences anew. This sequence of events may happen with several changes of food. The child gradually loses weight, and the stools are only partially digested and contain small quantities of mucus.

Visible peristalsis is to be seen in the epigastrium, but the whole picture is of a more chronic nature than that of the former.

In extreme and even moderate cases a sample of urine shows the presence of diacetic acid in considerable quantity.

These babies are hungry and devour their feeds greedily.

Diagnosis.—Early diagnosis is essential. A boy baby, first born, healthy at birth, exhibiting projectile vomiting of his feeds, wasting, constipation or semi-digested stools, and visible peristalsis in the epigastrium while taking his

feeds greedily, should arouse suspicion of pyloric obstruction.

So many of these cases are sent into hospital diagnosed "marasmus" and the true diagnosis is frequently made in the medical wards. Today, fortunately, this condition is being recognised by midwives, and consequently treatment can be instituted at an earlier date than obtained a few years ago.

Prognosis is good in every degree of the disease provided it is recognised early. Extreme and rapid wasting, with a body weight at 5 lbs. or under, are of very grave omen. The operation for the relief of the obstruction, however deftly carried out, is accompanied with an extreme and usually fatal acidosis. In cases of the second and third grade, where wasting has been more gradual and which generally are more chronic in every respect, the prognosis is good, providing here the wasting has not been allowed to progress too far.

Treatment is both medical and surgical.

Cases associated with rapid wasting and constipation are surgical from the start, and the sooner the obstruction is relieved the better. These are cases of extreme hypertrophy.

With the second grade, or more chronic type of case, it is justifiable to temporise. A careful record should be kept of the baby's weight. Stomach lavage should be employed, and a small feed left in after lavage is complete. Under no circumstances should the baby be weaned, as the mother's milk is invaluable to its welfare and subsequent progress. The mother's milk can be drawn off with a pump and diluted if necessary. Small doses of belladonna may be given with a view to moderating the pylorospasm.

If, in spite of medical treatment, the baby is not gaining in weight, and specially if it is losing, however slowly, then operation should not be delayed.

Operative Treatment.—Many operations have been practised for this condition. They all have the one purpose in view, *viz.*, the relief of the obstruction. Each surgeon will undertake the operation which in his hands he finds the most expedient and efficient.

Pyloro-plasty, stretching the pyloric sphincter either with bougies or with the finger through an opening made in the anterior wall of the stomach, or even gastro-enterostomy, have all been practised with varying degrees of success.

By far the safest and the quickest method, and the method involving least shock, is division of the pyloric musculature (Rammstedt's operation).

The baby is swathed in warm cotton wool and, prior to the operation, sea water plasma (2 ounces) run in slowly subcutaneously. An incision one inch in length is made through the right rectus muscle just above the umbilicus. The peritoneum is opened and the edge of the liver elevated with a small retractor. The pylorus is delivered into the wound by means of untoothed dissecting forceps. An incision is made through the serous coat of the pylorus only, the muscular element being divided with the handle of the scalpel down to the mucus membrane. Care should be taken to see that the division is complete both on the gastric and duodenal sides of the pylorus. The pylorus is then dropped back into the peritoneal cavity and the abdominal wound closed with through sutures of silkworm gut.

A good anæsthetic is chloroform one part and ether three parts. The operation takes but five minutes to perform and, if the baby be kept warm, there is very little shock indeed.

Post-Operative Treatment.—This is often the most difficult of all. The baby may be fed as soon as it has regained consciousness. No object seems to be served in withholding food, as the anæsthetic seems to cause little or no inconvenience.

It is at this stage that the mother's milk is so useful. It is of paramount importance to keep the mother's milk, and never wean these babies.

Post-operative feeding with artificial food is often fraught with difficulty. The patient will take its artificial feeds, but their passage along the intestinal tract is so hurried that it is evacuated in an undigested state, and weight is not gained; in fact, it is lost. An intractable type of diarrhœa is apt to occur, and this is of grave omen. There can be little doubt that the intestinal tract generally is in a condition of irritability or spasm, and the pylorospasm which has been relieved is only a part of a general condition. The more we see of this condition, the more this fact must be impressed upon us. It has been suggested that this post-operative diarrhœa is due to ward infection contracted by these babies, whose vitality is already very low. There may be some truth in this, although a bacteriological examination of the stools has never satisfied the author that such is the case. In favour of this argument is the undoubted fact that such cases operated upon in private homes or houses do best of all, and are rarely troubled with this type of diarrhœa, although there is still difficulty with cases fed artificially, as the intestinal spasm is not overcome. One salient

fact is outstanding, and that is the absence of this troublesome irritability and diarrhœa in the case of babies who were breast-fed after operation, whether hospital cases or otherwise.

In four cases the milk of a wet nurse was used, and all did well. There is evidently something in the human milk, vitamin or otherwise, which is most essential for the patient's welfare after operation. The mother's milk has a controlling influence upon the intestinal irritability; it is digested, and the babies gain weight upon it. In the absence of the mother's milk or that of a wet nurse, which is not as good, goat's milk is the next best substitute, but this is not always easy to obtain.

Cow's milk is badly borne, however dilute, immediately after operation, and the same may be said of most of the patent foods. Sherry wine whey, sweetened with glucose, is taken best of all and is strongly recommended. Very dilute cow's milk (1 in 8) citrated, to which has been added half an eggspoonful of Virol is next tried and, in the majority of cases, it agrees with the patient. Small doses of belladonna and bismuth seem to act beneficially. It often happens, however, that one is driven to try many different patent foods before a suitable one is found, and this type of case is one above all others in which the surgeon needs the physician's aid. It must not be overlooked that this condition does occur in girl babies, but very rarely. It occurred in eight cases out of over a hundred in the author's series.

It is not a serious condition in girl babies and it usually makes itself manifest rather later. The post-operative complications in the case of girl babies have been nil in the author's experience, and their recovery 100 per cent.

In conclusion, there is a troublesome complication that is liable to arise if operation is delayed too long, and it has happened in three of the author's cases. Owing to a persistent vomiting which had gone on for some five weeks, relief of the pyloric obstruction resulted in a sucking into the stomach of the contents of the small intestine. The contents were vomited, but their presence in the stomach produced the most toxic effects in the patient. Despite frequent lavage, reverse peristalsis of the stomach persisted in all three cases and death ensued, terminating in each case by convulsions of a toxic origin.

DR. G. M. D. LOBBAN, Medical Officer of Health for Colne, has been appointed Medical Officer of Health for Bury at a commencing salary of £1,000.

AN AMERICAN LETTER.

Our Correspondent discusses mainly the Report of the Surgeon-General of the United States Public Health Service—Immunisation Campaigns against Diphtheria and Scarlet Fever—and a Scheme for Convalescents from Infantile Paralysis.

The Public Health in 1932.

The annual report of the Surgeon-General of the United States Public Health Service has just appeared. After a review of world health conditions which might affect us through shipping and aircraft, conditions in our country are considered. In spite of the quite severe outbreak of encephalitis in St. Louis and smaller ones in other parts of the country, the increase in typhus fever in several of our Southern States, and amœbic dysentery in Chicago, which has been spread to something like 200 communities, the health conditions were good, the general death-rate being the lowest ever recorded. Infant mortality and the death-rates for tuberculosis, diphtheria and typhoid fever had a new low record. The degenerative diseases have increased at about the same rate which has characterised them for some years past. The report holds that the distressing economic conditions under which we have been labouring have not yet affected the health of the people unfavourably as far as the crude death-rates or those of infant mortality show. On the other hand, the Secretary of Labour has just issued a report showing that malnutrition in children has increased from 13.5 per cent. in 1927 to 21.1 in 1932. Based upon the actual examination of more than 300,000 children each year, it is estimated that there are six million undernourished children in the United States. It does not seem possible to doubt the accuracy of the figures of the Surgeon-General as regards the crude death-rates, and it is equally impossible to doubt the estimate given by the Secretary of Labour.

Some Effects of the Depression.

All of us have predicted bad results from the continued depression and have been astonished that they have not become more evident before this. In 44 states there were 7,074 deaths from pellagra in 1930, and only 4,091 in 1932, but health officers in that portion of the country where pellagra is met with are confidently predicting an increased prevalence in the disease, in spite of the preventives distributed by such agencies as the Red Cross. The

nutrition of a large part of our population is unquestionably below par, consisting in the South, particularly, of what the late Dr. Goldberger called the MMM diet—meat, meal and molasses. The increase in typhus fever, which reached in 1932, 955 cases with 53 deaths, over 80 per cent. of which occurred in three Southern States, is a striking illustration of how public health is affected by economic conditions. For many years cotton has been the staple crop of the states concerned, but since the invasion of the boll weevil, cotton planting has been largely curtailed and a number of planters have turned to peanuts, a crop which is very free from disease and quite profitable, not only from the sale of the nuts, but for leaving in the ground as forage for hogs. While infant mortality has decreased so that only 1 out of every 17 babies born dies during the first year, against 1 out of every 10 in 1915, the birth-rate has continued to decline, being now 17.3 per 1,000 of population. Smallpox is still a blot on our record, though the number of cases reported is only about one-fourth the number which occurred in 1930. Undulant fever continues to attract attention, with 1,502 cases and 71 deaths during 1932. It seems impossible that it will ever become epidemic, but its presence has stimulated the pasteurisation of milk and the testing of cattle for contagious abortion.

Special Studies by the Health Service.

The personnel of the Public Health Service has been cut as well as its appropriations, which means that some of its activities have been curtailed. However, numerous studies of great practical value are going on. Among these which may be mentioned particularly are studies on the hæmolytic streptococcus, meningococcus meningitis and diphtheria. Surgeon M. V. Veldee has succeeded in producing a toxoid for immunisation against scarlet fever. It is still in the experimental stage and no manufacturer has been licensed to produce it. Experimentally, three doses of this toxoid have produced immunity in over 80 per cent. of those treated, and it is under fairly extensive investigation in various parts of the country by selected groups. Alum precipitated diphtheria toxoid bids fair

to supersede all other immunising agents in this disease. It has been shown in the Service that one dose of 1 c.c. is as effective as two doses of 1 c.c. of the original unmodified toxoid. The form in which it is chiefly used was devised by the late Dr. Leon C. Havens. The reactions are not severe as a rule in young children, but as the age increases there is a tendency for the severity of the reaction to increase also.

New Activities.

A somewhat new activity has been the examination of aeroplanes arriving from foreign air ports. During the year, 4,186 such planes have arrived, carrying 25,767 persons, of which 1,977, carrying 5,371 persons, were allowed to enter without the required medical examinations, owing to their arrival at ports where no medical officers were available. I have pointed out in former letters the reduced funds appropriated for boards of health, with necessary reduction of personnel and projects, and mention has been made of the stopping of the campaign for immunisation against diphtheria as one of the most serious. Among the various projects which our President has inaugurated in his wide-spread recovery programme is included one which is largely medical. There seems to be no doubt that there will be an increase in immunisation campaigns against diphtheria and probably also scarlet fever. Scarlet fever is a very mild disease in this country, the highest recorded mortality rate being in cities that emphasise hospitalisation. However, the complications and sequelæ seem to be nearly as severe as ever. Physicians have been rather slow in adopting the immunisation methods proposed by the Dicks, involving the giving of a graduated series of doses of the toxin, which many physicians dread. When the toxoid of Dr. Veldee becomes generally available, there can be little question that this will increase immunisation.

President Roosevelt and Anterior Poliomyelitis.

Doubtless, many British colleagues know that our President was a victim of infantile paralysis at the age of 42. By a manifestation of magnificent courage and persistence he is now in the most perfect physical health, though the use of his legs is still much impaired. In his improvement he believes that swimming exercises in a natural pool formed by hot springs in Georgia

have been one of the most beneficial factors. In addition to private aid to sufferers from infantile paralysis, the full extent of which no one knows, he has inaugurated a foundation for the benefit of convalescents from the disease. On his fifty-second birthday (January 30th) balls were held in practically every city in the United States, and it is stated that 6,000 entertainments took place throughout the country.

Facilities for Convalescence in Georgia.

Many generous contributions have been made, and all the profits and donations, which will doubtless be very large, will go to this foundation at Warm Springs, Georgia, where every facility will be given to anyone who has been a victim of infantile paralysis. Already more than a million dollars has been sent in, and it is estimated that more than two million dollars will finally be realised. No new or acute cases will be accepted, so that as far as contagion goes, it will be absolutely safe for anyone to visit there. Last year the state of Georgia gave one large building, and the number of visitors to this haven of health is astonishing and will doubtless increase, owing to the tremendous advertising given through this series of balls, a plan which has been put on foot by his friends and even some of his political enemies.

MAZYCK P. RAVENEL, M.D.

THE Ninth Conference of the International Union against Tuberculosis will be held in Warsaw on September 4th, 5th and 6th, 1934, under the patronage of the President of the Republic of Poland, and under the chairmanship of Professor Pieztrzynski (President-Elect of the International Union). The discussion will be limited to three main subjects: biological subject—"Biological Variations of the Tubercle Virus" (opening report by Professor Karwacki of Poland); clinical subject—"Tuberculosis of the Bones and Joints: Treatment Medical and Surgical" (opening report by Professor Putti of Italy); social subject—"The Use and Organisation of Tuberculosis Dispensaries" (opening report by Professor Léon Bernard of France). Further information regarding the Conference may be obtained from the National Association for the Prevention of Tuberculosis, Tavistock House North, Tavistock Square, London, W.C.1.

The Society.

Reports, Proceedings and Announcements.

NOTICES.

MATERNITY AND CHILD WELFARE GROUP.

A meeting of the above Group will be held at the house of the Society on Friday, April 27th, 1934, at 8 p.m. The subject for discussion is "Allergic Reactions," and the opening speaker will be Dr. John Freeman.

C. ISOBEL WRIGHT,

1, Briton Close, Sanderstead, Surrey. *Hon. Secretary.*

PROVINCIAL MEETING—GLASGOW, MAY 24TH, 25TH AND 26TH, 1934.

PROGRAMME.

Thursday, May 24th.—A.M.: (a) Reception of delegates by Lord Provost, Members of Health Committee, Medical Officers of Health, etc.; (b) Short paper. P.M.: Demonstration at the Glasgow Maternity Hospital.

Friday, May 25th.—A.M.: Visits to clinics, etc. P.M.: Demonstration at the Royal Hospital for Sick Children. Evening: Dinner.

Saturday, May 26th.—A.M.: Visit to Mearns-kirk Hospital—Tuberculosis, Orthopædics, etc. P.M.: Visit to Stobhill General Hospital.

The question of the payment of expenses of delegates under the M. & C.W. grant is being considered by the Ministry of Health.

Members who intend to be present are requested to notify Dr. Nora I. Wattie, 23, Montrose Street, Glasgow, as soon as possible.

DENTAL OFFICERS' GROUP.

A meeting of the Group will be held at the house of the Society on Friday, April 13th, at 8 p.m., when there will be a discussion on "Diet and its Relation to Teeth," to be opened by the President of the Group (Mr. Doswell Wallis), followed by Dr. Sim Wallace. It is hoped that Dr. Magee of the Ministry of Health will be present to join in the discussion.

W. LEIGH BREESE,

4, Valkyrie Road, Westcliff-on-Sea. *Hon. Secretary.*

A notice concerning the Fever Hospital Medical Services Group appears on page 241.

ORDINARY MEETING.

An ordinary meeting was held at the house of the Society on Friday, March 23rd, 1934.

The President (Dr. Charles Porter) was in the chair, and it was hoped that Dr. T. Y. Finlay, President of the Maternity and Child Welfare Group, would be able to act as Vice-President. Dr. Finlay was unfortunately unable to make the journey from Scotland for the occasion and sent his apologies for non-attendance.

The minutes of the last meeting having been approved, the President called upon Dr. James Mair, Hon. Secretary of the Yorkshire Branch, to present a portrait of Dr. G. H. Pearce, President of the Society for 1933-34. Dr. Mair, in presenting the portrait, which was received with acclamation, referred to the long and devoted service given to the Society and especially to the Yorkshire Branch, by Dr. Pearce, and said that in a sense Dr. Pearce was the Yorkshire Branch.

The President then submitted for the adoption of the meeting, in accordance with Article 12, the following resolutions submitted by the Council with a view to reducing the subscriptions of junior members of the Society:

(1) That a medical practitioner on becoming qualified for fellowship of the Society should have the full privileges of membership on payment of an annual subscription of £1 1s. during the period of three years from the date of his first becoming eligible.

(2) That a registered medical practitioner having obtained a whole-time appointment in the Public Health Service shall pay an annual subscription of £1 11s. 6d. during the period of three years from the date of such first appointment.

(3) That the foregoing resolutions be made retrospective in effect, with the proviso that there shall be no refund in respect of subscriptions already paid or overdue.

The resolutions were unanimously adopted by the meeting.

The following candidates having been duly proposed and seconded were elected Fellows of the Society:—Bramley, George Field, M.D., CH.B. (LEEDS), D.P.H. (R.C.P.S.); Wilson, Nora Mountjoy, M.B., CH.B. (LIV.), D.P.H.

A number of nominations were received for the next election.

A discussion on "Maternal Morbidity" was then opened by Dr. Gladys Hill, Medical Officer

to the Ante-Natal Clinics, Shoreditch. Amongst other members who spoke were the President, Drs. Marion Cockerell, Agnes Nicoll, Maitland Radford, Stella Churchill, E. H. T. Nash, A. Joe, Isobel Wright, Marjorie Back, R. H. Wilshaw, Muriel Radford and General P. H. Henderson.

A hearty vote of thanks to the opening speaker was moved by Dr. G. F. McCleary, and seconded by Dr. H. A. Bulman. Dr. Hill briefly replied. The meeting then adjourned.

THE MIDLAND BRANCH.

President: Dr. G. N. Anderson, Deputy S.M.O., Staffs. C.C.

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 1st, 1934, the President occupying the chair. Thirty-two members were present.

A letter was read from the President of the Society (Dr. Charles Porter) regretting his inability to be present, and expressing the hope that the paper to be read by Dr. Paul might be submitted to the Editor with a view to its publication in *PUBLIC HEALTH*.

The Branch decided to accept the invitation of Messrs. Evans, Sons, Lescher and Webb, Ltd., to visit their biological institute at Runcorn. The Hon. Secretary was instructed to send a letter to this effect, and to suggest Thursday, May 10th, as a suitable date for the visit.

Dr. Hugh Paul (Medical Officer of Health, Smethwick) read a paper on "The Housing Act, 1930, with special reference to Section 19." After referring to the general progress that had already been made in Smethwick under this Act, Dr. Paul said that in one year he had made 510 representations under Section 19; that 186 undertakings had been accepted from owners, the remaining houses being dealt with under demolition orders. He described in detail the care taken by his committee to comply with all the legal requirements of the Act, and referred to various questions of law which had arisen in connection with appeals to the county court judge. He also mentioned the discussion which had taken place between the Town Clerk of Smethwick and the Ministry of Health, with reference to the conversion of back-to-back houses into through-houses.

The following contributed to the discussion:—Drs. Gibbons Ward, Smith, Griffin, Jolly, Yule and MacKenzie. It was generally agreed that

sanitary authorities were now tending to disregard the phrase "not capable at a reasonable expense of being rendered so fit" in Section 19, and were adopting the policy of accepting undertakings for the repair of houses, even when the cost of carrying out the work necessary to render the premises fit was out of proportion to their future value, or the rent that might be obtained for them; and that legal decisions on appeal cases had been to a very large extent responsible for this policy.

After Dr. Paul had replied to the points raised in discussion, the President proposed a very cordial vote of thanks to him for his valuable paper. This was carried by acclamation.

THE NORTHERN BRANCH.

President: Dr. J. O. Murray, M.O.H., Tynemouth.

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, Jesmond, Newcastle-upon-Tyne, on February 2nd, 1934, the President occupying the chair. Eighteen members were present.

Dr. E. F. Dawson-Walker was appointed as the second representative of the Branch on the Executive Committee of the Newcastle-upon-Tyne Division of the British Medical Association.

Dr. M'Gonigle stated that when the Revised Articles of Association were considered at an extraordinary general meeting of the Society held in London on May 19th, 1933, two of the Articles were referred back to the Council for further consideration. A further special meeting had been called for February 16th, 1934, at which it was proposed to re-submit the Articles of Association in the form in which they were referred on May 19th, 1933, with the exception of a slight amendment to another Article. As the Northern Branch had put forward amendments with regard to the two Articles in question, he asked the members to re-affirm their previous decision of May 12th, 1933, and this was done.

Dr. Hugh E. Magee, of the Ministry of Health, gave a highly interesting and instructive address on the subject of "Nutrition and Public Health." This was followed closely by the members, and in the ensuing discussion many personal views and experiences were related. To these Dr. Magee replied in a very able and comprehensive manner, the proceedings terminating with a hearty vote of thanks to him for his services.

THE NORTH-WESTERN BRANCH.

President: Dr. Henry Whitehead, M.O.H., Wigan.

Hon. Secretary: Dr. J. E. Spence, M.O.H., Eccles.

A meeting of this Branch was held at the Laboratory, York Place, Manchester, on February 9th, 1934, the President occupying the chair. Seventeen members were present.

Dr. T. W. Naylor Barlow expressed his appreciation of the kind message from the Branch on his inability to attend the recent annual dinner. He explained that it was the first dinner he had missed (whenever a dinner had been held) since he joined the Branch in 1901.

Dr. R. Veitch Clark (Medical Officer of Health, Manchester), in introducing a discussion on "Domiciliary Medical Treatment," outlined the present system and pointed out its disadvantages, which were:—

(1) No free choice of doctor. This he thought was a fundamental disadvantage.

(2) Doctors had an equal right to refuse patients.

(3) Individual districts of medical men varied enormously in size, resulting in some instances in a doctor being inaccessible to a large number of his potential patients. This was a very important disadvantage.

(4) The population of destitute people in any district varied greatly, and owing to the movement of people as the result of new housing schemes, this population had changed tremendously.

(5) The remuneration of the doctors varied basically.

In Manchester complaints of the present system were frequent and, therefore, re-organisation was imperative. Many methods of re-organisation had been discussed. The re-distribution of districts had been found impracticable, and they had, therefore, been driven to the choice of (a) a full-time medical officer, or (b) a panel of practitioners. He pointed out that against a full-time officer all the general objections mentioned held good. The panel he considered the only remedy. He had no doubt that the panel would be the more expensive, but the efficiency of the service would be greatly increased.

Dr. V. T. Thierens (Medical Officer of Health, Blackburn), continuing the discussion, pointed out the changed conditions owing to the unemployment problem and workers passing out of

benefit. There was to be a limited trial in Blackburn of the panel system. He estimated that the expenditure would be more than double the present cost, but pointed out that this cost would be still further increased after March in the depressed areas, owing to people falling out of benefit.

Dr. F. A. Sharpe (Medical Officer of Health, Preston), spoke of the lack of available data for estimating cost. So far as he was able to estimate, the panel system would cost four times as much as the present system, and the unit of medical attendance method more costly still.

Dr. F. Hauxwell (Medical Officer of Health, St. Helens), asked why it was suggested that arrangements should be made for people falling out of benefit, and not for their families. There was no doubt that the treatment of families in the near future would be included in the medical services. He also asked what was to be done with the present medical officers.

Dr. C. O. Stallybrass (Deputy Medical Officer of Health, Liverpool), pointed out that the extended medical benefits to families in the future must affect poor law patients, who were generally women and children.

Votes of thanks to the openers, on the proposition of the President, were unanimously passed, and Dr. Veitch Clark replied to various points raised.

THE METROPOLITAN BRANCH.

President: Dr. James Fenton, M.O.H., Kensington.

Hon. Secretary: Dr. Vynne Borland, M.O.H., Bethnal Green.

A meeting of the Branch was held at the house of the Society on February 9th, 1934, the President occupying the chair. Twenty-seven other members, together with several visitors, were present.

The Hon. Secretary reported having expressed the sympathy of the Branch to Dr. Blackmore on his recent illness; and their congratulations to Dr. Dunscombe on his appointment as Medical Officer of Health of Finsbury.

The Council, in their report, made drastic recommendations, which were adopted, with a view to putting the Branch in a more satisfactory financial position.

The Branch accepted an invitation from Messrs. Allen & Hanburys, Ltd., to visit their works at Ware in May.

Dr. E. H. R. Harries read a paper on "Diphtheria Immunisation." A keen discussion

followed in which Drs. Fenton, Parish, Radford, Nash, Forbes, Hull, MacDonnell, Banks, Joe and Howell took part. At the conclusion, the warm thanks of the Branch to Dr. Harries for his interesting contribution, were fittingly expressed by the President of the Society (Dr. Charles Porter).

THE WELSH BRANCH.

President: Dr. J. W. Miller, County M.O.H., Radnorshire.

Hon. Secretary: Dr. D. J. Thomas, Deputy M.O.H., Rhondda.

The third meeting of the session of this Branch was held at the Institute of Preventive Medicine, Cardiff, on January 20th, 1934, when twenty-eight members and visitors were present. The President occupied the chair.

Sympathetic references were made to the absence, owing to illness, of Drs. Colston Williams and T. Evans, and the Hon. Secretary was instructed to convey to them the sincere wishes of the members of the Branch for their speedy and complete recovery.

A notice of motion, to the effect that the Branch had formed the opinion that constructive health propaganda should be organised by the Ministry of Health and requesting the Central Council for Health Education to make representations in the matter, was referred to the Branch Council for further consideration.

Dr. G. P. Crowden (Lecturer in Industrial Physiology at the London School of Hygiene and Tropical Medicine) gave an address on "The Use of the Audiometer for the Detection and Measurement of Impaired Hearing," and demonstrated the working of the apparatus by applying the audiometer tests to the individual members present and to a few partially deaf children whose attendance at the meeting had been kindly arranged for by Dr. Greenwood Wilson, Medical Officer of Health, Cardiff.

Dr. Crowden introduced his address by referring to the amount of varying degrees of deafness found amongst men presenting themselves for recruitment in the Army, and to the degrees of variation in the proportions of deaf children of school age found to occur when the school medical reports for different areas were compared, this variation being caused by the nature of the hearing tests which had been used and the personal factors which influenced their application. The audiometer provided standard tests which were not subject to any variation in

their application or method of recording, and which could be applied to 400 children per day. The nature of the tests, the manner in which they had been evolved and the significance of the scale of hearing loss indicated on the test sheets were fully explained. Standards of hearing loss, as determined by audiometer tests, which could be applied for determining which children should be certified for instruction in schools for the deaf, or should receive instruction in lip reading, or should be referred to aural specialists for examination and treatment, were also tentatively given, and instructive charts indicating the marked improvement in hearing detected by this instrument, consequent upon the application of treatment for the removal of wax, suppurative or catarrhal conditions of the middle ear, etc., were shown, and the importance of the audiometric tests for detecting minor defects of hearing amongst school children was stressed.

A representative of the Western Electric Company also demonstrated the latest model, the No. 4-AE Audiometer, which had been placed on the market by that Company.

After numerous questions had been asked and answered, a hearty vote of thanks, proposed by Professor Picken, was accorded to Dr. Crowden for his instructive address and demonstration.

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 27th, 1934.

Dr. P. K. McCowan (Medical Superintendent, Cardiff City Mental Hospital, Whitchurch) addressed the members on the subject of "The Sterilisation of the Unfit." A great deal of propaganda was being given to the public at the present time and it was essential that the medical profession should have a clear unbiassed view on the subject. Sterilisation was chiefly advocated in cases of mental deficiency, but a careful study of the known facts merely showed how little was really known of the transmission of mental defect, and its diagnosis was based on purely arbitrary standards. Exponents of sterilisation were constantly quoting numerous cases of defect occurring in a series of families, but

equally formidable figures could be produced of normal or highly intelligent descendants from very poor stock. The application of Mendelian principles to the study of mental defect revealed no evidence of its transmission as a dominant factor, but was rather akin to the recessive factors, though in many ways differing from those in transmission. The advantages to be obtained from the practice of sterilisation of mental defectives on any large scale were very doubtful, being based on no sure foundation, whereas definite disadvantages were apparent. The position of sterilisation in actual mental disease was somewhat different. In the manic-depressive type of insanity, mental disease was transmitted as a dominant factor; in dementia præcox the transmission of the disease was recessive. Again, sterilisation had been advocated in diseases such as hæmophilia, green colour blindness and Huntingdon's chorea. Having regard to the great limitations of knowledge on heredity and the almost insuperable difficulty in separating hereditary and environmental factors, compulsory sterilisation was certainly not likely to prove beneficial. Voluntary sterilisation had a more debatable value as a placebo for family or personal reasons.

Dr. McCweeney and Dr. Greenwood Wilson took part in the discussion which followed. At the conclusion a hearty vote of thanks to Dr. McCowan for his very interesting and instructive paper was accorded on the proposition of Professor Picken, seconded by Dr. Greenwood Wilson.

THE WEST OF ENGLAND BRANCH.

President: Dr. A. E. Remmett Weaver, M.O.H., Weston-super-Mare.

Hon. Secretary: Dr. P. H. Stirk, formerly M.O.H., Exeter.

A meeting of this Branch was held at St. Peter's Hospital, Bristol, on January 19th, 1934, the President occupying the chair. Thirteen members and four visitors were present.

The President, who kindly provided tea prior to the meeting, said he much regretted that Dr. Stirk would be unable to attend owing to sickness. Apologies for absence were also received from four other members.

The President stated that the statement of accounts for 1932-3 had been audited by Dr. Ward and himself and found correct.

Dr. B. A. Peters read a most interesting paper on "An Investigation of Streptococcal Infections from a Chemico-Physical Angle." Following a long discussion, a cordial vote of thanks was passed to Dr. Peters and his fellow workers (Drs. B. J. Boulton and Crissie Short) for their original, lucid, and instructive paper, which will be published in the Society's journal in due course.

THE SOUTHERN BRANCH.

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

Hon. Secretary: Dr. A. B. Williamson, M.O.H., Portsmouth.

A meeting of this Branch was held at the South-Western Hotel, Southampton, on February 2nd, 1934, at 7 p.m., Dr. R. H. Wilshaw occupying the chair in the absence of the President, who was prevented by indisposition from attending.

This evening meeting was in the nature of an experiment to enable those members to be present who are prevented from attending the usual afternoon meeting. The increased attendance justified the experiment.

After an enjoyable supper, at which ladies were also present, the members listened to an interesting address by Dr. J. L. Newman (Assistant Medical Officer of Health, Southampton) on "The Goitre Problem." Dr. Newman has carried out previous investigation into the subject of goitre, and was thus able to speak with authority. He is of opinion that the simple goitres (with the exception of certain rare forms) constitute a single disease, which passes through three stages of development; first, parenchymatous, then colloidal and finally nodular. The fundamental cause which produces enlargement of the thyroid is dietetic, and where the diet is defective or unbalanced, goitre is likely to arise, being endemic or sporadic according to the local concentration of goitre-producing or goitre-preventing factors.

A discussion followed, in which Drs. R. H. Wilshaw, D. P. MacIver, H. C. Maurice Williams, D. E. L. Bunting, M. K. Jardine, R. W. Revell, C. F. Pedley, M. R. Roberts and A. B. Williamson took part. It was unanimously agreed to forward the paper to the Editor of PUBLIC HEALTH with a view to publication in the journal.

A further meeting of the Branch was held at Lankhills Special School, Winchester, on March 2nd, 1934. In the absence of the President through illness, Dr. R. H. Wilshaw was voted to the chair.

In regard to the Branch nomination for the Presidentship of the Society, it was unanimously agreed to forward again the name of Dr. R. H. Wilshaw, and the Hon. Secretary was instructed to write to the various Branches asking for their support.

Mr. J. Duncan (Headmaster of the Lankhills Special School) delivered a most stimulating address on "**The Future of Special Schools and possible changes in the Certification and Treatment of Mentally Defective Children.**" He was of opinion that as two-thirds of so-called mentally defective children were true biological defectives—social defectives—they should, at any rate, by the age of eleven (by which age judgment could be formed) be passed by the local education authority to the local authority. They were not truly educable and should not be a charge on education. The remainder of the so-called mentally defective children were really only "dull." The organisation of schools under the Hadow scheme made it possible to deal with the whole of the "dull" group, of which these formed a part, within the normal school system, and to deal with it adequately provided the teaching personnel was specially trained.

A discussion followed in which Drs. R. H. Wilshaw, H. L. Cronk, T. E. Roberts, D. P. MacIver, G. Chesney and A. E. Druitt took part, and a vote of thanks was accorded Mr. Duncan on the proposition of Dr. A. B. Williamson, seconded by Dr. T. E. Roberts.

After tea, members were conducted round the School by Mr. Duncan.

THE HOME COUNTIES BRANCH.

President: Dr. Thomas Orr, M.O.H., Ealing.
Hon. Secretary: Dr. R. P. Garrow, M.O.H., Hornsey.

At the invitation of the Electric Lamp Manufacturers' Association of Great Britain, a visit was paid to their **Lighting Service Bureau** at 2, Savoy Hill, London, by the Home Counties Branch, on February 2nd, 1934.

The President and nine members were present, and apologies for absence were received from the President of the Society (Dr. Charles Porter) and several members of the Branch.

Mr. W. J. Jones (Manager of the Bureau) delivered a lecture, illustrated by interesting experiments, and subsequently conducted the

party over the establishment. At the conclusion a vote of thanks was passed for what had proved to be a most instructive visit.

A further meeting of the Branch was held at the house of the Society on March 1st, 1934.

At the request of Dr. C. Herington (Hon. Secretary of the County District Group), the invitation to the meeting was extended to members of that Group.

Dr. E. H. T. Nash (Medical Officer of Health, Heston and Isleworth) dealt with "**The Future of the Public Health Service,**" in a discussion in which Drs. Williams, Hill, Sleight, Dupont, Powell, Kershaw, Topping, Brown and the President took part. Dr. Nash replied to the questions raised, and received a cordial vote of thanks for opening 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 February 16th, 1934, the President occupying the chair. Eleven members were present.

The Hon. Secretary announced with regret that Dr. Blackmore had undergone a serious operation, but was now progressing favourably. He was asked to convey to Dr. Blackmore the sympathy of the Committee and their best wishes for a speedy recovery.

The Hon. Secretary reported:—

(a) That he was waiting to hear from Bradford of the settlement of their salaries difficulty, and had reason to believe that matters were satisfactory.

(b) That the Constitution of the Society as previously drafted had been re-affirmed by the Council of the Society, and would be placed before an extraordinary general meeting to be held that afternoon.

(c) That the memorandum of the Group on the advantages of membership of the Society had been well received by the General Purposes Committee, and was being sent to the Council of the Society with a recommendation that it be printed in **PUBLIC HEALTH**. There was also a suggestion that it be produced in leaflet form and forwarded to other Groups in the hope that they might prepare something on similar lines suitable for their own members.

(d) That the General Purposes Committee had thanked Dr. Jessel for his offer of an official badge to be worn by the President of the Group, and had expressed the opinion that the adoption of such a badge was entirely a matter for the Group to decide. Designs were asked for, and a Committee, consisting of Drs. Jessel, Ernest Ward and Peter Edwards, was appointed to review these and advise the Committee.

(e) That it had been proposed that newly qualified men and those who had recently entered the public health service should pay a smaller subscription for their first three years of membership.

(f) That a large sum of money ("The Prophit Bequest") had been left half to the Royal College of Surgeons for cancer research, and half to the Royal College of Physicians for research in tuberculosis. Lord Dawson of Penn (President of the Royal College of Physicians) was doing his best to inaugurate useful research with the funds available.

(g) That new propaganda literature issued by the National Association for the Prevention of Tuberculosis had been brought to the notice of the members.

The Hon. Secretary's memorandum on "The Prevention of Human Tuberculosis of Bovine Origin" was considered, and amendments were made. Dr. Ward was asked to re-submit the amended memorandum to the next meeting.

It was announced that no one had any suggestion to offer for the improvement of **PUBLIC HEALTH**.

Consideration was given to the Constitution of the Group, and the Chairman and Hon. Secretary were requested to draft, in co-operation, the final form for submission to the annual general meeting.

Friday, May 25th, 1934, at 10.30 a.m., was the date and time fixed for the next meeting.

THE MATERNITY AND CHILD WELFARE GROUP.

President: Dr. Thomas Y. Finlay, M.O. (M. & C.W.), and Asst. M.O.H., Edinburgh.

Hon. Secretary: Dr. Isobel Wright, 1, Briton Close, Sanderstead, Surrey.

A meeting of this Group was held at the house of the Society on February 23rd, 1934.

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 February 17th, 1934, Dr. G. Lissant Cox occupying the chair. Twenty-six members were present.

The Hon. Secretary read replies (a) from Dr. Robert Wodehouse to the congratulations of the Council on his appointment as Deputy Minister for Health and Pensions; and (b) from Mrs. Gilchrist, thanking the Council for their sympathetic letter, and conveying the good news that Dr. Gilchrist was progressing favourably.

It was announced that Mr. G. R. Girdlestone had accepted membership of the Council. The new member, present for the first time, was welcomed by the Chairman.

Dr. Jane Walker reported that the Hon. Secretary for Post-Graduate Courses (Dr. Brand) was shortly to be married, and it was decided to invite members of the Council to join with the Tuberculosis Association in making a wedding presentation, subscriptions to be

In the absence of the President, the chair was taken by Dr. Margaret Emslie. Twenty members were present.

Mr. David Lees, F.R.C.S. (Venereal Diseases Officer, Edinburgh), read a paper on "**Ophthalmia Neonatorum,**" which will be published in this journal in due course.

NOTICE.

FEVER HOSPITAL MEDICAL SERVICES GROUP.

A meeting of the Group will be held at the house of the Society on Friday, April 27th, at 5 p.m., when a discussion on "The Relationship of Measles and Whooping Cough to Chronic Inflammatory Conditions of the Chest" will be held. Opening papers will be delivered by Drs. C. D. Agassiz, G. Jessel and J. E. McCartney, who will deal respectively with the clinical, radiological and pathological aspects of the subject. Members of the Tuberculosis, School Medical and M. & C.W. Groups are invited to be present.

A meeting of the Fever Hospital Group Council will be held at 4.15 p.m.

A. JOE,
Hon. Secretary.

North-Western Hospital,
Lawn Road, N.W.3.

sent to Dr. G. T. Hebert, St. Thomas's Hospital.

Dr. G. Lissant Cox was re-elected Chairman of Council; 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.

Drs. G. Lissant Cox, A. Neville Cox, L. S. T. Burrell, Peter Edwards, and Jane Walker were re-elected members of Council.

The Chairman mentioned Dr. Blackmore's illness, and the Hon. Secretary was asked to express to him the sincere sympathy of the Council, and convey their best wishes for a speedy recovery.

It was announced that Dr. Alison Glover having been promoted to the Board of Education, Dr. H. E. Chapman would in future attend the meetings as observer for the Ministry of Health. Dr. Chapman was cordially welcomed by the Chairman.

The biennial report of the Hon. Secretary was received and adopted after some amendment. It was decided to issue this with other literature now awaiting

circulation. Sincere thanks were expressed to the anonymous donor in Lancashire whose generosity had rendered possible the printing and circulation of the report.

The Hon. Secretary explained that of a grant of £20 made by the Medical Research Council in 1924, only £13 8s. 1d. had been spent and the remainder had lapsed. Of a second grant of £20 made in 1927, no use had been made and this had also lapsed. He had been in communication with the Medical Research Council and had received a form for completion in case a further grant was desired. This was handed to Dr. R. R. Trail, the convener of the Artificial Pneumothorax Committee. Dr. J. B. McDougall announced that the Employment Committee were now working on a report on the care and after-care of tuberculosis, and would likewise need some assistance to attain a satisfactory result.

The Hon. Treasurer presented his report, showing a balance in hand of £63 3s. 8d. The report was adopted, and sincere thanks were expressed to Dr. Jessel. Dr. Hebert announced that the subscription of the Tuberculosis Association to the Joint Council was likely to be increased to 6 guineas.

The report of the Publicity Committee was adopted after considerable discussion. It was decided that a wider publicity should be given to the literature circulated by the Council, and it was left to the Chairman and Hon. Secretary to decide, in the light of the discussion, to whom the present memoranda should be sent.

The tuberculin memoranda, which had been circulated, were dealt with, and grateful thanks expressed to Drs. W. H. Tytler and D. P. Sutherland and to Professor Lyle Cummins for the trouble they had taken. It was decided to circulate Dr. Tytler's memorandum, which contained information of considerable assistance to workers in this field, together with the other memoranda now awaiting circulation. Concerning the quotation from the *British Medical Journal* leading article, suggesting research on tuberculin, Professor Wilson, who kindly attended the meeting by invitation, expressed the opinion that much work had been done on the use of tuberculin in diagnosis, but the employment of this agent as an aid to prognosis had hardly been explored.

In this connection the Hon. Secretary explained that, by the "Prophit" bequest, a large sum of money had been given, half to the Royal College of Surgeons for cancer research, and half to the Royal College of Physicians for research on tuberculosis. Lord Dawson of Penn (President of the Royal College of Physicians) was taking active steps to initiate tuberculosis research, and to employ the funds both wisely and economically. A committee had met at Lord Dawson's house on January 26th, and a limited research had been planned by radiological methods among collegiate communities of young adults, and by tuberculin in one urban and one rural area. Dr. R. R. Trail and Professor Wilson gave a further account of the work that was contemplated. The Council asked the Chairman and Hon. Secretary to convey to Lord Dawson an offer of assistance by the Joint Council in any direction which he might think desirable.

On behalf of the Artificial Pneumothorax Committee, Dr. Trail reported that 36 sets of figures had been received, comprising a total of 2,315 cases. They had

decided to attempt to secure actuarial advice, and perhaps assistance, in compiling the statistics. Some clerical assistance might also be necessary, and a grant from the Medical Research Council, or some such body, was almost essential to the production of a useful report.

Concerning Post-Graduate Study, Dr. Brand had written apologising for non-attendance, and reporting that he had arranged for a first post-graduate course this year at the Royal Chest Hospital, City Road, London. Dr. Peter Edwards would also continue his courses, and he hoped to make other announcements in due course. Dr. Jessel reported that Dr. Brand had sent him a cheque for 12 guineas, the surplus from past post-graduate courses.

Professor Wilson raised the question of tuberculosis of bovine origin, and it was reported that the Tuberculosis Group of the Society of Medical Officers of Health were engaged on a memorandum dealing with this subject, which might be ready for presentation at the May meeting of the Joint Council.

Mention was made of the question of early diagnosis and contact examination, which had been touched on the previous evening at a joint meeting of the Tuberculosis Association and the Society of Medical Officers of Health. The Hon. Secretary was asked to prepare a note on these subjects to promote discussion at the next meeting.

Saturday, May 26th, 1934, at 10 a.m., was the date and time fixed for the next meeting of the Council.

After the meeting, members of the Council were entertained at luncheon at the Hotel Russell, London, by the Chairman (Dr. Lissant Cox). Lord Dawson of Penn, Sir Henry Gauvain, Dr. Charles Porter (President of the Society of Medical Officers of Health), Dr. Horner (Editor of the *British Medical Journal*), Dr. Morland (Assistant Editor of the *Lancet*), Dr. Conner (Editor of the *Clinical Journal*), Dr. Kelynack (Editor of the *British Journal of Tuberculosis*), Captain G. S. Elliston, M.P. (Editor of *The Medical Officer*), Dr. A. S. MacNalty, and Mr. G. L. C. Elliston were present as guests. Thirty-seven in all attended. After luncheon, Dr. Cox proposed the health of the guests, some of whom were old friends, and some new friends. To this Lord Dawson replied, touching wittily upon his difficulties in organising research in tuberculosis on behalf of the "Prophit" trust. Sir Henry Gauvain, in offering the toast of "The Council," said what a representative and useful body he had found the Council to be, and coupled with the toast the name of Dr. Ernest Ward. Dr. Ward, in reply, touched on the difficulties and uncertainties of research, and remarked on difficulties that beset an official tuberculosis service. Certain qualities in a departmental officer helped to achieve success, esteem and advancement. Such an officer should be hardworking, tactful, and conscientious—all excellent qualities. Certain other qualities, however essential to success in more individual callings, might even prove a handicap to the departmental officer: he referred to initiative, efficiency and resource. Captain Elliston proposed the health of Dr. Lissant Cox, and voiced the thanks of all present. Dr. Charles Porter seconded, and Dr. Jane Walker also spoke in support. The brief reply of Dr. Lissant Cox brought to a close one of the most successful luncheon parties ever enjoyed by the Joint Tuberculosis Council.

The Literature of Preventive Medicine.

Pulmonary Tuberculosis in General Practice.

By ANDREW MORLAND, M.D., M.R.C.P., Resident Physician, Mundesley Sanatorium. (Pocket-Monographs on Practical Medicine). London: John Bale, Sons and Danielsson, Ltd., 1933. pp. 113. Price 2s. 6d. net.

This little book is written for the benefit of general practitioners, and aims at improving their diagnosis and treatment by emphasising points which are important but about which their knowledge may not be up to date. It is one of many such books, but has the advantage over its predecessors in the modesty of its cost, the handiness of its size, and the fund of information presented in so small a compass.

In the chapter on aetiology the author draws attention to the insufficiently realised occurrence of minor tuberculosis with a comparatively transient health derangement, as described by Aurelius, but does not mention others workers in this field. He emphasises, very rightly, the supreme importance of radiography, but also points out its limitations. He believes that the age of a cavity may be told by the thickness of its wall in the radiogram.

In dealing with symptoms it is mentioned that cutaneous venules along the diaphragm level indicate old pleurisy, but it is doubtful if all observers would agree with this, for they have been attributed to many different causes and were some time ago christened the "cingula athletica," it being then thought that they followed athletic strain. Perhaps, after all, they are merely a congenital or fortuitous occurrence, resembling the similar network which may be found at the nape of the neck, and above the knee on the inner side of the thigh. In differential diagnosis the author rightly mentions neurosis as a possible pitfall, and with this there is little doubt most experienced observers would heartily agree, though it is not yet realised by the majority of practitioners.

Four or five pages are devoted to climate, and the author gives a not entirely unexpected preference for the East of England, but on this question there is a great variety of opinion—*quot homines, tot sententiae*. The disadvantage of wind is mentioned, but no

special reference to the East wind, which to some patients appears especially harmful.

In the description of artificial pneumothorax the use of a local anaesthetic is advised, but the author mentions certain cases where pleurisy has supervened and the anaesthetic has been reduced or omitted with advantage, and the patient preferred to continue without it; that is an important observation, for when a number of refills have to be undertaken a great deal of time is saved if no local anaesthetic is employed, and those engaged in this type of work are using the anaesthetic less and less.

Among the many correct observations which are to be found in this little work it is rightly said that pleural effusion which may become an empyema often follows the cauterisation of adhesions. This, indeed, is such a frequent difficulty that it seems likely to prevent any widespread adoption of cauterisation.

Gold treatment and its complications are dealt with very adequately, but no mention is made of chrisalbin which is cheaper than sanocrysin and quite as effective. The remarks on tuberculin are quite judicious, and the majority of phthisiologists will agree with the writer's opinion against this line of treatment and in his belief that more lives have been shortened than prolonged by its employment. The suggestion that any benefit from tuberculin may be due to protein shock, and is to be obtained more safely by the use of some other agent, is both interesting and promising. The remarks on open-air employments are both wise and timely, and a number of drawbacks are cited, but not the rather important difficulties from exposure of delicate patients during the winter season.

The last chapter deals with mental factors, and these certainly deserve a special chapter for they carry an importance insufficiently recognised; but the author is on doubtful ground when he follows Dr. de Carle Woodcock in describing types of individual likely to be attacked either by pulmonary or by surgical tuberculosis. Such types appear most readily in the descriptions of imaginative or poetically inclined observers.

A book heartily to be recommended to the practitioners for whom it has been designed.

sequences of the operation. For those legally incapable of managing their own affairs, guardians, courts, legal representatives and trustees may make application. Medical officers in official health organisations, and superintendents of hospitals, of medical institutions, of insane asylums and of prisons may make application in respect of inmates.

To avoid miscarriage of justice there are a number of important safeguards included. The most important of these is the decision of the government not to use the ordinary existing courts of the land. For the consideration of applications, 1,700 hereditary health courts (*erbgesundheitsgericht*) and 27 hereditary health supreme courts have been established. The former consists of a district judge as the presiding officer, a medical officer, and one additional person whose qualifications are that he shall be a national licentiate physician of proved competence in hereditary health learning. The hereditary health supreme court includes a supreme court judge, a medical officer, and a physician who is qualified in hereditary health. Medical arrangements of this kind are regarded as safeguards. In addition, however, it is required that all applications shall be written; are to be considered by the hereditary health court in the district in which the person referred to therein has legal residence, and are to be heard *in camera*. No judge can serve as presiding officer in one of these special courts in a case where he has rendered a decision appointing guardianship, nor can a medical officer who has sponsored an application function in his other capacity as a member of the hereditary health court in the same case.

The court is empowered to institute all necessary investigations and to call and to interrogate witnesses and experts. Physicians who serve as witnesses or experts must divulge information without observing professional secrecy. Judicial and governmental officials similarly must give all such information as the court may request. The verdict of the court must be in writing, and must include the grounds on which sterilisation was approved or disapproved. The decision is then transmitted to the medical officer, to the person whose sterilisation was up for decision, or to this person's legal representative. If the decision is in the affirmative, it remains inoperative for one month. During this period appeal may be made to the hereditary health supreme court, whose decisions are final.

The authorised sterilisation operation may

be performed only in hospitals and by physicians specially designated. The operating physician must send a written report to the medical officer certifying that he performed the sterilisation and also by what method. The fees for operations, etc., which are prescribed are to be borne by sickness insurance funds where the patient is a member, or by public welfare funds where the patient is not a member of the sickness insurance funds and is needy. If the decision of the court is against sterilisation, reconsideration is permissible only upon receipt of new facts. Sterilisations not carried out in accordance with law, as well as castration, are permissible only to avert a serious danger to life or health of the patient, whose full consent must be obtained before the operation is performed. Sterilisation having been ordered by the court, it is to be performed even against the wishes of the person most concerned, employing force if necessary.

In connection with the law as to sterilisation, its objects and the procedures involved, a great amount of propaganda work is now in hand throughout Germany. For the instruction of the medical profession a number of special conferences have been called by the government, and at one attended by Dr. Peter, 498 physicians paid 5 marks each for registration fees for the three-day session, sitting from nine in the morning till one or after in the afternoon, and then visiting hospitals and asylums where cases were presented and discussed. At another medical congress of the same kind the course lasted for seven days, cost 25 marks registration fee, and so many physicians enrolled that the list had to be closed.

By means of articles in the press, the public are informed that the number of cases to be dealt with is round about 400,000, distributed among the nine diseases which the law defines as hereditary, half the individuals being males and half females. The larger portion are suffering from inborn feeble-mindedness.

The cost of an operation on a male is estimated to be about 20 marks. It is so simple that the man need stay on his back only four days. Calculating on the basis of 200,000 males, the total cost will be about 4,000,000 marks. The operation in the case of the female being more involved and hospitalisation more prolonged, the cost will be higher, approximately 50 marks; so that the sterilisation of 200,000 females will cost 10,000,000 marks. These 14,000,000 marks constitute a special burden in the first years, but having regard to the fact that at present the care of the "hereditarily sick"

costs 350,000,000 marks annually, an expenditure of 14,000,000 marks is almost insignificant. In any case, at the end of thirty years at the outside, the reduction in cost for maintenance of the sick will have been very markedly reduced: and anyhow, the bulk of the cost for the operation falls not on national but insurance funds.

Reports with regard to the effects of the operation of the law should be extremely interesting, and are eagerly awaited.

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The Tuberculin Reaction.

REFERENCE is made shortly elsewhere to the valuable collection of brochures on particular subjects recently issued by the Joint Tuberculosis Council. Actually several of these call for extended notice, but in the meantime, because of the peculiar interest and importance attaching to it, the note on tuberculin reactions by Dr. W. H. Tytler, of the Central Tuberculosis Laboratory, Welsh National School of Medicine, is given preference.

In this note, after describing the outstanding features of the several types of reaction, Dr. Tytler gives the various views as to the nature of the active principle of tuberculin, and also discusses the question of standardisation and, amongst other matters, sensitisation resulting from tuberculin testing and the specific sensitivity to tuberculin shown by tuberculous subjects.

As regards the reactions, the three main types observed, it is explained, are:—

1. The *local reaction*, occurring at the site of application of tuberculin to the undiseased tissues of the sensitive individual, seen most typically with injection into the skin, or application to its surface, or to mucous membranes. The reaction is localised, and, where the dose is large, necrosis with ulceration may occur. Where the injection is subcutaneous, the local reaction is more diffuse and of shorter duration, since the active material is more rapidly absorbed and removed.

2. The *focal reaction*, occurring in, and more particularly about, tuberculous lesions, after the entry of tuberculin into the general circulation. The reaction is inflammatory, and essentially of the same type as the local reaction, but may be very severe, leading to necrosis and elimination of tuberculous tissue, and also to the spread of infection to surrounding healthy tissue. It is not certain whether the reaction is produced solely by circulating tuberculin, or whether the latter causes a minimal reaction leading to the liberation of more tuberculin from the lesions, with a fulminant result.

3. The *general reaction*, febrile or toxic, produced by the entry of tuberculin into the general circulation, and usually ascribed to toxic absorption from numerous focal reactions, though it is possible that the non-tuberculous, but sensitive, tissues of the body generally may take part in its production.

These two last, it is noted, are of frequent occurrence as spontaneous events in the course of tuberculous disease, and probably have an important influence on the development and spread of lesions, an influence which is the most important danger to be anticipated from the administration of tuberculin in doses sufficient to produce such reactions.

The active principle responsible for eliciting the characteristic skin-reaction is contained in the normal protein fraction of the tubercle bacillus. This fraction appears to consist of more than one protein, but that most readily prepared and most active is one which is soluble in water at neutral reaction, and which may be extracted from the bacillary bodies in amounts up to at least 10 per cent. of the original dry weight. This protein is combined with relatively large amounts of nucleic acid, which may be split off by appropriate means. The water-soluble protein shows a strikingly constant activity, on a dry weight basis, as between different batches, Dr. Tytler's own products showing only small variation from the average value, which is such that 5 milligrammes is equivalent, by skin reaction, to 1.0 c.c. of standard old tuberculin.

With the growth of tubercle bacillus cultures on fluid media, there is extensive death and disintegration of bacilli with liberation of the protein into the media, which is responsible for the activity of the orthodox tuberculin prepared from culture filtrates. This protein can be recovered from such tuberculins in a purified form similar to that prepared from bacillary extracts. It usually shows some evidence of denaturing; it has a much lower nucleic acid content, and usually a lower solubility than the extract preparations, while its tuberculin activity is usually less, though still high.

These purified tuberculo-protein preparations give skin reactions which are usually rather more clean-cut than those produced by old tuberculin, and which show less surrounding erythema. They have the advantages that they may be stored in the dry form indefinitely without loss of activity or solubility, that they are assessable on a dry weight basis, and that, when required, they may be made up in permanent glycerin solution at a strength at least ten times that of standard tuberculin. Their use, for diagnostic skin testing, has spread rapidly in America, during the past two or three years, and it is probable that they will entirely supplant old tuberculin for this purpose.

Until very recently it has been assumed

generally that the toxic effect of tuberculin on the tuberculous subject, when injected subcutaneously, or by other routes which lead to rapid absorption, depends on the same substance which elicits the skin-reaction, but some recent results cast doubt on the accuracy of this assumption. Dorset, Henley, and Moskey, in 1927, found, with dialysis of certain culture-filtrates, that the dialysates, although as usual, giving no skin-reaction, were yet actively toxic when injected subcutaneously in the tuberculous guinea-pig. More recently, Maschmann and Küster have been able to separate from tuberculin, by adsorption on kaolin, a substance of high specific toxicity, with very low skin-reacting value, and have also, by prolonged dialysis of tuberculin, produced a preparation with full skin value, but with very low toxic effect. They claim that this "haut-tuberkulin" is much safer for diagnostic skin-testing than the orthodox old tuberculin, since there is little danger of producing focal reactions. Dr. Tytler notes that his own protein preparations from bacillary extracts show, in general, a lower value by the lethal method of testing, than by the intradermal method.

These results indicate that the two effects are produced by substances of different particulate size, but not necessarily that the substances are chemically distinct. Seibert has found that the skin-reacting material in tuberculin, particularly when this has been heated, may be present in molecular aggregates of widely varying size, and Dr. Tytler has found, with ultrafiltration, that collodion membranes which hold back all skin-reacting material from solutions of the purified protein, will allow much active material from whole culture-filtrates to pass.

Discussing the question of standardisation of tuberculin, Dr. Tytler shows that up to recent years the method universally employed was the *lethal reaction*, in which graded amounts of the unknown tuberculin are injected subcutaneously in tuberculous guinea-pigs, and the smallest amount which will cause death within a specified period is determined, as compared with the analogous value for the standard tuberculin. In most countries, this method has now been replaced, to a very large extent, by the *intradermal* method, in which serial dilutions of the unknown are injected intradermally, and compared against similar dilutions of the standard, in the same tuberculous guinea-pig. The lethal method, for accurate results, requires the use of large numbers of animals, and even under such conditions, is probably

less sensitive than the intradermal method, which, in addition, is much less expensive, and gives the value relevant to the methods employed in the great bulk of diagnostic tuberculin testing.

In Great Britain, Denmark, and Germany, systems of state control are in operation, and in these countries, the standard used is the international standard old tuberculin, the main supply of which is kept at Copenhagen. In other European countries the control is less well-defined, and standardisation depends mostly on the individual manufacturers, some of whom appear to use the international standard. In Great Britain, state standardisation is based on the intradermal method, but in Germany the lethal method is still used, though the introduction of the intradermal method as well is contemplated.

The tendency on the part of the tuberculous subject to develop, in addition to the specific sensitivity to tuberculin, a definite increase in the capacity to react to various non-specific foreign proteins and protein derivatives, particularly those of bacterial origin, is noted. In general, however, the amount of such substances necessary to elicit a reaction is much greater than the amount of tuberculin required for an equivalent reaction. Proteins and tuberculins derived from the various non-pathogenic acid-fast bacilli more nearly approach in activity to specific tuberculin, while between the human, bovine and avian types of tubercle bacilli specific differences are relatively small.

Concluding his valuable discussion of this important subject, Dr. Tytler refers to the question recently raised of the possibility that repeated tuberculin tests may give rise to sensitivity in the non-tuberculous subject and so lead to errors in diagnosis. In experimental work it is admitted some degree of sensitivity may be produced by suitable treatment with tubercle bacillus protein, and Seibert has recently reported that such sensitivity may be produced with regularity by intradermal injections of protein in the normal guinea-pig, repeated at short intervals. As compared to any amounts of tuberculin which could be used in diagnostic tests, however, the amounts of protein used by Seibert were relatively enormous, and the degree of sensitivity appears to have been small. She has found, however, that the active material present in old tuberculin in small molecular form has no sensitising capacity, while still retaining its skin reacting activity. In general, the danger of any error arising from such

artificial sensitisation in the non-tuberculous subject seems remote, with any type of tuberculin.

There is, however, considerable evidence that, in the tuberculous subject, the application of tuberculin may produce a temporary increase in general sensitivity, or more particularly in local sensitivity at the site of application. This occurrence was noted 25 years ago in connection with the ophthalmic reaction of Calmette, and the modern double intradermal test used in cattle appears to depend on a similar process. Where quantitative values are sought from the intradermal method, by progressive increase of the tuberculin concentration, it is probably important that no injection should be made at the immediate site of a previous test.

The Bacteriology of Puerperal Sepsis.

IN a communication dated April 13th, 1934, Sir George Newman, Chief Medical Officer of the Ministry of Health, advises medical officers of health of the discontinuance of the arrangements made early in 1932, for the carrying out at a central laboratory, of bacteriological investigation in cases of puerperal sepsis. Investigations under these arrangements have confirmed the importance of carriers of infection in the various forms of puerperal fever due to the streptococcus pyogenes. Because of the value attaching to bacteriological investigation in the problems which confront the medical officer of health in relation to such matters as the conduct of maternity homes and the suspension of midwives, and since administrative difficulties not infrequently arise from bacteriological uncertainty with regard to the nature and source of puerperal infections, Sir George Newman expresses the hope that every opportunity will be taken to obtain assistance on these points from bacteriologists attached to adequately equipped local laboratories.

On the occurrence of pyrexia in a lying-in woman, isolation and separate nursing of the patient should be arranged immediately, and swabs taken from the cervix, throat and nose. Simultaneously search should be made for any possible source of the infection, e.g., sore throat, tonsillitis, laryngitis, antral or skin infection in the persons who conducted the labour or were otherwise in contact with the patient during the subsequent 48 hours. Swabs from throat and nose and from any obviously infected site should be taken from all contacts, whether or not associated with clinical mani-

festations of disease. It should be remembered that as contact with hands and instruments is the most likely mode of infection of the genital tract, particular attention should be directed to infections or abrasions of the skin in anyone who has had such contact with the patient. Ordinary diphtheria swabs may be used for taking specimens except from the cervix, where a longer swab, mounted on malleable aluminium wire, is preferable. In swabbing the cervix a speculum should be used.

The examination of the swabs may lead to the detection of the same bacteriological strain in a patient and in someone who has been in contact with her, or to the establishment of the identity of the strain from the cervix with that from the throat or nose of the patient herself. As a result, appropriate treatment can be applied and necessary administrative action taken to prevent further spread of the infection.

The assistance of the Ministry of Health will continue to be available as formerly. If the medical officer of health desires to obtain such help he should inform the Ministry without delay, giving a short report of the cases of infection which have occurred and the bacteriological results, if any, which have been obtained, and stating on what particular point assistance is desired.

The Health, Comfort and Convenience of Industrial Workers.

IN a number of industries or processes, accommodation for clothing and washing is required by the Factory Acts or by regulations or welfare orders made under the Acts; but where no statutory requirement exists, many employers are desirous of making provision for the comfort of their workers, and local health officers as well as factory inspectors are frequently asked for advice upon the subject.

For the information of these officers and of employers and others concerned as to the manner in which such arrangements can best be provided, the Home Office have issued a third edition of the Welfare Pamphlet No. 8.* The matters discussed include accommodation for clothing put off during working hours; facilities for washing and baths; the supply of drinking water; and the provision of suitable and adequate sanitary conveniences.

Full and most helpful details with regard to construction, planning and so on of the various

* H.M. Stationery Office. Price 9d. net.

appliances and arrangements are given, and as there are numerous illustrations indicating lines to be followed and showing actual installations, the value of the publication to everybody is greatly increased. By health officers the pamphlet cannot fail to be appreciated.

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Cataloguing Medical and Public Health Films.

THE International Institute of Educational Cinematography, which is a League of Nations organisation situated in Rome, has in preparation an international encyclopædia of educational films which will include a catalogue of British-made medical and public health films. The official representative of the Rome Institute in this country is the British Film Institute, and the preparation of the British catalogue of medical and allied films has been entrusted to the medical panel of this body.

Under the terms of the recent International Customs Convention, educational films will be able to be circulated freely in the countries of those governments which have ratified the Convention, so that the existence of a comprehensive encyclopædia of medical films will make it possible for lecturers in and demonstrators of medical subjects easily to obtain both British and foreign films in their special subjects.

In compiling the British portion of the encyclopædia, it is necessary first to find out what medical and public health films of British origin are in existence, and are actually being used for instructional purposes at the present time. The British Film Institute, therefore, asks that medical practitioners and others having knowledge of such films will send particulars of them to the Institute at 4, Great Russell Street, London, W.C.1.

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Obituary.

DAVID LEES, D.S.O., M.A., M.B., F.R.C.S.ED.,
F.R.C.P.ED., D.P.H.

THE Society records with regret the death in his fifty-fourth year, of Dr. David Lees, Clinical Medical Officer under the Edinburgh Public Health Department, and head of the Department for Venereal Diseases in the Royal Infirmary of Edinburgh. He was an outstanding figure in public and medical circles of Edinburgh, and was one of the leading authorities in Britain upon venereal disease.

David Lees was born in Tarbolton, the son of Mr. Robert Lees, M.R.C.V.S., of Lagg, Ayrshire, a well-known agriculturist. After pre-

liminary education at Ayr Academy, he studied medicine at the University of Edinburgh, where he graduated M.B., Ch.B. in 1907. He later became Resident House Surgeon at the Royal Infirmary and House Physician at the Royal Maternity Hospital, Edinburgh. He served for four years in France with various units, being several times mentioned in despatches and obtaining the D.S.O. in 1917. In 1918 he obtained the diploma of F.R.C.S.EDIN., and was elected Surgeon to the Royal Infirmary, and Consulting Surgeon for Venereal Diseases to the Royal Maternity Hospital. Of these diseases he made a particular study, and his advice was sought in many directions. He was, for example, delegate of the British Social Hygiene Council to Cyprus and to India during 1926-27, with the responsibility of advising various governments on methods of dealing with venereal disease. He had written largely and practically on the subject, and in 1927 his book entitled "Practical Methods in Diagnosis and Treatment of Venereal Diseases" went rapidly through two editions. Probably the last of Dr. Lees' writings was a paper (to appear in an early number of PUBLIC HEALTH) dealing with the prevention and treatment of ophthalmia neonatorum, which was read before the Maternity and Child Welfare Group of the Society (of which he was a Fellow) in February of this year.

His untimely death is a great loss to the public health service, and much sympathy will be felt for his widow and son in their sad bereavement. The interment took place in the Grange Cemetery, Edinburgh, and was attended by a large number of members of the medical profession, and by representatives from various public bodies with which he had been associated.

CHARLES PORTER, M.D., B.CH., B.A.O., R.U.I.,
M.R.C.S., D.P.H., J.P.

With great regret the death is reported of Dr. Charles Porter, who was for twenty-three years Medical Officer of Health for Johannesburg, and more recently Professor of Public Health in the Witwatersrand University. Born in Cork in 1864, he was educated there and later in Dublin, and at University College, London. In 1889, he graduated in medicine, with honours and exhibition at the Royal University of Ireland. After holding resident appointments at maternity and fever hospitals in Cork, he took the diploma in public health at Cambridge University. In 1890, he was appointed Assistant

Medical Officer of Health for East Kent, and from 1893-98 he was Medical Officer of Health for Stockport. He afterwards transferred to Shropshire as its County Medical Officer, acting in this capacity until 1902, when he left for South Africa, to become more and more an influential figure as the years passed. He carried out a vast amount of work of public health importance for Johannesburg, and in turn he put through schemes for the purification of the City's water supply, for disease prevention, child welfare, control of milk supply, and disposal of refuse and sewage. He was consulting adviser to the Rand Water Board from its inception, a member of the Public Health Council of the Union, specialist adviser in military hygiene to the Union Defence Force, and a member of numerous Government Commissions relating to education, hospitals, mining regulations, prisons and housing. He was a Fellow of the Society of Medical Officers of Health, and was President of the South African Medical Congress in 1923.

ANDREW MCFARLANE, M.D., CH.B., M.R.C.P.ED.,
D.P.H.

The death of Dr. Andrew McFarlane, a Medical Officer in the Department of Health for Scotland, will be a cause of sorrow to many colleagues who have worked with him in his short career. Born in 1898, Dr. McFarlane was educated at Biggar Grammar School and Edinburgh University. He graduated M.B., Ch.B. with Honours in 1922, and proceeded to the M.D. degree the following year. Later he took the M.R.C.P.EDIN. and the D.P.H. of the Scottish colleges. After a series of resident clinical posts, he entered the public health service as an Assistant Medical Officer in Surrey, where he remained for two years, when he was appointed Deputy Medical Officer of Health, Venereal Diseases Medical Officer and Assistant School Medical Officer at Darlington. In November, 1933, he was selected for appointment as a Medical Officer of the Scottish Board of Health. Unfortunately, illness prevented him taking up his duties, and although he underwent two serious operations, his condition was not relieved, and he died in Edinburgh on April 2nd, 1934. He was buried at Leadhills, his birthplace. Dr. McFarlane, who was a Fellow of the Society of Medical Officers of Health, possessed the highest academical qualifications, combined with great personal charm of manner, and was held in high esteem in the areas in which he worked. He leaves a widow,

and a son and a daughter, aged nine and seven years respectively.

JAMES ANDERSON, M.A., M.D., C.M.EDIN.,
B.HY.DURH.

By the death on April 6th, at the age of sixty-eight years, of Dr. James Anderson, for thirty years Medical Officer of Health to the Cramlington Urban District Council, a popular and highly esteemed personality has been removed from East Northumberland. He had been in practice in the extensive colliery districts of Seaton Delaval and Cramlington for some forty years, and took an active interest in the work of the St. John Ambulance Brigade, being Assistant Commissioner for the Northern Section, and a Commander of the Order. Dr. Anderson rendered conspicuous service to public education, and had been Chairman of the Seaton Delaval Education Committee. He was recently re-elected to the Northumberland County Council, on which he had previously served for six years. He was also a Justice of the Peace, and regularly attended the courts of Blyth and Whitley Bay. Joining the British Medical Association in 1892, Dr. Anderson was Chairman of the Blyth Division from 1923 to 1927, and a member of the Representative Body of the Association on a number of occasions. He was a member of the Local Medical and Panel Committee of Northumberland from its inception, and Chairman during the last three years. Dr. Anderson was a Fellow of the Society of Medical Officers of Health, attached to the Northern Branch.

MARTHA KEITH, M.B., CH.B., D.P.H.

We regret to record the death of Dr. Martha Keith, an Assistant Medical Officer of Health for the City of Norwich. She studied medicine at the University of Edinburgh, graduating M.B., Ch.B., in 1926, and obtaining the Edinburgh D.P.H. in 1930. Dr. Keith was a Fellow of the Society of Medical Officers of Health, attached to the Eastern Branch.

SIR HILTON YOUNG, the Minister of Health, has appointed Mr. J. A. Lawther, M.B.E., of the Ministry of Health, as Secretary to the Departmental Committee on the cost of hospital and other public buildings, and all communications relating to the work of the Committee should be addressed to him at 2, Whitehall Gardens, London, S.W.1.

Modern Developments in the Tuberculosis Scheme.

By GEORGE JESSEL, M.A., M.D., D.P.H., Tuberculosis Officer, Lancashire County Council; G. T. HEBERT, M.D., F.R.C.P., Physician, Tuberculosis Department, St. Thomas's Hospital; PETER EDWARDS, M.B., CH.B., Medical Superintendent, Cheshire Joint Sanatorium; R. C. WINGFIELD, M.B., F.R.C.P., Medical Superintendent, Brompton Hospital Sanatorium, Frimley; and F. T. H. WOOD, O.B.E., M.D., D.P.H., Medical Officer of Health, Bootle.

The contributors to the symposium on tuberculosis, which was held on the occasion of the third ordinary meeting of the session in London on February 16th, 1934 (the President in the chair; Dr. George Jessel, President of the Tuberculosis Group, Vice-Chairman), included specialist workers in all fields of the tuberculosis campaign. In each contribution there is the note of authority and such clear evidence of knowledge and experience as must increase its value to all concerned in and for the solution of the problem.

DR. G. JESSEL.

THE RÔLE OF THE DISPENSARY.

LET us recall the functions of a tuberculosis dispensary as defined in the Interim Report of the Inter-Departmental Committee on Tuberculosis:—

- (1) Receiving-house and centre of diagnosis.
- (2) Clearing-house and centre for observation.
- (3) Centre for curative treatment.
- (4) Centre for examination of contacts.
- (5) Centre for after-care.
- (6) Information bureau and educational centre.

The questions we have to consider are:—

- (a) Whether in the main these functions still survive.
- (b) What modifications, if any, have taken place as a result of 20 years' experience.

The answer can be given in a sentence: On foundations, proved to be well and truly laid, a superstructure has been raised that is honourable to the builders. As regards (4), (5) and (6), little need be said. The examination of contacts; after-care, whether by means of care committee, guild of help or *ad hoc* assistance from dispensary funds; and educational work as part of the daily routine of the tuberculosis officer and dispensary nurse, as well as by means of lectures and addresses—all these remain an integral part of dispensary routine. The developments that have taken place are mainly in connection with diagnosis and treatment.

Diagnosis.—It is clear from a perusal of clinical journals and annual reports that before the discovery of X-rays, reliable diagnosis by the conservatively minded was the rule. Confirmation is to be found in the fact that few of the patients diagnosed as non-tuberculous subsequently presented evidence of tuberculous disease. On the other hand, there is good reason to believe that there was a definite tendency to diagnose tuberculosis too readily, especially in children. It must be remembered that when dispensaries were first established, the tuberculosis officer had no easy task. He found himself engaged in a new service, the very existence of which seemed to some general practitioners to imply some deficiency on their part, to many of whom the Insurance Act, with which it was linked until the passing of the Public Health Act, 1925, was anathema. So long as the tuberculosis officer's equipment was similar to that of the general practitioner, it was perhaps not unnatural that sometimes the latter was inclined to doubt the special competence of the new officer, whom he was expected to regard as a consultant. After all, a rapidly acquired, though intensive, training does not necessarily imply experience and judgment. Fortunately, a new chapter in the diagnosis of pulmonary conditions opened with the introduction of radiology, which during the past few years has become increasingly recognised as an indispensable adjunct to the older diagnostic methods. It is not so much that X-rays diagnose tuberculosis. History, symptoms, the finding of tubercle

bacilli in the sputum and physical signs are frequently sufficient to enable a diagnosis of tuberculous disease sooner or later to be made. What radiology does is (1) to furnish information as to the localisation of tuberculous disease, if present (this is invaluable when modern methods of treatment are under consideration); (2) to eliminate tuberculosis, which might otherwise have been diagnosed (this is even more important); and (3) to enable a differential diagnosis of non-tuberculous conditions to be made, *e.g.*, bronchitis, bronchiectasis; abscess, malignant disease, etc.

In this connection a note of caution must be sounded. Radiology can be a good servant, but a bad master. A poor skiagram is worse than none at all. Experience has shown that the systematic use of radiology is essential, in order to obtain its full value. The best results are undoubtedly obtained when there is an efficient X-ray apparatus at or in close association with the dispensary, and in charge of a suitably qualified member of the dispensary staff. In this way, the clinical and X-ray findings can most readily be correlated, whereas if occasional skiagrams are taken by an outside radiologist, close co-operation is difficult, and the systematic study of what I may term "living pathology" becomes impossible. There is no doubt that the use of X-rays in the manner suggested is, in the long run, the most efficient and economical. It results in a considerable saving to local authorities, as thereby the heavy expense of prolonged treatment of the non-tuberculous in residential tuberculosis institutions can be avoided.

The use of tuberculin in connection with diagnosis, which had practically fallen into disuse, has recently been revived as the intradermal (Mantoux) test at some dispensaries. Although its value in diagnosis appears to be strictly limited, it may be that its systematic use on a large scale may provide useful epidemiological information.

The cumulative effect of the various diagnostic methods, when properly applied, has resulted in a considerable shortening of the time required for diagnosis. Whereas it was not uncommon to find scores, or even hundreds of observation cases on dispensary registers, it is now usually possible to decide within two or three weeks whether a patient has tuberculous disease requiring treatment.

It is perhaps not surprising that there has been of recent years a steady improvement in

the use made by general practitioners of the facilities now available. Thus, in the County of Lancashire during 1932, 89 per cent. of new cases were sent to the tuberculosis officers for an opinion as to diagnosis, before notification, while in one area the medical attendant was present in over 90 per cent. of home visits by the tuberculosis officer to new cases, and 61 per cent. of all the patients referred were found to be non-tuberculous.

Treatment.—Turning to the question of treatment, the administration of tuberculin and the routine provision of cod-liver oil are now chiefly of interest to the student of history.

The growing utilisation of artificial pneumothorax in residential institutions has led to some provision for refills at many dispensaries. It is, however, a matter for regret that there are still many dispensaries where no such provision has yet been made. Actinotherapy has been available for some years at a few dispensaries, the patients being mainly cases of lupus and cervical adenitis, and good results have been generally reported.

Brief allusion must be made to the existence in some counties and county boroughs of tuberculosis hospitals or pavilions, where the responsible medical officer is also a dispensary officer. The position of the latter is thus analogous to that of the private consultant who has hospital beds. Such an arrangement is particularly advantageous in tuberculosis, where the social and environmental circumstances of patients need special consideration. There is much to be said for the treatment of patients near their homes in properly equipped institutions by medical officers, through whose hands they passed at the dispensary before diagnosis, and to whose care they will return on discharge.

In conclusion, the tuberculosis officer ought to be a physician with a public health outlook, but it is not always easy to bring these two essential aspects of his work into harmonious relationship. To some men, the clinical side makes a special appeal, while to others the administrative aspects are more attractive.

The appointment of dispensary officers to administrative and, incidentally, more lucrative positions as medical officers of health may, or may not, be a loss to clinical medicine, but it serves to add one more to the number of such officers who face the complex problems of tuberculosis with sympathetic knowledge and insight.

Modern developments in dispensary practice have increased the importance of the clinical side of the tuberculosis officer's duties, by placing at his disposal more precise methods of diagnosis and treatment. It is thus essential that he be not overburdened with administrative routine, such as an intelligent clerk can efficiently perform, for on his skill and judgment as a progressive clinician he stands or falls.

DR. G. T. HEBERT.

A LONDON DISPENSARY.

As Hon. Secretary of the Tuberculosis Association, I desire, in the first place, to thank the Society for the invitation extended to the members of the Association to attend the meeting and take part in the discussion. I have been asked to speak presumably as representative of the metropolitan tuberculosis officers, but I desire to make it clear that my opinions are purely personal, and are based on some 18 years' work as tuberculosis officer in London.

I propose to compare certain aspects of dispensary work in 1934 with those of 1920. During this period the work of the different dispensaries in the country has developed, but not necessarily in the same directions in each case. Thus we find that dispensaries, and the problems of their tuberculosis officers, are different in London from those in, say, Lancashire and again from those in, say, Cornwall. The two main factors responsible for the differences are the financial and the geographical.

The following summary of views on various aspects of tuberculosis work relates to experience in my own dispensary at St. Thomas's Hospital:—

1. *Diagnosis* is, in 1934, very much more exact and rapid. This is partly owing to increased clinical experience, but largely to the availability of modern aids such as first-class radiology. Personal consultation with specialists in other departments of St. Thomas's Hospital is very easily arranged. The local practitioners have acquired the habit of sending their doubtful cases to the dispensary, and a patient can reach the dispensary in a few minutes from any part of the borough.

A dispensary cannot develop into a successful diagnostic centre if (a) the local authority cannot afford to appoint tuberculosis officers

of experience, or to provide modern facilities for diagnosis, and (b) the problem of travelling (patient to tuberculosis officer or *vice versa*) is a serious one.

2. *Treatment*.—In 1934, less medicine is given. No tuberculin, except for a few non-pulmonary cases. No sanocrysin. Artificial pneumothorax refills in increasing numbers. With artificial pneumothorax refills, the problems of equipment and of travelling also occur.

3. *After-care*.—In 1934, general all-round improvement in methods. In densely populated areas, visiting takes less time (*i.e.*, more visits can be made) but overcrowding militates against effective work.

4. *Prevention*.—In 1934, *no material progress*. Contact examination has proved of very limited value for two reasons: (a) latency of disease; (b) modern idea of decreased importance of infection. "It is doubtful if one adult (who has passed through the usual childhood infection) ever catches phthisis from another." (Morland.)

One useful development is the facilities for the boarding-out (segregation) of children in infected households.

5. *Co-ordination*.—In 1934 this is still unsatisfactory, especially between tuberculosis officer and medical superintendent of sanatorium. The geographical factor makes personal contact between the two impossible. Contact, however, is being established between the tuberculosis officer and the medical officer of the local hospital of the London County Council.

DR. PETER EDWARDS.

DEVELOPMENTS IN THE SANATORIUM.

My first difficulty is to know what is meant by "modern," for the sanatorium ideal is a modern conception. Hippocrates knew the fundamentals of light, air and water, and again in the old poem of Salerno, we find:—

"Use three physicians still: first Dr. Quiet, Next Dr. Merryman and Dr. Dyet."

Though the essentials are old, we have applied method to the quiet, the diet and the merryman, the sunshine and the air of the Greeks. This methodical application is the modern sanatorium, and it makes an entirely different institution from the convalescent home. I take it that by "modern development" is meant the development since 1900, and it is with this I propose to deal.

1. The genius of Marcus Paterson evolved a marked change in the outlook for the industrial consumptive. Primarily, essentially he advocated rest—typhoid, absolute rest until the patient was in control of his disease and then a progress by meticulous graduation to heavy labour. This radically changed the patient's mental attitude, for the fear and despair, bred of ennui, gave way to courage and hope. The extensive adoption of the Paterson routine was grand, yet attended by a liability to abuse, particularly by physicians empty of Paterson's enthusiastic care and by ignorant committees anxious to run their sanatorium "on the cheap." Paterson's method, alas, is not applicable to a large number of cases.

2. Jane Walker and Esther Carling next put method into Dr. Merryman, the psychologist, and introduced occupational therapy, with which is associated full control of the patient's leisure time—a ruling as to the games permitted, the concerts and plays to perform.

The realisation of the improvement in mind and body due to occupation, and also that a good environment is desirable, if not essential, led to Philip's Farm Colony and Varrier-

Jones' Village Settlement. It is not apposite to speak of the development within the colony.

3. Lillingston and Pearson, under circumstances of dramatic interest, drew attention to artificial pneumothorax in 1910, and Parry Morgan in 1917 showed how it could still further be extended to the apparently hopeless and double-sided case. This adoption of artificial pneumothorax is hailed as the greatest advance. So it is if properly prescribed and efficiently conducted: for example, the following figures from my series speak for themselves. These are cases from three to nine years after attempted induction or induction.

L.S.O. = "lost sight of."

T.B. +2 and T.B. +3 are according to Ministry of Health classification.

Complete = "satisfactory artificial pneumothorax."

Failed means cases in whom induction was attempted, and no further operative treatment undertaken.

The figures, therefore, show not only the value of an artificial pneumothorax but the great value of artificial pneumothorax with phrenic evulsion.

	Alive.		Dead.		L.S.O.		Total.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
T.B.+2								
Complete	{ With phrenic 74 = 93.68		{ 3 = 3.79		{ 2 = 2.53		{ 79 say 100	
	{ Without phrenic 30 = 65.21		{ 13 = 28.26		{ 3 = 6.52		{ 46 " 100	
Failed	{ 12 = 28.57		{ 28 = 66.66		{ 2 = 4.76		{ 42 " 100	
T.B.+3								
Complete	{ With phrenic 13 = 81.25		{ 3 = 18.75		{ — —		{ 16 = 100	
	{ Without phrenic 6 = 31.58		{ 12 = 63.15		{ 1 = 5.26		{ 19 say 100	
Failed	{ 3 = 8.11		{ 31 = 83.78		{ 3 = 8.11		{ 37 " 100	

4. The thoracoscope of Jacobaeus, the chest surgery pioneered for us by H. Morriston Davies, Tudor Edwards and Roberts next came to deal with our artificial pneumothorax failures. Cauterising, phrenic evulsion, apicolysis, thoracoplasty opened wide the door for the surgeon to enter the sanatorium and help in a number of cases, and so facilities for operating and recovery have had to be provided.

To make the best of this advance, development occurred in another realm, *viz.*, X-rays.

5. Thanks for X-rays in the diagnosis of the lung condition and for the control of treat-

ment is mainly due to the manufacturers who have made X-ray photography easy for physicians, so that to-day some of the best chest pictures come from amateurs. Unfortunately, some wrong is done in the name of radiography. Inefficient or total lack of screening in the control of artificial pneumothorax is to be deprecated, whereas some of the pictures can only mislead. It is not enough to have any sort of radiogram of the chest. To-day pictures can, and should, be taken rapidly at, say, 2 metres with high milliamperage, low K.V.P., processed by a lad with time for photography and interpreted

by a physician with ample experience. The elaboration of lipiodol as a radio-opaque material was a distinct development in X-ray diagnosis.

6. For long Denmark appreciated the limitations of light treatment. The British sanatorium, despite some wild extravagances with lamps of all kinds, has also at last come to know that ultra-violet treatment may help with cases of laryngeal and intestinal tuberculosis, as well as lupus.

7. Drugs and more drugs have been developed. One only, gold, has definitely proved its value.

8. The Ministry of Health, for good or ill, has a classification of pulmonary tuberculosis dependent upon the absence or presence of tubercle bacilli in the sputum; much is said about human and bovine tubercle bacilli in phthisis. Gold, because of its toxicity, demanded control. Prognosis has become more certain by the blood picture and the sedimentation rate; therefore the diagnosis, classification, treatment, prognosis, and research in pulmonary tuberculosis necessitated the laboratory.

9. Another development is a fuller realisation of the limits of sanatorium treatment—both as to the length of stay necessary and of the type of case to be admitted. As to length of stay, experience has upset the original childish notion that pulmonary tuberculosis in a working-man can be cured by three months in an open chalet in boisterous Britain. This notion of three months led to inefficient treatment and the condemnation of the result. Length of stay should be dependent upon likelihood of improvement. As to the type of case, the sanatorium now admits patients in any category if there is reasonable hope that modern methods will help. Further, any patient with surgical tuberculosis, if he also has pulmonary tuberculosis, is considered a lung case and must be admitted; so that some sanatoria wisely have an orthopaedic section.

10. And so to Dr. Dyet? In 1510, Paré fed a patient with broth from the great pot in the kitchen, together with plums stewed in wine, white meat of capons and wings of partridges, and prescribed sauces of orange, sorrel, bitter pomegranate and told him to eat good herbs as lettuce, perslain, chicory, marigolds and water lilies. Dan Powell, tired of the third-rate efforts of the modern kitchen, knowing the art of cookery was being lost

and appreciating that the knowledge of food values was unknown to most people, with rare insight and sure instinct transformed a barn into a Welsh cottage and so introduced the next great development in the modern sanatorium, *viz.*, the training of women patients in housecraft and dietary under a teacher of domestic science. Apart from its obvious practical value and its excellent effect on the patient, this cottage scheme has in these days the appealing virtue of being an extraordinarily cheap method of education and treatment.

11. Lastly, a vital development, the care of the tuberculous has been removed from the general hospital. Some general hospitals imagine they still have sufficient material for the teaching of medical students. May be; but they certainly have not sufficient material for research into tuberculosis nor for the development of skill in the full treatment of the tuberculous. Everything to do with the tuberculous is being cast upon us officials, and many of us, unfortunately, are content to work a fixed time!

"Be prouder than the punctual rigid clerk,
And stickle not to labour after dark
For you take nature's orders, he the
clock's."

This is an evil omen for research. Yet if the official is anxious to do the work, what facilities are given? Is not every penny expended scrutinised? Is not the aim, low cost per head? Then how is the official to develop skill? There are only 21 sanatoria with over 250 beds in the kingdom, whereas ten times that number contain less than 50! I do not agree, but those with little experience of collapse therapy reckon that 5 per cent. only need this form of treatment. What skill will a man develop with 5 per cent. of 50, and where will he be with the cautery, lipiodol or phrenic?

"Who'd win his fight must wage a constant war

Have sense in his fingers, eyes behind his head."

Diet, fresh air, rest and controlled exercise with occupational therapy remain, and, I imagine, ever will remain, the foundation of the sanatorium; but the sanatorium has become the treatment centre. All cases who have any hope should be admitted to this institution. Collapse therapy offers a wide, wide field. The type of case admitted and

modern treatment have altered our ideas on the staff and the buildings necessary.

As to staff, chest and orthopaedic surgeons, laryngologists, radiographers, laboratory technicians, etc., are necessary, and since it is impossible and undesirable to be dependent upon patient labour in the running of the institution, there will have to be provided adequate nursing and domestic staff.

As to buildings, there was a slavish adoption of continental types of buildings; but to-day we adapt to suit the good British climate. Reasonable superintendents and the work of Leonard Hill teach a simple fact—patients need protection from the rigours of our climate. The sanatorium should be well situated for protection, sub-soil drainage and for views. As patients have to remain for many months, the buildings and grounds should be pleasant and such that encourage rest, which is best obtained in beds and not on chairs on verandahs.

There will be good hostel accommodation for trained nurses and maids, and a large home for probationers; the sanatorium will rely upon lifts and not have pavilions of great length at a distance from each other; and, as at Sully, small dining-rooms will be attached to each unit, so preserving the personal element. There will be a handicraft department, beautifully housed, and a good concert hall and cinema. Essentials are an operating theatre unit, a large X-ray room, fitted with surgeon's sinks for cauterising and lipiodols, a plaster room, a light department, a well-equipped laboratory with animal house, and lecture and demonstration room for nurses.

I feel that the sanatorium should be a large unit, a regional unit. Forty large sanatoria would, in my opinion, be better than this host of small affairs. I can see good in a sanatorium of 1,000 beds and have long wearied of the plaintive parochial cry of "We must have our very own," which comes from city and county. The combination of authorities was, and still is, suggested by the Ministry of Health as the most effective and most economical method, but the joint authorities are few and small. The large sanatorium could give the best treatment by the most skilled men—skilled, if for no other reason, because they have the patients to handle. It would give us sufficient data, and that rapidly, upon which to draw conclusions instead of the generalisations upon which nowadays we

languish—generalisations due to the minute numbers handled. Only a large institution or number of good-sized sanatoria under the same authority, as in Wales, can supply the necessary buildings and equipment economically; maintain a well-paid and skilled staff; give the best treatment; and provide material and opportunities for research.

DR. R. C. WINGFIELD.

CHEST RADIOGRAPHY AND COLLAPSE THERAPY.

During the last 15 years the changes and development of sanatorium work have been so incessant, but so gradual, that I find it difficult to crystallise my ideas on them in a short paper.

On the technical side the development of chest radiography and the use of the many forms of collapse therapy are certainly the two outstanding features. Only 15 years ago there was no X-ray plant at Frimley, and very few of the cases that were sent had ever been X-rayed. This position was remedied by the installation of, what seems to me now, a sort of Heath Robinson plant which gave us execrable plates—not films—after an exposure of several seconds. Full of enthusiasm, however, we fitted a highly dangerous home-made screening apparatus to it, and worked away. But the start was enough, and rough and coarse though the results were, we found such enormous help from them in the treatment of our cases that in a year or two we were able to show the necessity for a more up-to-date installation. From that time our use of X-rays and our study of X-rays have increased year by year and are still increasing, and I now confidently state that the treatment of any case of pulmonary tuberculosis cannot be performed efficiently without systematic radiography. By this I mean routine serial X-rays of almost every case under treatment, using a technique that will produce films which are strictly comparable as to penetration, development, etc. It must be remembered that large new lesions can appear in the lung tissue with minimal and evanescent clinical evidence, and that older lesions can spread, and spread rapidly, not only without any obvious constitutional disturbance, but even with subjective feelings of increased health, with gain of weight and with a normal pulse and temperature chart.

If during the care of a case of pulmonary tuberculosis the physician of to-day is going

to be content with the criteria of improvement of 20 years ago, he will make a sad percentage of mistakes.

I heard a legend of an American physician who controlled his sanatorium entirely from his X-ray room, and deemed it almost unnecessary to see his patients. There is always a danger of that attitude when any valuable aid to treatment is discovered or developed, but as far as radiography is concerned it is, of course, a wrong one: radiography must never, and can never, supplant clinical observation; it can only enhance its value. This fanatical attitude towards therapeutic improvements is well illustrated by the remark of another American (no legend this time) which was made in the summer of 1933 and in front of witnesses. He said: "The treatment of tuberculosis is 100 per cent. surgical," and this introduces the second great technical development—collapse therapy.

The subject of collapse therapy, perhaps, should not properly be discussed under the heading of sanatorium treatment, but under that of hospital treatment. But as such a large number of sanatoria in England, for administrative and other reasons, have to combine the functions of hospital and sanatorium, perhaps I may be allowed to introduce it here. Many of us, no doubt, heard the discussion at the Royal Society of Medicine recently on collapse therapy. My criticism of that discussion is that we heard far too much from the openers and not enough discussion, but one remark made during the discussion does suggest that collapse therapy can be discussed under the heading of sanatorium treatment. It was Mr. Roberts, I think, who insisted upon the importance of choosing the right time to interfere with nature and to produce collapse. The best time to make this choice is often during sanatorium treatment, for it is not always an easy task to determine whether a patient should have this or that form of collapse, or whether he needs any at all. Under hospital conditions the most unpromising cases can make such unexpected improvement that drastic measures seem uncalled for. The answer to the question of whether this improvement is real or only apparent can often only be given by observing the patient as he gradually approaches the conditions of normal life during his routine sanatorium course. In so far as collapse therapy has given us a most valuable weapon to fight tuberculosis in

cases that we formerly despaired of, and in so far as this has focussed our attention greatly on the hospital treatment of the disease, so has the sanatorium developed a new rôle as a place for accurate observation and assessment of a patient, a place from which he may be taken and put back again under hospital treatment should his condition necessitate it—a very different idea from the old one of hospital, sanatorium, and if these fail, all has failed. This newer attitude was foreshadowed in a remark made to me by a celebrated and wise physician who had a strong anti-Patersonian bias. "Graduated exercise," he said, "is not a treatment for pulmonary tuberculosis, but it is a most valuable test of the efficacy of our treatment." I think this is a side of sanatorium treatment that should be developed further. In no disease is it so easy to hide one's head in the sand as in tuberculosis. It is hard indeed for doctor and for patient to have to retrace their steps and start again, but if, during the sanatorium course, things are not going so well as was expected (and here, in spite of clinical camouflages, the cold clear light of the X-ray will usually show us the true picture) and if there is anything to be gained by further rest or by the interference of collapse, the position must be faced and steps retraced. It is by the careful use of the sanatorium as a place of skilled observation that we can make use of Mr. Roberts' advice to be sure of choosing the right time for collapse therapy and, incidentally, the right type of collapse therapy. This function of observation has led to modifications of our use of rest and exercise during the sanatorium course. The tenets underlying Paterson's use of graduated exercise have now been discarded, but as long as we are endeavouring to treat our patients rather than merely treat their disease, so long shall we use graduated exercise and labour during our sanatorium course. We must never be content with just seeing the disease checked by rest; we must always want to assure ourselves that it remains checked under conditions that approach to those of normal life. If we were still to use graduated exercise as a treatment of tuberculosis, we should have to force our patients through their grades, but as we now use it for observation and testing we watch them minutely as they pass through their grades, trying to find the safe limits of physical exertion that the disease allows to each individual. With the increase of our knowledge of the disease and with

increased facilities for tracing our patients and estimating the ultimate results of treatment, the question that confronts the sanatorium superintendent of to-day is not "How well can I get this patient on discharge," but "What treatment must I prescribe that will help him to keep well in the future." As Alexander Gibson has said in *The Physician's Art*, "If we sat down and thought out a prognosis with the same care that we ponder over diagnosis our mistakes might be fewer."

It would seem then that direct attack on the active lung lesion calling for institutions with hospital equipment and run on hospital lines is the marked development of to-day, and that the true sanatorium, at one time the important place of treatment when our methods were simpler, while still undertaking to carry on with special treatments, and still exerting its great educative influence, now has as its main function the putting of the final polish on the hospital treatment and the assessing of the condition of each individual case to see that the previous treatment has been sufficient and efficient.

DR. F. T. H. WOOD.

THE ADMINISTRATIVE POINT OF VIEW.

My contribution to this debate can be justified only as an expression of the non-expert opinions formed after having watched and in part administered the extension in the work of the health department which was made by the establishment of a tuberculosis service in 1911. The revolutionary step which was then taken by the creation of a special class of medical officer to treat at national expense patients suffering from the tuberculous group of diseases has been justified by the fact that it probably led to, and certainly made generally available, the technical advances in diagnosis and treatment which previous speakers have fully dealt with.

As a non-clinical worker and hence as one likely to place emphasis in unexpected places, I should say that the more important developments in anti-tuberculosis work have been:—

(1) An increased appreciation of the fact that the dispensary should be a diagnostic centre and a clearing-house, and that its treatment functions should be limited to the provision of specialist treatment not at the disposal of the general practitioner and not requiring institutional accommodation.

(2) The institution and extension of the

practice of examination of contacts, a practice which could be justified even if only on the ground that it procured the overhaul of a certain number of the general public, although this audience does not need reminding of such figures as those of Devonshire with six cases of pulmonary tuberculosis per 1,000 of the total population, and 24 cases per 1,000 contacts, or those of Lancashire with four per 1,000 of the general population, and 48 per 1,000 contacts. In this connection, G. B. Dixon of Birmingham wrote last year: "Tuberculosis has long been recognised as a family disease, and it is essential to regard the family rather than the individual as the unit for investigation, treatment and care."

(3) The partial and, as yet, insufficient acceptance of the thesis that the healthy child and the infective adult must be kept apart—that the sputum positive parent must not remain even in the same house as his child. On this point an editorial article in the *British Medical Journal* recently pointed out that from a pathological point of view the story of the development of pulmonary tuberculosis in childhood depends largely upon the dosage of infection, a point of view emphasised by the French school many years ago, and not yet sufficiently appreciated in this country.

(4) The lessening of the time occupied in making a diagnosis, coupled with less reluctance to make that diagnosis negative. In the former case, it is probable that some credit is due to the elaborate statistical returns required by the Ministry of Health, a credit factor to be set off against the obvious disadvantage of applying book-keeping practice to such a complex variable as tuberculosis.

(5) As regards non-pulmonary tuberculosis MacNalty, in his recent report, well summed up developments by saying that "the work of Gauvain at Alton, and of Rollier at Leysin, demonstrated that operative interference in surgical tuberculosis should be the exception and not the rule; that adequate nutrition, rest and prolonged immobilisation of the patient in a sanatorium environment, and in an open-air ward could bring about permanent healing; that natural and artificial heliotherapy were valuable ancillary measures of treatment; and that the patient (even when undergoing immobilisation, as Rollier has shown) by the use of special machinery and with technical instruction can be trained in an occupation which may be of service to him on discharge from the institution."

(6) The steady extension of radiology at every stage in diagnosis and treatment, although the general public, and perhaps even certain medical practitioners, need reminding that the X-ray photograph can tell of structural changes in the thoracic viscera without in many cases telling much about the etiology of the changes or whether the lesions are active and in need of treatment. Thus, as Fishberg has well said: "The film may reveal undoubted tuberculous changes in the apex of the lung, but whether the patient is in need of costly and prolonged treatment must be decided by other clinical data which are afforded by the history, symptomatology, physical signs and bacteriological findings."

(7) The induction and maintenance of artificial pneumothorax, although again it may be permissible to quote Fishberg, who says that "over 95 per cent. of patients with tuberculosis of the lung must still be treated along other lines, mainly because they will get well without this treatment with its potential complications, or the nature of the pulmonary and pleural lesions may preclude successful and satisfactory collapse of the lung."

In concluding this enumeration may I say that conspicuous amongst developments which have not been made are the use of tuberculin tests and complement-fixation reactions in diagnosis and of specific immunisation in prophylaxis or treatment.

Finally, as a discussion of this nature would be barren if limited to a review in retrospect, I suggest that future developments must be directed along the following lines, although it is not implied that these should necessarily be the functions of the clinical worker in the dispensary or the sanatorium:—

(a) Better health education in the schools, together with education of the general public as to symptoms and need for early treatment.

(b) Safety of the milk supply, obtained either through pasteurisation or through the encouragement of tubercle-free herds.

(c) The provision of more convalescent home treatment for children after measles, whooping cough and the pneumonias.

(d) More complete separation of the infective adult from the healthy child.

DISCUSSION.

Dr. T. W. Hill (Deputy Medical Officer of Health, West Ham) suggested that a sanatorium could not be an efficient unit unless it had from 600 to 1,000 beds. An institution of that size would have all essential modern equipment, and could be run on an economic

basis, preferably by a regional authority. The tuberculosis dispensary should not be operated on an *ad hoc* basis because (1) patients were reluctant to seek treatment at a so-called tuberculosis dispensary, and (2) there was a lack of expensive equipment necessary at such an establishment. The dispensary should be attached as part of a large out-patient department of a general hospital, where the tuberculosis officer (for whom "pulmonologist" would be a better designation) should be able to consult other departmental physicians.

Dr. A. J. Morland (Mundesley Sanatorium, Norfolk) defended the statement in his book concerning contacts, but considered that more evidence on the subject was necessary. The incidence of tubercle in contacts had proved a familial incidence (in one family of seven children, five had had tuberculosis and four had died; in another, three out of four children had had phthisis), but few cases of conjugal phthisis had been found.

Dr. G. Lissant Cox (Central Tuberculosis Officer, Lancashire) held that a modern development in tuberculosis that promised success was not the perpetuation of the divorce between the institution and the dispensary, but a synthesis between the two. Ever closer connection between the two sides of tuberculosis was urgently needed.

Dr. P. A. Galpin (Tuberculosis Officer, West Ham) urged that the dispensary of the future should take into account the questions of diet and psychology. Education of the people in the principles of diet was of great value, and should be commenced in the schools. The child who habitually avoided green vegetables and fat was the one who should be specially watched.

Dr. N. Tattersall (Chief Clinical Tuberculosis Officer, Leeds) said that where patients in his area were unwilling to enter hospital for pneumothorax, induction was carried out at home with beneficent results. Immunisation of children of tuberculous families had been commenced in Leeds, and appeared to be a procedure worth trying.

Dr. F. J. Bentley (Divisional Medical Officer, London County Council) supported the movement for closer co-operation between dispensaries and sanatoria, especially in London, and suggested that sanatorium superintendents should spend some time in dispensaries and that dispensary officers should visit the sanatoria.

Dr. James Watt (King George V. Sanatorium, Godalming) criticised the after-care organisation, which he considered almost a failure. Half the treatment was the after-care, and something much more radical than boots and clothing was wanted. Overhauling of the organisation was necessary, though to provide an efficient after-care service would probably mean far more in public money than the State was willing to spend at the present time. There was failure also to secure cases early for treatment. The school medical service, despite its efficiency, did little to anticipate the inroads of tuberculosis while it was still silent and symptomless, while it was still curable. In regard to co-ordination between the sanatorium and the dispensary, it might be possible in some counties to have all the dispensaries directed from a central sanatorium.

Dr. H. E. Watson (South Wales Sanatorium), referring to the tendency towards pneumothorax and collapse therapy, claimed that there was still room for

graduated exercises. A main factor in sanatorium treatment had always been the personality of the physician—an influence difficult to secure in a very large institution.

Dr. W. H. Dickinson, O.B.E. (Consulting Tuberculosis Officer, Newcastle-upon-Tyne) emphasised the value of radiology in diagnosis. It was usually possible within a week to give a definite opinion; this could not be done before X-rays were brought into use. In the occurrence of tuberculosis in several members of the same family there was often a strong familial resemblance suggesting a familial tendency to tubercle.

Dr. R. Veitch Clark (Medical Officer of Health, Manchester), in moving a vote of thanks to the opening speakers, said that it appeared the most striking developments in tubercle in recent years were (1) the

A CHADWICK Public Lecture will be held in the Hall of the Royal Society of Tropical Medicine and Hygiene, 26, Portland Place, London, W.1, on Tuesday, May 8th, 1934, at 5.30 p.m., when Dr. Jane Walker will discuss "Village Hygiene: Water Supply and Disposal of Refuse." The chair will be taken by Sir James Crichton-Browne, M.D., F.R.S. (Chadwick Trustee). Admission is free, and no tickets are required.

DR. LUKE GERALD DILLON, O.B.E., J.P., who is retiring to Oxfordshire after 50 years' residence in Seaham (Durham), for 40 years of which he has held the post of Medical Officer of Health, was recently made the recipient of presentations from the Urban District Council and officials to mark the high esteem in which he is held in the district and as an expression of appreciation of the excellent service he has rendered the community for so many years. Dr. Dillon is a Fellow of the Society of Medical Officers of Health, attached to the Northern Branch.

In connection with the international agreement for the treatment of seamen suffering from venereal disease, the Ministry of Health has recently issued a revised list (No. 7a) of centres in the ports at home and abroad where such treatment may be obtained. Accompanying the list are circulars 1,374 and 1,374a, addressed to the local authorities concerned, together with a leaflet prepared by the Office International d'Hygiène Publique after an enquiry into the practical working of the scheme.

enormous improvement in diagnosis, and (2) the means of making a reasonably accurate prognosis, which in tubercle had the same importance as convalescence in acute disease.

Dr. S. Vere Pearson (Mundesley Sanatorium, Norfolk), in seconding, referred to the importance of collapse therapy, which he held should be adopted fairly widely.

The President (Dr. Charles Porter), in conveying the thanks of the Society to those who had contributed to the symposium, voiced his appreciation of the extraordinarily fine discussion which had taken place and of the success of the meeting generally.

The Vice-Chairman (Dr. George Jessel) endorsed the remarks of the President, and expressed gratification at finding that there was general agreement on the views put forward.

THE Metropolitan Water Board has appointed Major C. H. H. Harold, O.B.E., R.A.M.C., as Director of Water Examinations in succession to the late Sir Alexander Houston. Major Harold is at present the Assistant Director of Hygiene of the Southern Command, responsible for the supervision of water systems and sewage plans within an area extending from Birmingham to Cornwall. His practical experience of the selection and bacteriological control of various types of water supply has extended over many years, and has included service overseas in connection with the initiation of permanent water supplies.

"THE SCHOOLS AT WORK," a survey mainly in pictures, of State education in England and Wales, published for the National Union of Teachers, by Evans Bros., Ltd., Montague House, Russell Square, London, W.C.1, seeks to show what the schools maintained or aided by public funds are doing for the boys and girls of the nation. Every phase of modern school life is graphically portrayed, and the care and "mothering" of children suffering from bodily or mental ailments are also illustrated. A striking feature of the work is a pictorial comparison of school conditions to-day with those of years ago. The value and interest of this most attractive brochure, which is published at the astonishingly small sum of 2s. (post free 2s. 6d.), is added to by a series of short contributions by authorities on particular aspects of education, amongst them Sir Frederick Menzies, Medical Officer of Health, London County Council, who writes on the history and scope of the school medical service.

Ut Ita Dicam.

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

On Local Housing Inquiries.

"And now, doctor," said he, with, in his tone, being learned counsel, the right degree of conscious superiority, "will you tell us what accommodation you consider essential for a family consisting of a man and wife and five children?" "Well," replied the medical officer of health, fencing and also having the possibilities and impossibilities in mind, "it would depend upon the ages of the children!" "As to that," said counsel, airily, "let us suppose they are about eight years old!" To which the medical officer of health seeing, by way of laughter, escape from prolonged discussion: "Some man and some wife!" This question is one of a long series put at a housing inquiry affecting some fifty houses, and that lasted six-and-a-half days. It is quoted not merely as an anecdote, but to show the type of question only too frequently put in the course of housing inquiries. Also it is quoted to show why medical officers of health so cordially dislike such inquiries and so constantly complain to one another and occasionally, when they get the chance, to others. It explains why Dr. Veitch Clark of Manchester, who deserves all credit and the last ounce of gratitude available from his colleagues for having done so, submitted criticisms of the procedure at inquiries and suggestions for simplifying it. That Dr. Clark brought forward his views and suggestions at a gathering at which local authority members and their legal advisers predominated, and not at a meeting of the Society or of some body at which health officers are commonly used to speak, makes his action all the more praiseworthy. Though possibly the fact that he found a number of town clerks must have induced a feeling of gratification.

The Procedure.

If he did, in fact, feel gratified there are none among his colleagues in the service but will consider that he was entirely justified, since it is agreed that recognition of particularly high quality in any member helps in the formation of a higher opinion of the service as a whole. In such a gathering as that referred to, it is possible to believe that there was some sort of idea that the matters were of so very practical a nature

that the "doctors" could hardly be expected to discuss or offer an opinion with regard to them, even if by chance they happened to understand them. Dr. Veitch Clark's paper, and the explanation he offered of the points it contained, must have undeceived those who thought thus, and perhaps caused them to revise their views with regard to health officers generally.

Some Criticisms.

The criticisms offered by Dr. Clark and the suggestions, all medical officers of health who have suffered, or who are suffering, from inquiries will endorse. Undoubtedly, though the objects of inquiries are to hear objections of owners of property to clearance or improvement schemes, and to permit a representative of the Minister of Health to inspect and ascertain the condition of the houses, what actually takes place is a form of trial, and from the treatment meted out to the medical officer of health the impression given sometimes is that it is he who is in the dock. Largely, no doubt, it is as a result of the efforts of the lawyers who have been engaged by owners to represent them that this has come about. At the same time, however, it is difficult to escape the feeling that in the past rather more than a reasonable amount of liberty has been allowed to the owners' representatives by the persons holding the inquiries: that it is they who have allowed the scene of the inquiry to be dressed as a court of law, and the persons taking part in it to forget that actually it is only facts that are under investigation—the facts as to the condition of the premises. If there is any difference of opinion between the parties it is as to facts, and the person holding the inquiry, in order to settle the dispute, need only go and look at the property, accompanied or not by the parties. The amusing thing about the whole business is, as a matter of fact, that this is exactly what happens and in spite of everything that may have been said and done: in spite of the foolish questions of counsel and their attempts to belittle the medical officer of health because he is not a surveyor and cannot envisage a family of five children all "about eight years old": everything turns on what the inspector from the Ministry thinks of the property after viewing. It is all so very full of the "average

Briton's sense of fairness"; and "play up and play the game." Full, in fact, of the sort of thing that appeals to the wearer of the old school tie, who prattles about the public school spirit. The curious thing about people of this sort is, however, that they cannot conceive a local authority or its officers being animated by anything that corresponds to these praiseworthy feelings. Nor do they pause to think how very costly it is to the ratepayers as a whole, directly and indirectly, as a result of actual waste of money and futile expenditure of the time of councillors and officers. Moreover, as Dr. Clark points out, if the court of inquiry is really of any value, it is only the people who attend and are represented who benefit: the poor owner who cannot afford the time to appear, and has no money to brief counsel, must get no consideration at all.

Helpful Suggestions.

Fortunately, this is not the case, however, and so convinced must anyone be who has had experience with inquiries that matters may be safely left to the inspector and the council's officers, that if they were asked to advise, undoubtedly the advice they would give would be to take no active part in the inquiry but to send a letter to the inspector and a copy to the town clerk or medical officer of health, and attend if possible when the inspector visits the property. As a matter of fact, it is little more than this common-sense procedure that Dr. Veitch Clark suggests: though, as he points out, it will require an Act of Parliament to introduce a requirement that each owner shall have the right to make written appeal to the Minister, whose duty it shall be to give it the fullest consideration. Opportunity further should be given to objectors to attend when the inspector from the Ministry visits the area to see and learn for himself everything possible before forming a judgment upon which to base his report and recommendations. Dr. Veitch Clark's claim that this procedure would prejudice no one, and in the case of the poorer owners would rather tend to wipe out what to many must appear to be disadvantages, is one that every health officer with experience of such cases will grant. That it is more or less on the lines suggested by the Moyne Committee in regard to individual houses is something in its favour. In fact, it raises hopes that, receiving as it did practically a unanimous blessing from town clerks and others at so influential a gathering as the Housing Con-

ference of the Association of Municipal Corporations, it may be found acceptable in government circles.

Housing and Disease.

Another advantage that might be claimed for the amended procedure is that it would do away with all possibility of questions and discussions upon the relation of the conditions existing in the area under inquiry to health and disease. Probably there is no health officer who does not find it difficult to make what he would regard as a convincing return as to morbidity and mortality even in what are considered as very bad housing areas. Fortunately, of course, it is frequently, even commonly, accepted that bad housing and bad health are synonymous, and the medical officer of health is spared the necessity for evasive or qualified replies to questions on such matters. At the same time, it is noticeably the case that actually there is no health condition and no disease that can be written down as due to slums, or the houses of which they are composed, as such. Typhus fever may have been a slum-house disease, but though there are still slums it has now disappeared, and none of the other common infectious diseases is peculiar to the inhabitants of areas suitable for clearance or improvement. Of tuberculosis and rickets and rheumatism, and every other disease that many are inclined to write down as typical of the slum dwelling and the slum dweller, the same may be said. Judging from the various rates and a comparison between those of the area and those of the district as a whole, it is impossible generally, if all other conditions—poverty, under-feeding, and so on—are excluded, to claim any disease as outstandingly due to housing, no matter how bad it may be. In the matter of rates, perhaps exception should be made in regard to the birth-rate, parturition, which is now come to be considered more or less of a morbid condition, presenting some liability to be of more frequent occurrence in the presence of the conditions prevailing in slum areas than elsewhere. In a word it may be said, it would seem, that it is just as impossible to refer to any disease as a slum disease as it is to talk of house diseases. The situation, in fact, is very much the same as is represented in the old conundrum, "Is life worth living?" and the punning answer, "It depends on the liver!" The proper reply to the query, "Does bad housing mean bad health," being "It depends on the housed."

The Value of Tonsillectomy in School Children.

By JOHN D. KERSHAW, M.B., B.S., D.P.H., Assistant Medical Officer of Health, Ealing.

Dr. Kershaw read this paper at a meeting of the Home Counties Branch of the Society, where it provoked a good discussion. The subject is prominent in the minds not only of school medical officers but of others in the public health service, and what Dr. Kershaw has to say in his most admirable and practical paper should prove of wide interest.

THIS paper is only one of many which have been published or delivered during the past two or three years on a subject which was honoured with a formal discussion at the centenary meeting of the British Medical Association in London in 1932. On all sides we hear of a general calling into question of the operation of tonsillectomy and its results, even by many who were not long ago prominent upholders of the operation and its validity. It might not be amiss, therefore, if I briefly sketched, by way of introduction, the history of the operation of tonsillectomy before the present phase of reaction set in.

T. B. Layton,¹ in March, 1933, published a paper in the *Lancet* in which he dealt with something of the historical aspect of the matter. He went back as far as the days of Morell Mackenzie who, in 1880, described the enlarged tonsil as being "often the size of a chestnut but sometimes attaining the dimensions of a bantam's egg and, in rare instances, nearly the size of a hen's egg." The important indication for operation was respiratory obstruction and one can appreciate the reasons why Ambroise Paré, in 1509, went so far as to advocate tracheotomy in severe cases of tonsillar enlargement. These enormous tonsils, however, would seem to us of the present day to have a place only in history, which place is still important, since there is no doubt that such great enlargements had much to do with the development of the attitude which, until recently, was invariably taken up by the surgeon toward the tonsil—that it was an organ essentially vicious, whose only proper place was in an anatomical museum.

The removal of the tonsils, though practised long before the beginning of the Christian era and traceable back into ancient Greek civilisation, was, until a very few years ago, an operation fraught with serious difficul-

ties and dangers and, therefore, eschewed by the great majority of surgeons. The introduction of the sharp guillotine just over a hundred years ago facilitated the partial removal of the organs, but their complete removal—tonsillectomy as we know it—dates as a common operation only from 1908, when Waugh elaborated the technique of removal by blunt dissection. For three years this operation reigned unchallenged in the field, till in 1911 Whillis and Sluder, simultaneously on the two sides of the Atlantic, introduced their methods of enucleation by means of the blunt guillotine.

The surgical world now possessed two methods, both safe and both comparatively easy, of removing the tonsils, and it naturally made full use of the new techniques presented to it. On the whole I incline to blame the blunt guillotine for much of the slaughter of tonsils which has taken place during the last 20 years. While dissection still demanded a prolonged operation for which efficient hospital accommodation was desirable, the other technique was free from these disadvantages. It was swift and, in most cases, sure. It required only a short anaesthesia. Moreover, the technique was such that it could be acquired in a short time by any reasonably competent house surgeon. Every practitioner learned to carry it out before he entered general medical practice, and it remained with him as the only operation which he could satisfactorily perform in a best bedroom or parlour. One cannot be surprised that, faced on the one hand with the knowledge that his peers and superiors were blaming the tonsil for every illness which baffled their medical skill, and on the other with the consciousness that in this operation, at least, he could well emulate the specialist, he was swift, if not always sure, in carrying out tonsillectomy, until as Alison Glover²

has recently pointed out, 70 per cent. of the entrants to one of our great public schools had had their tonsils removed before the age of 13.

A reaction was inevitable. Modern developments in pathology and physiology had brought forward new and surer ground for the old theory that the tonsils possess a protective function. Lay statesmen, seeking to reduce public health expenses, challenged the value of tonsillectomy, not on scientific grounds but merely because many operations were carried out under the public health service, and because there exists a basic principle for minds of a certain type that anything which exists in large quantity is extravagant, unnecessary and wasteful. Even fashion, after her kind, had changed.

I propose to question the value of tonsillectomy upon another ground, and, to do so, I must put forward two fundamental propositions with which I hope there is agreement. The first is that an operation is unnecessary and unjustified if it is performed without adequate indication. The second defines an adequate indication as the presence of a harmful condition which we have good reason to expect will be alleviated by the performance of the operation. With these as a basis I propose to survey the indications which are at present regarded as adequate for tonsillectomy and to illustrate them by my own observations on some 1,500 children.

Layton regards tonsillectomy in a child under the age of eight as an operation hardly ever necessary or justifiable. At the other extreme come those who consider the operation to be one of the greatest boons ever conferred upon suffering humanity, and one which should be extended to all in whom it can possibly appear desirable. In the hope of finding a satisfactory mean, I have taken a list of indications from the generally accepted text-book of Irwin Moore, placing his less common indications first.

Retro-ocular neuritis (three cases quoted), colitis and chronic appendicitis, gastro-intestinal dyspepsia, impaired nutrition, possibly associated with anaemia, and chronic ill-health form the first group. All these indications depend for their validity upon the effect of the tonsil as a septic focus. Admittedly the tonsil can, and often does, act as such a focus, but it is only one of many. The teeth, the colon, the nasal accessory sinuses may all be equally guilty, and it is both unfair and unscientific to remove the

tonsil merely because it is the most accessible of these possible culprits, or to treat a case in which a septic focus is suspected by the removal, *serialim*, of all possible foci until symptoms cease or the supply of foci becomes exhausted. Unless definite indications point to the guilt of the tonsil it has as much right as the appendix or the colon to remain *in situ*.

Next are cited remote neuropathic reflexes of tonsillar origin, such as spasmodic cough, vomiting, gastric pain, bronchial asthma and intermittent otalgia. Again we have to eliminate other possible causes before we condemn the tonsils. It is humiliating to remove tonsils for asthma, only to find the condition unalleviated and responding later to vaccine treatment. It is equally humiliating to remove them for otalgia and to find, after that has failed, that a dentist can remove the source of trouble in a few moments. Again there is need for this process of elimination of other causes of the disability before the tonsils are removed.

Mental apathy, or aprosexia, was a term given by Guye of Amsterdam to a condition which he found alleviated by tonsillectomy. Gawne,³ in Lancashire, last year investigated the intelligence quotients of a hundred children with adenoids and a hundred normal ones, and found them to be lower in the former group. The condition of these children after operation has not yet been investigated. On the other hand some observers deny the existence of aprosexia as a clinical entity, and Glover,⁴ in 1932, accepted the view that such defect as exists is due rather to the nasal sinuses than to the tonsils and adenoids.

Increased susceptibility to infectious diseases, which some observers claim to have found associated with enlarged tonsils, is not constantly so found by authorities on those diseases.

Obstructive hypertrophy, reflex laryngeal spasm with respiratory obstruction and new growths of the tonsil are indications with which no one will quarrel.

Cervical adenitis, however, though quoted by Moore, cannot possibly be regarded as an indication sufficient in itself. If the tonsils be regarded as a first line of defence against disease, the glands are the second line. When, therefore, other possible sites of sepsis are eliminated, cervical adenitis suggests either that the tonsils are the sites of chronic sepsis or that they are failing to cope adequately with invading organisms. In the former case

operation is indicated, but in the latter it will leave the patient worse off than before, since the glands in question will continue to drain the pharyngeal wall long after the tonsils are removed, and will continue to enlarge in any slight acute infection of that region. So a difficult and important question has to be answered before we act. Probably it is wisest to take adenitis into consideration only when there are other signs or symptoms which support the idea that the tonsil is a septic focus.

Now let us pass to the commoner reasons for tonsillectomy; those for which the vast majority of the enormous number of operations carried out at the present day are performed. First among them we can place respiratory affections. I do not propose to draw any fine distinction between those of the upper respiratory tract—colds in the head—and those in the lower respiratory tract, since in children the difference is one of degree rather than of kind. Second should come the recurrent sore throat, with which I couple frank tonsillitis. Third place (this is not intended as a ranking in order of gravity) is taken by mouth-breathing, and fourth by affections of the ear, including deafness, otalgia and otorrhoea, while last, but by no means least, I place enlargement of the tonsil without noteworthy symptoms.

In endeavouring to evaluate the indications and end-results of the operation I took these indications and tried to find how far they satisfied my second postulate, *i.e.*, if they were constantly relieved by the performance of the operation. I examined all those children in Ealing who had been subjected to the operation during the last three years, and have here the results of investigation of 416 of them.

Owing to changes in personnel and variations in individual standards, the only possible source of a history in these cases was the parent. An initial series of some fifty cases, not included in these results, was therefore investigated, in order to see if the parents were, as a rule, able to give a satisfactory history and in order, also, to develop a technique of questioning which would not, in any way, influence the replies and, therefore, the results. At the close of this preliminary work I was convinced that satisfactory histories could be obtained, and I was able to standardise the questions which were to elicit them. Moreover, during the investigation proper, any history which was at all vague or

which required leading questions for its elicitation was summarily rejected.

Three-hundred and fifty-three children had suffered from frequent colds or coughs before operation. Two hundred and ninety-five, or 84 per cent. of these had improved after operation. The remaining 16 per cent. were unimproved.

Two hundred and nineteen had suffered from recurrent sore throats. Of these, 209 were better (95.5 per cent.).

Two hundred and fifty had been mouth breathers before the operation. One hundred and eighty-eight or 75 per cent. had improved.

Seventy-three had had one or more of the three ear affections which I mentioned. Of these, 59, or rather more than 80 per cent., had had no recurrence since the operation.

These figures correspond closely with those of other observers, such as Courtenay Yorke of Liverpool, Keen⁵ of Leicester, Wilkins⁶ of Birmingham, and Tighe of Swansea. The main distinction between this and the other investigations is that it has classified symptoms rather than taken the cases as a whole. If the symptoms be taken altogether, the percentage of improvement is 84, which correlates well with the 87 per cent. in Birmingham who "unquestionably justified the treatment." In the worst series of results, those in the mouth-breathers, the percentage of successes is 75. An indication so constantly relieved as that may be taken as genuine.

Before leaving these figures, however, there remains one very significant point. While the work was in progress, I received the impression that children operated on in our own school clinic benefited more than those dealt with privately. I have, therefore, separated the two groups, with the following results:—

1. Susceptibility to colds.

Of 206 children treated at the clinic, 89 per cent. were improved.

Of 147 treated in hospital or privately, 76 per cent. were improved.

2. Frequent sore throats.

Of 148 treated at the clinic, 97 per cent. were improved, the remaining cases only yielding 85.5 per cent. of successes.

3. Mouth breathing.

Here the disparity was more marked, the clinic curing 90 per cent. of its cases, and the hospitals only 53 per cent. of theirs.

4. Ear affections.

The numbers here are smaller, but the clinic cured 97 per cent. of 36, and the hospitals only 64 per cent. of 37.

It is extremely important to find the reasons for this discrepancy, partly in order that the school clinics may successfully defend themselves against the criticisms which are constantly being levelled against them by the opponents of State medical services, and partly in order that the hospitals may be given the opportunity to profit by the experience of the clinics and thus improve their own results.

The first possible reason for the difference is that the cases dealt with by the hospitals may be an accidentally unfavourable selection. As regards the degree of tonsillar or ancillary disease, this possibility is negligible. It seemed possible, however, that the hospitals might be drawing their patients from a lower social stratum than the clinic, with a less favourable home environment, which hampered recovery.

About one-half of the children under consideration were, therefore, investigated from this point of view. The two facts which emerged were first, that the hospital patients averaged rather more favourable home circumstances than the rest, and second, that within the groups, home circumstances did not differ significantly between the improved and the unimproved.

Operative technique is not to blame. The tonsils had been as efficiently removed by outside and hospital practitioners as by our own surgeon with a very few exceptions, in which, incidentally, the results were not notably unsatisfactory.

It follows, therefore, that after-treatment is the deciding factor. The hospital patient, though kept in the ward over-night, is only seen later in order that gross operative failures may be discovered. The clinic patient, though sent home by ambulance the same afternoon, is visited on the second and fourth days and subsequently, if necessary, by the school nurse, who advises the mother about nasal and oral hygiene for the child and gives her a leaflet setting out a scheme of breathing exercises, not leaving the house till she is satisfied that both mother and child understand the need for and the practice of the exercises.

It would appear that here lies the key to success. Further corroboration is seen in the fact that half the clinic failures in children susceptible to respiratory affections, and one-third of those in mouth-breathers, occurred in children whose parents confessed that they had not carried out the exercises.

I would suggest, therefore, that particular attention should be paid to this point by school medical officers whose local authorities carry out tonsillectomy. Moreover, parents who wish to have their children operated upon privately or in hospital should be warned of the need for after-care, and asked to notify the school medical officer of the date of operation. He could then arrange for the school nurse to visit the child and give the necessary instruction. This would not involve any great increase in the work of the department, and it would probably make all the difference between success and failure in between 10 and 30 per cent. of children.

The next indication for operation which requires consideration is rheumatism. A history of rheumatic pains or other symptoms was asked for among the questions put to the parents, 30 children being found to have had rheumatic symptoms before operation. Of these, 20 had improved since tonsillectomy and 10 had not. Among the last 266 children investigated, however, 51 had a history of rheumatism and 35 of these had shown no symptoms till after the operation.

The records of all children in the borough noted as rheumatic at school medical inspection were next investigated. Of these there were 96, 43 having had their tonsils removed. Out of the 43, 21 had had no symptoms till after operation, 14 had been improved by operation and 8 had not. As regards the children with tonsils *in situ*, 30 of the 53 had apparently normal tonsils, 19 slightly enlarged ones and 4 grossly enlarged or septic tonsils.

These figures are inconclusive and it would be unwise to be dogmatic about them. They give no warrant for the course practised by some people—removal of the tonsils in all cases of rheumatism, however slight—but they throw little light upon the vexed question of the relation of the tonsils to rheumatism generally. They may be regarded as giving ground for the suggestion that the protective function of the tonsils extends to rheumatic conditions and that premature removal may actually increase the child's susceptibility. On the other hand, the greatest age of incidence of rheumatic conditions is not earlier than eight, and, as some of these children had lost their tonsils before that age, the protective function had not really been tested.

The last indication and, taking the medical practitioners in this country as a whole, the commonest accepted indication, is enlargement

of the tonsils, whether associated with symptoms or not. Some practitioners hold it as an article of faith that an enlarged tonsil is, *ipso facto*, a harmful one. Others, more rational, regard size as an indication of sepsis, and believe that the potential and actual dangers of sepsis outweigh the advantages of the protective function.

For wholesale removal on principle there is no justification. But prophylactic removal has a certain amount of theory behind it and demands serious consideration. We know that the normal tonsil tends to atrophy when its possessor reaches the age of puberty. Does the enlarged tonsil behave in the same way, or does it remain large? And how often does the large, symptomless tonsil subsequently give rise to symptoms?

For some years a conservative policy has been adopted toward tonsils in Ealing, though its application has been modified in detail by changes in personnel. The general principle has been to advise operation only in those cases where enlargement of the tonsils is associated with symptoms such as those mentioned previously. Enlarged tonsils not associated with symptoms have been kept under periodical observation, and the children falling into this category are at present about 1,800 in number. Of these, 1,092 were examined; 268 under 8 years old, 389 between 8 and 11, and 435 over 11 years. They were classed under a scheme modified from that propounded by Paton in 1928, his groups being reduced to four. These are: very small—tonsils invisible or only just visible; small—reaching half-way to the posterior pillar of the fauces; moderate—reaching to the posterior pillar; and large—concealing part or the whole of the posterior pillar.

In evaluating the results, the cardinal symptoms considered in the investigation of operative results were used. "Large" tonsils were set down for further observation and, if associated with any one of the symptoms, for operation. In the other groups, one symptom called for observation and two for operation. In addition, even a small tonsil with the slightest sign indicative of sepsis was treated as if it belonged to the "large" group.

In all age-groups the majority of the tonsils fell into the "small" and "moderate" classes. It was noteworthy, however, that the "very small" group comprised 10 per cent. of the youngest children, 14.4 per cent. of the middle group and 21.1 per cent. of the oldest group. The "large" class showed a corresponding fall

—5.6 per cent., 4.9 per cent., and 2.9 per cent.

These figures suggest that the large tonsil tends to atrophy just like the normal one.

As many as 5.4 per cent. of all the children had had their tonsils removed by outside practitioners, but in only about half of these was any history of symptoms to be obtained. As a rule, the family doctor had been called in to deal with some other complaint and, seeing large tonsils, had advised their removal.

Children showing symptoms and, therefore, set down for further observation, comprised 17.5 per cent., 14.6 per cent. and 10.3 per cent. of the respective age-groups, entrants, age-8 group and leavers, the operation cases being 5.9 per cent., 3.8 per cent. and 2.0 per cent. Assuming that one-half of the tonsils removed by outside practitioners actually showed symptoms before operation, this gives us a total in the age-groups of 27.6 per cent., 21.3 per cent. and 12.4 per cent. with symptoms, of whom only 10.1 per cent., 6.7 per cent. and 4.1 per cent. had the symptoms so far developed as to require or justify operation. In other words, had common practice been followed with these 1,092 children, over 1,000 of them would have had their tonsils removed without need and without the likelihood of benefit.

There is neither reason nor excuse, at the present day, for wholesale removal of large tonsils. In the school medical service we have an organisation admirably adapted for keeping under observation those children who need it and for ensuring that, if operation becomes necessary after a time, it can be carried out. I would suggest, as a practical policy, that the classification of enlarged tonsils into these four groups should be followed as a routine, and that this suggested arbitrary scale for operation or observation should be used, with, of course, the observance of discretion in individual cases.

The value of tonsillectomy in school children may, therefore, be summarised:—

First, the value is over-estimated by many people.

Secondly, tonsillectomy, followed by adequate after-care and carried out in suitable cases, is a very valuable procedure.

Thirdly, the unique position of the school medical officer is of great value and ought to be utilised, for by virtue of it he is able to hold his hand while he considers a case soberly and to keep it under observation before he decides to act.

In conclusion, I should like to thank Dr. Orr,

the School Medical Officer, for permission to carry out the investigation and for his assistance in it. My thanks are also due to my colleagues for enabling me to give time to the work, and last, but by no means least, to the school nurses and to the clerical staff for carrying out the considerable amount of extra work which the investigation entailed.

DR. MAITLAND RADFORD, Medical Officer of Health for Shoreditch, has been appointed Medical Officer of Health for St. Pancras, at a commencing salary of £1,200.

DR. JOHN WILLIAM HUNTER, at present Deputy Medical Officer of Health of Walsall, has been appointed Senior Assistant Medical Officer of Health and Tuberculosis Officer at Portsmouth, at a salary of £750 per annum, rising by three biennial increments of £50 and one of £37 10s. to a maximum of £937 10s. per annum.

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. In addition it contains information relating to certain technical classes for defective students. Copies of this useful publication (List 42-1934) may be obtained from H.M. Stationery Office, price 9d. net.

THE Royal Institute of Public Health, having received invitations from the universities and municipalities of the cities of Dantzig, Warsaw, Cracow and Gdynia, have decided to organise a medical educational tour to Poland. The present arrangements are that the party shall leave London on August 2nd, 1934, by s.s. *Baltica*, and travel via the Kiel Canal to Dantzig; thence by train to Inowroclaw, Warsaw, Cracow, Gdynia and Zoppot, arriving back in London on August 13th or 14th. The universities and municipalities concerned are arranging certain functions, hospitality, etc., the inclusive cost of the tour being 18 guineas. As the cabin accommodation on the boat is somewhat limited, early application for reservation of berths is necessary. Full details of the tour can be obtained from the Secretary, Royal Institute of Public Health, 23, Queen Square, London, W.C.1.

REFERENCES.

- ¹Layton, T. B. *Lancet*, 1933, i, 509.
- ²Glover, J. A. *Post-graduate Medical Journal*, 1933, Vol. x, No. 99, 12.
- ³Gawne, S. C. *The Medical Officer*, 1933, Vol. xlix, 65.
- ⁴Glover, J. A. & Wilson, J. *British Medical Journal*, 1932, ii, 512.
- ⁵Keen, J. A. *Lancet*, 1933, i, 979.
- ⁶Wilkins, E. H. *The Medical Officer*, 1933, Vol. xlix, 175.

THE Joint Tuberculosis Council has recently issued the following interesting series of publications, copies of which may be obtained from the Hon. Secretary (Dr. Ernest Ward, 123, Torquay Road, Paignton, Devonshire):—

(1) The Honorary Secretary's Report of Proceedings for 1932-33.

(2) Report on the Utilisation of Residential Institutions for Tuberculosis. (Price 6d., post free.)

(3) Laboratory Data on the Tuberculin Reaction.

(4) Report on Thoracic Tuberculosis in Children.

(5) Report of the Artificial Pneumothorax Refills Committee.

(1) The Honorary Secretary's fifth biennial report gives an account of work carried out, or attempted, by the Joint Tuberculosis Council, during the last two years.

(2) The report of the committee formed to consider the best method of utilisation of tuberculosis institutions represents the Council's opinion on this matter under present-day conditions. To this is added an appendix concerning some details of the erection of institutions, prepared, as the result of much careful investigation, by Dr. G. Lissant Cox and Dr. D. A. Powell.

(3) "Laboratory Data on the Tuberculin Reaction" has been prepared by Dr. W. H. Tytler, of the Institute of Preventive Medicine, Cardiff, and contains much useful up-to-date information for those who are utilising the tuberculin reaction for diagnosis and prognosis.

(4) The report on thoracic tuberculosis in children summarises the modern views on this important subject.

(5) The report of the artificial pneumothorax refills committee, appointed primarily to ascertain the facilities existing for pneumothorax refills in different areas, advocates the further extension of this useful treatment.

The Society.

Reports, Proceedings and Announcements.

THE NORTH-WESTERN BRANCH.

President: Dr. Henry Whitehead, M.O.H., Wigan.
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 March 9th, 1934, the President occupying the chair. Twelve members were present.

After an enjoyable supper, Mr. S. Ernest Melling, F.I.C., Public Analyst for the County of Cheshire and elsewhere, gave a most interesting address on "**Standards in relation to Samples submitted under the Food and Drugs (Adulteration) Act, 1928.**" He stated that many of the problems which arose under the Act depended on the description or variation in composition of the article under examination. He contended that alterations were necessary in the 1928 Act, but regretted that the terms of reference to the Ministry of Health Committee at present sitting had excluded liquid milk and did not include drugs. Mr. Melling then referred to various points in connection with the administration of the Act which had occurred in his practice. With regard to samples of liquids sent by post to an analyst, he pointed out that an amendment of the Act should be made to enable a prosecution to be undertaken on the examination of the third portion submitted to the government analysts in cases in which the other portion had been broken in the post. Reference was made to the value of the cryoscopic test of milk, and the speaker pointed out that this not only proved the presence of extraneous water but also protected the producer in the case of abnormal milk. Although the food value of cheese depended more on the protein content than on the fat content, its market value varied with its fat content. There was no standard; cheese made from separated milk was still cheese. Data collected in Cheshire had definitely established that cheese made by the Cheshire formula must be a whole milk cheese, but it suffered by unfair competition with imported separated milk cheese. Mr. Melling referred to the necessity for a standard for such articles as baking powder, sausages, ground almonds, lemonade crystals, lemon cheese; and also to the misdescription of various articles such as French coffee, which was chicory and contained

no coffee, and honey and butter toffee, which contained neither honey nor butter. He mentioned, too, compounded articles such as pepper and mustard, compounds which might contain any proportion of diluent. Adulteration, not of a criminal type, also arose from the necessity of adding various substances to facilitate manufacturing processes, such as the use of starch in the manufacture of chocolates. In such a case a small amount of starch was permissible, but the amount might be increased to such an extent as to constitute an offence; and a definition of the permissible amount was desirable. Occasionally adulteration with poisonous metals arose accidentally during manufacture, in which case prosecution would be persecution. Repressive action was not desirable, and provision should be made for the person concerned to furnish an explanation in writing before prosecution was finally decided upon. Further protection should also be given to the retailer of packed goods who, in most instances, was an innocent victim.

The President congratulated Mr. Melling on his interesting address, and Drs. S. T. Beggs, A. Simpson, and J. E. Spence also joined in the discussion, during which many interesting points were raised to which Mr. Melling replied.

A cordial vote of thanks to the speaker was accorded on the proposition of Dr. E. K. Macdonald, seconded by Dr. Innes.

A further meeting of the Branch was held in the School of Hygiene, Mount Pleasant, Liverpool, on April 13th, 1934, the President occupying the chair. Eighteen members were present.

Letters were submitted (1) from the West of England Branch requesting support of Dr. W. G. Savage for the Presidency of the Society (session 1934-35), and (2) from the Southern Branch, seeking support for the candidature of Dr. R. H. Wilshaw. It was resolved, on the proposition of Dr. G. W. N. Joseph, seconded by Dr. D. Morley Mathieson, that Dr. R. Veitch Clark, Medical Officer of Health of the City of Manchester, be again nominated for the Presidency of the Society.

Dr. Ruby E. Bell, Assistant Medical Officer of Health (Maternity and Child Welfare),

Liverpool, read an interesting paper on "**Maternal Mortality in Liverpool, 1929-32.**" She drew attention to the stationary condition of the maternal mortality rate in this country, and referred to the improvement which had taken place in other vital statistics. Although the rate in Liverpool compares favourably with that of England and Wales, it persists at an unsatisfactory level in spite of all the facilities which have been organised and developed in recent years. Careful inquiries have been made into all maternal deaths since 1928, and some interesting information has been collected. The inquiries showed that there was a greater proportion of deaths from hæmorrhage than in the country as a whole, and also among the concurrent diseases the proportion attributed to pulmonary disease was higher. Of 116 maternal deaths, 30 per cent. occurred in cases of normal delivery; 26 per cent. followed forceps delivery; 27 per cent. were due to abnormalities and 16 per cent. followed abortions, the season of highest incidence of maternal mortality being the fourth quarter of the year. Dr. Bell also compared the mortality rates in the Liverpool Corporation Maternity Home, in which only "booked" cases were admitted who attended the ante-natal clinic, with those of the Liverpool Maternity Hospital where emergencies were also admitted. At the Maternity Home, 2,249 women had been confined during the past 14 years without a maternal death or a case of puerperal fever. In the Maternity Hospital, during the past five years, the mortality rate had varied from 0.2 to 1.0 for booked cases, but for emergency cases it had varied from 1.8 to 4.9. In so-called normal cases in which sepsis supervenes there is probably some laceration of the cervix or vagina which, combined with low vitality and exposure to droplet infection, leads to infection. Bacteriological examination of the blood in 66 cases proved the presence of hæmolytic streptococci in 21 cases, and other streptococci in 18 cases. In 79 of the cases the standard of living was poor, and in 69 ill-health was present at the time of confinement. In 62 per cent. of the fatal cases, ante-natal care was unsatisfactory. Provision for the expectant mother in Liverpool is comprehensive, but not entirely satisfactory, and is being re-organised. The number of beds available in hospitals is 440 for 17,000 births per annum. In addition there are 282 beds in private nursing homes, and a service of 200 practising midwives. Hospital confinements are increasing in number while the number attended by midwives,

which is about 55 per cent. of the total, is falling. The maternal mortality rate in the practice of efficient midwives is about 2.5 per 1,000 births. Dr. Bell concluded her interesting paper by giving detailed information relating to the administration of the ante-natal clinics.

The President, in opening the discussion, referred to the need for instituting a general nursing training for midwives, and also increased training for medical students; he also held that the traffic in abortion was a fertile cause of maternal morbidity.

Dr. F. T. H. Wood, O.B.E., in proposing a vote of thanks to Dr. Bell, expressed the opinion that she had presented the favourable position of Liverpool in relation to maternal mortality very modestly. He thought the satisfactory position of Liverpool was due to the large number of women who were confined in hospitals and homes. Of the remainder, 95 per cent. were attended by midwives. He thought the failure to obtain a reduction of the maternal mortality rate was due to the inadequacy of ante-natal supervision.

Dr. Morley Mathieson suggested that the constant level of maternal mortality was due to a decline in the birth-rate with a relative higher proportion of primiparæ.

Dr. C. O. Stallybrass paid a tribute to the excellent work Dr. Bell had done in Liverpool in connection with maternal mortality. He stated that 5 to 30 per cent. of mothers have the hæmolytic streptococcus in their throats, and that much of the infection was conveyed by the hands or droplets, and advocated the use of masks by midwives in their private practice. The puerperal sepsis rate had been found to be double in those who had no ante-natal supervision.

Dr. T. W. Naylor Barlow, O.B.E., referred to the training of midwives in Scandinavian countries, where the rate was half of that in this country. At the present time, 95 per cent. of practising midwives do not make an adequate living, and the result might be that in future there would be fewer midwives working for higher remuneration; then one might expect a better service.

Dr. F. A. Sharpe thought that too gloomy a view should not be taken of the situation, as the organisation of the service to deal with maternal mortality was quite recent. He felt that there was insufficient ante-natal supervision and also that the possession of a definite qualification in obstetrics and gynaecology, and not the possession of a Diploma in Public Health,

should be the qualification for appointment to a post involving ante-natal work.

Dr. Bell briefly replied to the discussion, and afterwards conducted the members round the Carnegie Welfare Centre, where they were entertained at tea.

THE WEST OF ENGLAND BRANCH.

President: Dr. A. E. Remmett Weaver, M.O.H., Weston-super-Mare.

Hon. Secretary: Dr. P. H. Stirk, formerly M.O.H., Exeter.

A meeting of this Branch was held at Southmead Hospital, Bristol, on March 23rd, 1934. The President and ten members were present.

The Presidency of the Society for the session 1934-35 was considered, and it was unanimously decided to nominate Dr. W. G. Savage (Medical Officer of Health, Somerset County Council) for the office.

Dr. P. Phillips (Medical Superintendent, Southmead Hospital, Bristol) read an interesting paper on "Pregnancy and Parkinsonism." An excellent discussion followed, in which the President and Drs. W. G. Savage, J. Middleton Martin and R. H. Parry took part.

The Hon. Secretary reported an invitation from Messrs. Ambrosia, Ltd., to visit their works at Lapford, North Devon, in May. It was decided to accept the invitation, and the Hon. Secretary was asked to make the necessary arrangements.

After the meeting, Dr. Phillips very kindly conducted the members over the Institution, showed them some of his cinematograph films, and then entertained them at tea.

On behalf of the Branch, the President conveyed to Dr. Phillips a hearty vote of thanks for his paper and demonstration and for his kind hospitality.

THE HOME COUNTIES BRANCH.

President: Dr. Thomas Orr, M.O.H., Ealing.

Hon. Secretary: Dr. R. P. Garrow, M.O.H., Hornsey.

A visit of inspection was made by members of this Branch to the Home Office Industrial Museum, Horseferry Road, Westminster, S.W.1, on April 6th, 1934. The President and thirteen other members were present.

Dr. J. C. Bridge, Senior Medical Officer of the Home Office, conducted the party round the Museum, demonstrating the various industrial

diseases and methods of promoting safety, health and welfare of industrial workers and of the prevention of disease and accident in industry.

The President expressed to Dr. Bridge the thanks of the Branch for an extraordinarily interesting afternoon.

THE EAST MIDLAND BRANCH.

President: Dr. W. M. Ash, M.O.H., Derbyshire C.C.

Hon. Secretary: Dr. J. A. Stirling, M.O.H., Chesterfield.

A meeting of this Branch was held at the Guildhall, Nottingham, on March 8th, 1934, the President occupying the chair. Twenty-three members and seven guests were present.

A discussion on "The Problem of Tuberculous Milk" was opened, on the veterinary aspect by Mr. Torrence, Veterinary Surgeon to the Nottingham County Council, and on the medical side by Dr. Fairer, County Medical Officer, Leicestershire, both speakers dealing with the question in a very thorough and practical manner. The subject proved a very stimulating one, as was evidenced by the keen discussion which followed, and at its close a hearty vote of thanks was accorded to Mr. Torrence and Dr. Fairer on the proposition of Dr. Barker, seconded by Dr. Banks.

A further meeting of the Branch was held at the Groby Road Sanatorium, Leicester, on April 12th, 1934, the President occupying the chair. Eighteen members and four guests were present.

It was unanimously resolved to support the nomination of Dr. W. G. Savage (Medical Officer of Health, Somerset County Council) for the office of President of the Society for the session 1934-35.

Dr. J. C. H. MacKenzie (Medical Superintendent of the Groby Road Sanatorium) gave a demonstration of some types of pulmonary tuberculosis and their treatment, dealing with his subject in an interesting and practical manner, and illustrating his points with great clearness by X-ray photographs. Dr. MacKenzie, after being freely questioned, was warmly thanked for his contribution on the proposition of Dr. Coward, seconded by Dr. Curnow.

The members agreed to the date of the May meeting being changed from the 10th to the 17th.

THE SOUTHERN BRANCH.

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

Hon. Secretary: Dr. A. B. Williamson, M.O.H., Portsmouth.

A meeting of this Branch was held at Portsmouth Waterworks, Farlington, on April 6th, 1934, the President occupying the chair.

Mr. D. Halton Thomson, M.A., A.M.I.C.E., M.I.W.E., gave a most interesting survey of the Water Supply of the City of Portsmouth, tracing its development from the early days to the present time. The rainwater, falling on the South Downs, percolates through the chalk and, reaching a deep impervious layer, flows south-east and breaks out as springs at Havant and Bedhampton. Of the 17 springs used for the supply, 7 of the largest have a maximum daily yield of more than 2,000,000 gallons and minimum yield of not less than 1,000,000 gallons, at a constant temperature of 51° F. throughout the year. The water from the springs is chlorinated and pumped to the filtration beds at Farlington, whence it passes to the City and surrounding districts. There has never been any question of serious shortage after long periods of drought.

The members afterwards inspected the filtration beds, springs and pumping station, where they were entertained at tea. After an interesting discussion, Mr. Thomson was accorded a hearty vote of thanks on the proposition of the President.

THE YORKSHIRE BRANCH.

President: Dr. Gladys J. C. Russell, Asst. M.O.H. (M. & C.W.), Leeds.

Hon. Secretary: Dr. James Mair, M.O.H., Harrogate.

An ordinary meeting of this Branch was held in the Meat Inspector's Office, Wholesale Meat Market, Somerset Street, Leeds, on February 23rd, 1934, the President occupying the chair. Twenty members were present.

The President welcomed Dr. Brown, recently appointed Medical Officer of Health of Dewsbury, and expressed the hope that he would be a frequent attender at the meetings of the Branch.

On the proposal of Dr. Pearce, seconded by Dr. Hill, it was unanimously resolved "that the members of the Yorkshire Branch, having heard of the retirement of Dr. George F. Buchan from the Chairmanship of the General Purposes

Committee of the Society, and being happy to learn that his activities in the public health service will still continue as in the past, now take this opportunity of expressing their great appreciation of his very valuable services, extended over many years, on behalf of the Society and its members, and requests the Council to direct that this resolution be inscribed in the minutes of the Society."

The question of the journal of the Society was considered, and after considerable discussion, it was resolved, on the proposal of Dr. J. J. Buchan, seconded by Dr. Jervis, "that it be a recommendation to the Council of the Society that they consider how the journal of the Society can be improved so as to serve better the interests of the members of the Society."

Mr. E. F. McCleery (Assistant Veterinary Officer, City of Leeds) gave an address on "Meat Inspection with particular reference to Tuberculosis." He considered the present system of meat inspection throughout the country unsatisfactory inasmuch as there was no standardisation, and while some authorities enforced strictly the provisions of Memorandum 62 (Foods), others interpreted that memorandum with great laxity. It was unfortunate that the Ministry of Health did not embody Memorandum 62 (Foods) in an Act rather than leave it simply as a memorandum with no legal backing. The establishment of regional abattoirs throughout the country to which all food animals should be sent for slaughter, was advocated. Members of the veterinary profession who were particularly interested in public health work, especially as regards the inspection of meat, were quite satisfied that unless and until the private slaughterhouse was abolished, modern abattoirs constructed, and the laws relating to meat inspection greatly amended and brought up-to-date, meat inspection could not be carried out efficiently. Mr. McCleery considered in detail the provisions of Section 4 of Memorandum 62 (Foods) and proceeded to demonstrate specimens showing most of the lesions referred to in his paper.

In the discussion which followed, Dr. Pearce, Colonel Dixon, and Major Rabagliati took part. Among the points mentioned were the enormous losses sustained by farmers and butchers through tuberculosis, and the importance of regional abattoirs.

A hearty vote of thanks, proposed by Mr. McGregor and seconded by Dr. Pearce, was accorded Mr. McCleery for his interesting and instructive address and demonstration.

The members were then entertained at tea by the Public Health Committee of the City of Leeds who, on the proposal of Dr. Hill, were cordially thanked for their hospitality.

A further meeting of the Branch was held at the Education Offices, Calverley Street, Leeds, on March 22nd, 1934, the President occupying the chair. Sixteen members were present. The President extended a cordial welcome to Dr. J. Watt, the newly-appointed Medical Officer of Health of Shipley.

Dr. J. A. Scott (Medical Officer of Health, Barnsley) read a paper on "The Dysgenic Effects of the Social Services." A very interesting discussion, opened by the President, followed in which Drs. Potts, McNaught, Hill, Pearce, Allardyce and Brown took part. After Dr. Scott had replied to various questions, a hearty vote of thanks was accorded to him on the proposal of Dr. Pick. The hope was

expressed that the paper might be published in an early issue of PUBLIC HEALTH.

THE MATERNITY AND CHILD WELFARE GROUP.

BIRMINGHAM AND MIDLAND SUB-GROUP.

President: Professor Leonard Parsons, Physician, Children's Hospital, Birmingham.

Hon. Secretary: Dr. G. I. Brodie, Asst. M.O. (M. & C.W.), Birmingham.

A meeting of this Sub-Group was held at the Hertford Hill Sanatorium, Warwick, on March 17th, 1934. In the absence of the President, Dr. Balsillie took the chair.

The members were conducted round the Sanatorium by the Medical Superintendent (Dr. Corydon Budge), and were afterwards entertained at tea. A most enjoyable afternoon was spent, and a cordial vote of thanks to Dr. Budge was accorded on the proposition of Dr. Morris Jones, seconded by Dr. Cox.

DR. W. D. T. BRUNYATE has been appointed Assistant Medical Officer of Health for Tunbridge Wells.

DR. THOMAS ORR (Medical Officer of Health, Ealing), the Society's representative on that body, has been elected Chairman of the Committee of the National Milk Publicity Council.

THE Joint Tuberculosis Council, at a special meeting held on April 20th, 1934, under the chairmanship of Dr. G. Lissant Cox, passed the following resolution: "While, in the opinion of this Council, it is highly desirable that the consumption of milk should be increased, the Council considers that the proposal of the Government to subsidise a milk ration for school children should be supported only if the safety of the milk supplied is ensured by adequate pasteurisation or boiling."

The Third Joint Conference of the National Association of Cemetery and Crematorium Superintendents and the Federation of Cremation Authorities in Great Britain will be held in Birmingham on June 25th, 26th, 27th and 28th, 1934. Papers on various subjects connected with the disposition of the dead will be presented, to be followed by discussion. At the morning session on June 26th, Sir John

Robertson, C.M.G., O.B.E., will be one of the principal speakers. Full details of the Conference may be obtained from the Secretary, Mr. Arthur E. Piggott, 37, York Street, Manchester.

THE Twentieth Annual Conference of the National Association for the Prevention of Tuberculosis will be held on June 14th, 15th and 16th, 1934, in the new Conference Hall of the London County Council. The occasion is considered opportune for a survey of the national system of combating tuberculosis which was inaugurated by the Report of the Departmental Committee on Tuberculosis (1912-13), and the Conference will, therefore, take the form of an all-round discussion concerning "The National Tuberculosis Scheme: the Experience of Twenty-one Years." The subject will be introduced by Lord Astor, who will be followed by leading representatives of health authorities, central and local, from different parts of the kingdom. The Conference is open to all interested persons, on payment of the fee of one guinea (which includes the Report of Proceedings), either as delegates or as private members of the Conference. Further particulars and programme may be obtained from the Secretary of the Association, Tavistock House North, Tavistock Square, London, W.C.1.

The Literature of Preventive Medicine.

A Synopsis of Hygiene. By W. WILSON JAMESON, M.A., M.D., F.R.C.P., D.P.H., Professor of Public Health, London University; Director, Public Health Division, London School of Hygiene; and G. S. PARKINSON, D.S.O., M.R.C.S., L.R.C.P., D.P.H., Lieut.-Col. R.A.M.C. (Ret.), Assistant Director, Public Health Division, London School of Hygiene. London: J. and A. Churchill, Ltd., 1934. pp. 619. Price 21s. net.

In this, the fourth edition of this well-known and widely read text-book, in addition to carrying out a considerable amount of re-arrangement of sections, the authors have brought the information given well up to date, and have added a great deal that is new.

All that has been done has increased the value and usefulness of the volume, and makes it easier to recommend it for the purpose for which, and to those for whom, it was originally prepared.

Heredity and the Social Problem Group. By E. J. LIDBETTER. Vol. I. London: Edward Arnold and Co., 1933. pp. 160. Price 21s. net.

In this volume are embodied the findings of an unusually painstaking and difficult investigation which has extended over 18 years. The main conclusions reached by the author are that in the area investigated the persons who, on frequent occasions, have become chargeable to the rates and require public assistance, constitute a well-defined group exhibiting the following characteristics: a high degree of fertility, a tendency to assortative mating (i.e., for like to mate with like), and a tendency to beget a surprisingly large number of mentally and physically defective children and grandchildren.

The research upon which the book is based was backed by the Eugenics Society through a special committee. It is claimed as a contribution to sociology of the greatest importance, and that its counterpart does not exist elsewhere. The evidence it provides of the inheritance of specific physical and mental disability—the data upon which the conception of a "social problem group" was first arrived at—renders it of importance to everyone concerned with the problems of education, mental defect, the various social services and of population in general.

The Relief of Pain in Childbirth. By F. NEON REYNOLDS, M.C.O.G., F.R.C.S., ED., Hon. Obstetric Surgeon, Hospital for Women and Children, Harrow Road, and Southend General Hospital; Consulting Gynaecologist to the Hackney Borough Council; Additional Examiner to the Central Midwives Board. London: Medical Publications, Ltd., 1934. pp. 114. Price 10s. 6d. net.

While this cannot be regarded as a very good example of bookmaking, the author deserves praise for having undertaken the task of directing attention to a subject of real moment, and particularly for having brought together much useful information in regard to the various means available for the relief of pain in childbirth.

Very helpfully he has divided the drugs that may be employed into those suitable for the first and for the second stages of labour respectively, giving all necessary information with regard to dosage, method of application and so on, and indicating clearly the special advantages and disadvantages of each.

The chapter in which the case of patients attended only by midwives is considered is particularly interesting and suggestive.

Venereal Disease: Its Prevention, Symptoms and Treatment. By HUGH WANSEY BAYLY, M.C., M.A., M.R.C.S., L.R.C.P., Vice-President, Society for the Prevention of Venereal Disease; late Venereal Specialist, Royal Herbert Hospital, Woolwich; etc. London: Chapman & Hall, Ltd., 1934. pp. 260, illustrated. Price 10s. 6d. net.

It may be the case, as the author of this volume declares in his preface, that "the historical and traditional but entirely unjustified opposition of 'Religion' and 'Science' is still responsible for the slow progress in the efficient tackling of the problem of the prevention of venereal disease." Neither of these things, however, has interfered with the acceptance of the book as a useful and valuable contribution to the literature on the subject of venereal diseases. Originally published in 1919, it is now in its fifth edition, and the third, which appeared in 1927, was reprinted in 1928 and again in 1929. Such a record renders comment by a reviewer completely unnecessary, if not futile.

Aids to Sanitary Science and Law. By C. F. WHITE, M.B., CH.B., D.P.H., D.T.M., Medical Officer of Health, Port of London. Revised by HUGH WILLOUGHBY, M.R.C.S., L.R.C.P., D.P.H., D.T.M. & H., Surgeon Lieutenant-Commander, R.N.V.R., Assistant Medical Officer, Port of London. Second edition. London: Baillière, Tindall & Cox, 1934. pp. 321. Price 4s. 6d. net.

Somehow there always seems to be a sort of unevenness about books which, no matter how they may announce themselves, are actually cram books. In this member of the "Aids" series there is a conspicuous absence of this unevenness which makes it quite pleasant reading. The fact that the information given appears to be generally accurate and practical—as it could not fail to be having regard to the authorship—adds to the pleasure experienced. If, as

is not unusual, any medical undergraduate desires to confine his study of public health to a book of the cram class, he may safely rely upon this one.

Diagnosis and Treatment of Diabetes Mellitus.

By O. LEYTON, M.D., D.S.C., F.R.C.P., Physician to the London Hospital. London: Adlard and Son, Ltd., 1934. pp. 144. Price 6s. 6d. net.

This is the fifth edition of this excellent little handbook, which has a high and well-deserved reputation as a practical guide in the diagnosis and treatment of a condition that is becoming of greater importance every year.

Dr. Leyton is well known as an authority on the subject, and this new edition is certain of a warm welcome.

In the Annual Reports.

PREVALENCE OF THE VENEREAL DISEASES.—The question may now be asked—does the considerable decrease in the number of syphilis cases, and the very considerable increase in the number of gonorrhœa cases found at the clinics, represent real changes in the prevalence of these diseases in the community? In other words—is syphilis declining and gonorrhœa increasing? No definite answer can be made, because we have no direct means of knowing the actual prevalence of these diseases, as we have, for example, with regard to the prevalence of notifiable infectious diseases. Any increase or decrease at the clinics may, of course, only mean that a larger or smaller proportion of the actual cases are attending. There is, however, a good deal of evidence to support the view that the prevalence of syphilis is really declining, and whilst it can hardly be contended that gonorrhœa has similarly declined, the increase shown by the clinic figures probably represents an increased attendance of patients affected with that disease, rather than an actual increase in the prevalence of the disease. Our experience at the ante-natal clinic indicates a decrease of gonorrhœa amongst women attending there, and gonorrhœal ophthalmia has now become comparatively a rare disease. Of course, it may be argued that the decline in gonorrhœal ophthalmia is due to the prophylactic measures taken by doctors and midwives at confinements, but I am not convinced that this is the whole explanation. It is interesting to note that the Army returns show a marked decline in the prevalence of both syphilis and gonorrhœa, and the decline in both diseases is about equal. In the Home Service, syphilis has declined from 19.2 per 1,000 in 1913 to 1.6 in 1931, and gonorrhœa from 25.6 in 1913 to 8.9 in 1931. Whilst it would not be justifiable to deduce from the Army returns a corresponding decline in civilian disease, they do support the view that syphilis

has declined, and do not support the view that gonorrhœa has increased in the general community. Apart altogether from the question of prevalence, we must appreciate the great curative work which venereal diseases clinics are doing, and that this curative work is of the highest preventive value, both in preventing the serious sequelæ of untreated disease, and in preventing fresh infections. Their work is also invaluable from the educational point of view, and strongly reinforces the general propaganda for prevention.—*Dr. Thomas Gibson, Wakefield.*

SANITARY INSPECTION.—It is sometimes imagined that the problems of sanitation have been solved, and that the task of the present day sanitary inspector is a relatively light one. This is very far from the truth. The sanitary inspector is primarily concerned with the maintenance of a hygienic domestic environment for the community, which depends upon such things as a satisfactory water supply; the prompt and efficient removal of refuse of all kinds; a clean, dry, well lighted and well-ventilated house. When it is remembered that a large number of the houses in the borough did not come up to the latter standard, even when they were built, and that they are now old, and when it is further realised that casual employment and low wages in many cases mean frequently changing tenants, with little interest in their temporary abode and consequently little care for its structure or sanitary equipment, it is not surprising that "nuisances" and "sanitary defects" abound. Much of the work is, indeed, like the process of patching up an outworn, old-fashioned garment, requiring infinite skill and patience to achieve a tolerable repair, and much of it is wasted labour.—*Dr. Vynne Borland, Bathnal Green.*

PUBLIC HEALTH

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Editorial.

The Committee on Cattle Diseases and the Milk Supply.

SEVERAL of the proposals submitted by the Economic Advisory Council Committee on Cattle Diseases in the report recently issued* are along lines that must meet with the approval of the Society. Prominent amongst these are, of course, that there should be an active policy for the eradication of bovine tuberculosis; a fixed standard of cleanliness or pre-pasteurisation standard at the farm, approximating to that of grade A milk, and power to large urban authorities to require pasteurisation of milk other than that of tubercle-free herds.

That routine veterinary inspection should be obligatory on local authorities is a necessity that has been stressed over and over again by

medical officers of health, and the fact that support is given to it in this report is one that will be greatly welcomed, more particularly since the veterinary service that is to carry it out is recommended to be placed under the immediate control of the local authorities. Well formed and operative, it is certain that important developments will take place, and that the move forward to a marked degree of control of tuberculosis, if not of actual eradication, will be rapid. In securing this it is probable that the supervision by the Ministry of Agriculture that is advised will be fully exercised. A spur also will be provided by the institution of lists of tubercle-free herds, to be named "accepted herds," which will be tuberculin-tested from time to time. Having regard to the experience of such testing in certain cases in the past, the recommendation that the testing should be

performed under official supervision is sound.

That there should be some system of reward for producers who accept the various schemes, and endeavour to provide what is described as a "disease-free milk," was inevitable. It appears to be quite definitely accepted as a principle that the penalty for not doing the best and utmost to produce and supply a safe milk shall be a monetary one; the careful individual concerned for the consumer receiving a good price, and the less careful and considerate something less. It is true, of course, that the suggestions offered in the report are designed to raise the minimum standard of milk so far as safety is concerned: at the same time, however, it cannot but be regretted that there still appears to exist some difficulty in getting away from the necessity of recognising two groups of producers—the "can" or "will" and the "cannot" or "will not," and to reward according to the degree of willingness. The suggestions offered as to methods to be adopted with a view to securing easy recognition of milks of different designations are noteworthy, as are also the figures quoted with regard to cost of putting the new schemes into operation.

Having regard to the criticisms that have been levelled against the medical profession for being too free in their adverse comment upon milk, it will be interesting to hear what these same critics have to say of the statements in this report as to the state of the milk supply of this country: that, for instance, 58 per cent. of the cows passing out of herds are disposed of on account of disease; that the incidence of bovine tuberculosis amongst cows is probably as high in Great Britain as anywhere else in the world; that at least 40 per cent. of cows are infected with it in such degree that they will react to the tuberculin test; that over 5 per cent. of samples of milk from individual herds contain tubercle bacilli; and that approximately a hundred outbreaks of epidemic disease, attributable either to mastitis amongst cattle or subsequent infection of milk, have been recorded in this country since 1903. Conceivably it will be held that it is the doctors on the committee who have brought out points of this sort. If so, the reason they have done so, as has always been the case when the Society of Medical Officers of Health has drawn attention to defects in the milk supply, is with the object of securing a remedy and bringing nearer the day when milk consumers, children particularly, will be provided with an article that is not only clean but absolutely safe and reliable.

Nutrition.

IT is doubtful if anything happier has ever come from the Ministry of Health than "Nutrition,"* the report of the conference between the physiologists of the Nutrition Advisory Committee of the Ministry of Health and those of the Nutrition Committee of the British Medical Association. Possibly it is because it is happy and reveals two medical groups in agreement and not, as appeared to be the case when the first reports were published, differing as doctors should, that the press or certain sections of it have little or nothing to say with regard to it. That they have not is unfortunate since there is so very much of importance in it. Of its contents, not the least important, and certainly the most gratifying from the point of view of everyone connected with the public health service of the people, are those that show how close all along has been the agreement between the two groups and how very clear it is that any divergences that appeared to exist were more a matter of misunderstanding and misinterpretation than of actual fact.

In the first place, it is noted that not only was the starting point of the two bodies different: their objective also was different. As regards the starting point, the difference broadly was that the Ministry Committee, being advisory on nutrition and concerned to advise as to the needs of the average "man" in the population, did not concern itself with any particular type or class and had no recommendations of an economic nature to put forward. The British Medical Association Committee, on the other hand, had set for them the task of determining "the minimum weekly expenditure on foodstuffs which must be incurred by families of varying size if health and working capacity are to be maintained." In determining as instructed, they took into consideration matters very different from those discussed by the Ministry Committee. This of necessity: and so doing they recommended, as essential, 3,400 calories and 50 grammes of first-class protein per "man equivalent." The opinion of the Ministry Committee was, of course, that 3,000 calories and 37 grammes of first-class protein, "or thereabouts," could be regarded as adequate to supply the needs of the average "man" of the entire population of the country.

*H.M. Stationery Office, 1934. Price 2d. net.

Nothing was said about wastage and nothing about cost. The expression "or thereabouts" too has peculiar interest and importance since, as the conference takes care to stress in the report, "nutrition and dietetics, dealing as they do with physical and chemical changes inside the body, most of which are imperfectly understood, cannot be considered exact sciences." The calorie is merely a convenient unit for measuring the energy-content of food and the energy-output of the body. More important still, because people differ so very much in so many different ways, "it is not only impossible to define but also there does not in fact exist, any standard of food requirement which can be rigidly applied to all men alike."

To provide authorities with a working basis on which to determine the needs of individual men and families, what is needed is a sliding scale of calorie needs. One of the most valuable results achieved by the conference, it may be claimed, was the settling of a scale: as follows:

SLIDING SCALE OF CALORIE REQUIREMENTS
PER DAY.

Individuals.	Calories Gross.
Man: heavy work	3,400-4,000
„ moderate work	3,000-3,400
„ light work	2,600-3,000
Woman: active work	2,800-3,000
„ housework	2,600-2,800
Boy: 14 to 18	3,000-3,400
Girl: 14 to 18	2,800-3,000
Child: 12 to 14	2,800-3,000
„ 10 to 12	2,300-2,800
„ 8 to 10	2,000-2,300
„ 6 to 8	1,700-2,000
„ 3 to 6	1,400-1,700
„ 2 to 3	1,100-1,400
„ 1 to 2	900-1,100

In regard to this scale it is to be noted that there was agreement by the conference on this further point: that the all-round average requirements of the entire population or of large mixed groups of people at the present time is about 3,000 calories per day, a figure which can safely be employed for calculations of mass requirements, though in the case of individuals and single families due regard should be paid to the sliding scale.

In the case of proteins, the same difficulties exist so far as standards are concerned. The total daily needs per man unit is probably from 80 to 100 grammes (2½ to 3½ ounces). The exact proportion that first-class protein should bear to the total has never been exactly deter-

mined. That growing children and expectant and nursing mothers require relatively large amounts, "much more indeed than would be arrived at by simple calculation based on their man-value equivalents," was one of the matters upon which there was complete unanimity. Another point on which there was entire agreement was that for children, milk is a most valuable food, being, in fact, the only naturally balanced food containing in readily available form not only first-class protein (18·7 grammes or ¾ ounce to the pint) but also minerals, vitamins, carbohydrate and fat.

Finally, and not by any means least, the conference agreed in deploring the exaggerated importance attached to the alleged disagreement between the two committees and, taking advantage of the opportunity offered by the report, add that "there did not exist, nor does there exist now, any fundamental disagreement on matters of scientific fact between the two bodies." Apart from the fact that it so very satisfactorily clears away misunderstandings, as an addendum to the memorandum of the Ministry's Committee and the British Medical Association's report, this one has very real practical and scientific value.

* * * * *

The Eradication of Bed-bugs.

THE first and main recommendation in the report of the Committee on the Eradication of Bed-Bugs,* for which there can be nothing but praise on account of its lucidity, thoroughness and completeness—as evidenced, for example, by the list of references—was that sanitary officers and health visitors should be provided with the fullest possible information with regard to the habits and so on of the bed-bug, in order that they might be in a position to give suitable instruction and advice as to how to deal with the pests. This recommendation appearing sound to the Ministry of Health, a memorandum† has been prepared and circulated to local authorities. Whether or not the officers of local authorities are quite so ill-informed as the committee supposed may be doubted: in most districts the bug problem is rather prominent, and it is not easy for sanitary

*Ministry of Health Reports on Public Health and Medical Subjects, No. 72. H.M. Stationery Office, 1934. Price 1s. net.

†Ministry of Health Memo., 180 Med. H.M. Stationery Office, 1934. Price 3d. net

inspectors and even health visitors to escape contact with it or frequent calls to advise, urge and compel the taking of action with a view to dealing with it. It is not always, of course, that success attends the efforts put forth, the bug herself apparently having an instinct, natural no doubt, for discovering harbourage and nesting-places in the most unlikely and unthought of positions. Conversation with sanitary officers ready and willing to draw upon their experiences very soon reveals that unexpectedness is not uncommonly a feature of bug infestation. Nevertheless, the memorandum of the Ministry deserves praise and must inevitably prove of real value, because of what it tells and on account of the suggestions it has to offer with regard to harbourages particularly, and the results of experiments and experience with various methods designed to prevent infestation and bring about extermination. The description of the appearance, habits, and life of the vermin is most helpful, the illustrations showing various stages in the development of the bug being especially interesting. The notes under the headings, "Where to look for Bed-Bugs" and "Sources of Infestation," are very complete, though the fact that the space behind the fire-place occasionally finds favour because it is quiet and warm, and that the backs of pictures are amongst the most commonly chosen of furniture haunts, might have been stressed. In the hints on prevention of infestation and methods, most of those that are best known and most widely practised are referred to, and the right emphasis is laid upon the necessity for maintaining vigilance and dealing with any vermin as they appear after "Spring-cleaning" has been carried out. The notes on insecticides and the use of these agents should prove helpful, particularly those relating to fumigation with hydrogen cyanide. The necessity for the exercise of care in connection with the use of the latter is very rightly emphasised. Very properly also a special note is included with regard to the precautions to be adopted in relation to the removal of tenants to new premises, since it is in this regard that the greatest amount of worry and trouble, and discouragement also, are caused to local authorities anxious to secure better housing and sanitary conditions, and to their officers concerned to assist the authorities and to contribute in every way possible to improving and maintaining the health, comfort and convenience of the people.

The Composition and Description of Food.

IT is not uncommonly the case where matters affecting food are involved that legislation along the lines suggested very quickly follows the appearance of the report of the departmental committee appointed to enquire into the particular matters. Probably, therefore, it may be anticipated that there will soon appear a bill to make such provision as the Committee on the Composition and Description of Food have advised in the report recently issued.* The fact that the investigations of the committee were suspended "as a measure of economy," and the report has been considerably delayed, is a further reason for anticipating early legislative action, and encourages the hope that it may be so.

The main question the committee was required to answer was as to whether or not it was necessary that the law relating to the composition and description of articles of food should be altered so as to enable definitions or standards to be prescribed, or declarations of composition to be required for articles of food other than liquid milk. Their reply is definitely in the affirmative. As the evidence submitted on behalf of the Society of Medical Officers of Health pointed to a need for alteration of the law, it is gratifying to find that the committee have reported so unhesitatingly.

So far as regards the procedure to be adopted in settling standards and definitions, the views of the Society have not been accepted. In this matter, in common with a number of other bodies, the Society came to the conclusion that something in the shape of a more or less permanent advisory committee, consisting in part at least of representatives of food manufacturers, should be set up. To this and other like suggestions the committee gave full consideration, but decided finally that having regard to the existence of the Foods Department of the Ministry, generally recognised as extremely efficient in the performance of its function of protecting the consumer, no special committee was necessary. It was recommended, however, that in all cases the power to fix standards and definitions should be exercised by means of an Order, a draft of which should be published and ample time allowed to any persons interested to state their objections.

*H.M. Stationery Office, 1934. Cmd. 4564. Price 3d. net.

On the subject of standards and definitions generally, the committee gave it as their opinion that the case for extension to all articles of food is not made out. On consideration, this is a conclusion that must be regarded as justified. Equally the view of the committee will be accepted that "the main thing to be aimed at is that the public, when buying an important article of food, should know what they are getting. A considerable amount of elasticity must be allowed in the preparation of many articles, and we should recommend that the power to fix standards or definitions should only be used where it is shown that it is necessary for the protection of the public health (including nutrition) or the protection of the pocket of the consumer."

That the label of any package containing foods specially offered for infants and invalids should bear a declaration of the contents will also be agreed, as will the recommendation that, in the case of pre-packed articles, it should be the packer and not the retailer who should be proceeded against. The procedure suggested in cases in which the article found to contravene legal requirements is packed in the district of another authority, that the latter should be required to cause samples of the article to be taken in the despatch department of the packer's premises and empowered to take proceedings against the packer if the samples obtained from him are reported against, will no doubt be regarded as quite appropriate.

Following an examination of the law affecting the composition of food as it now stands, the committee decided in a general way that the time is ripe for the consolidation of the statutes dealing with the composition of food, and that certainly, since the ancient statutes of pre-Victorian times dealing with the composition of tea and coffee are "dead letters," their objects being completely provided for by subsequent legislation, they should be repealed. Consideration also should be given to the question of replacing the two Acts of 1822 and 1836 (dealing with the composition of bread and flour) by new legislation more suited to present-day conditions.

These, like the majority of the views expressed in this extremely concise and interesting report, will be endorsed by all members of the health service, so very much of whose work has relation to the food of the people and the carrying out of the legal provisions designed for its protection.

The Health Congress—Bristol, 1934.

FOR the first time in its history, the Royal Sanitary Institute is claiming its Congress for what it is, that is to say, "The Health Congress," and on Friday, July 13th, the Right Hon. Sir Hilton Young, G.B.E., D.S.O., D.S.C., M.P., Minister of Health, will address a special session on "Some Aspects of the Housing Question."

The Congress, extending over the week July 9th to 14th, will be attended by a large number of representatives from local authorities in Great Britain, from government departments, and from foreign and dominion governments and municipalities, etc., in addition to the members of the Institute. It is expected that 1,400 persons will be present.

A very extensive programme has been prepared for the Congress, as will be seen from the following list of subjects that are to be discussed:—

- Nutrition and the public health.
- The problem of the mental defective.
- Recent advances in prevention and treatment of puerperal insanity.
- The mental development of the child from two to five.
- Breast-feeding.
- The teaching of mother-craft.
- Construction and equipment of nursery schools.
- The training of toddlers in nursery schools.
- The Mental Treatment Act and maternal and infant welfare work.
- The health visitor in relation to health propaganda.
- Posture and its relation to health.
- Meat inspection.
- Examination of dairy cows under the Milk and Dairies Order, and administration of the Tuberculosis Order.
- The eradication of bovine tuberculosis.
- Hygiene of ice cream production and conservation.
- Sickness experience and sickness expectancy.
- The effect of unemployment on the health of the insured population.
- Progress in public health work.
- Administrative difficulties in municipal housing.
- The slum problem.
- Sanitation in modern architecture.
- Planning as a basis of proper sanitary conditions.
- The water supply problem.
- The avoidance and destruction of sewage odours.
- Re-organisation of the cleansing services of Bristol.
- The co-ordination of re-housing.
- The Report of the Departmental Committee on Housing.
- The control of tents, vans, sheds and temporary structures.
- Deratisation of ships.
- Mosquitoes and fleas in relation to disease.

Another feature of the Health Congress is the Health Exhibition arranged in conjunction with the meeting. Here will be found various appliances, foods, etc., illustrating municipal activities and hygiene of the home. Manufacturers from all parts of the country will be represented.

Particulars of the Congress and Exhibition may be obtained from the Secretary of the Royal Sanitary Institute, 90, Buckingham Palace Road, London, S.W.1.

* * * * *

The Ætiology of Dissecting Aneurysms.

PROFESSOR SHENNAN of Aberdeen, in a report issued by the Medical Research Council,* gives a detailed account of the clinical features and pathology of aneurysms, chiefly of the aorta, in which blood from the lumen of the vessel "dissects" its way through a breach in the wall so as to form a swelling between the coats.

In addition to describing the nature of the degenerative changes found in the coats of the affected vessel, and which lead to the development of the aneurysm under stress of some sudden increase in blood-pressure due to physical effort or to strong emotion, the author discusses the causes of the degeneration. For this reason reference to the report appears necessary. This is all the more the case since Professor Shennan concludes that in most cases the outstanding cause is the cumulative effect of toxins throughout life. Syphilis is not commonly an apparent factor in the ætiology, a respect in which dissecting aneurysms differ from ordinary aortic aneurysms. It is of interest to note that the condition is by no means invariably fatal; in some cases the new channel acquires a lining of endothelium and assumes part of the function of the original vessel, while exceptionally the blood-clot becomes completely organised into new tissue and the cavity is thereby obliterated.

The review has been extremely well done, and though of particular value to pathologists and clinicians who may encounter the condition during life, it is not without interest to workers in the field of preventive medicine also.

* Special Report Series, No. 193. H.M. Stationery Office, 1934. Price 2s. 6d. net.

The Chemistry of Antigens and Antibodies.

THE results of this investigation have been embodied in a report by Dr. J. R. Marrack, and issued by the Medical Research Council* as a guide to further investigations into the chemical nature of the phenomena associated with immunity to infection. As this is a subject in which members of the Society are greatly concerned, and some of the points discussed in the report are referred to in a paper elsewhere in this issue, Dr. Marrack's report must be of interest and value to public health workers.

Medical bacteriologists are of necessity closely concerned with chemical studies which may lead to fuller knowledge of the conditions of life of pathogenic micro-organisms, or to better understanding of the responses—often highly specific—which these organisms evoke when they invade the human body. Work on these lines, if progress is to be made, must obviously take account of fundamental advances in the science of chemistry, and it is therefore important that knowledge of these advances and of their bearing on the special problem should be made readily available to the investigators.

Dr. Marrack, of the London Hospital, at the request of the Bacteriology Committee of the Medical Research Council, has collected the more important results of recent experimental work upon the chemistry of antigens and antibodies, and has reviewed that subject in the light of present-day knowledge of molecular structure.

* * * * *

Obituary.

WILLIAM HENRY WELCH, M.D. COLUMBIA UNIV., SC.D. CAMB., F.R.C.P. EDIN.

BY the death, in the Johns Hopkins Hospital, Baltimore, on April 30th, of Professor Welch, the Society has lost one of its most distinguished Honorary Fellows. On April 8th, Dr. Welch celebrated his eighty-fourth birthday; and April 7th was the fiftieth anniversary of his connection with Johns Hopkins University, his appointment as Professor of Pathology in the university having commenced on that day in 1884, when he was thirty-four years of age.

Born at Norfolk, Connecticut, he began his medical curriculum in 1871 at the College of Physicians and Surgeons, New York. This he

* Special Report Series, No. 194. H.M. Stationery Office, 1934. Price 2s. 6d. net.

followed by scientific work at Yale, and graduated at the College in 1874, when he became interne at the Bellevue Hospital in New York City. Becoming interested in pathology he took post-graduate courses in this subject in Germany (particularly under Cohnheim) where he received also his early training and inspiration in bacteriology.

On returning to the United States in 1878, Dr. Welch established what has been described as a "primitive pathological laboratory" at Bellevue Hospital Medical College, where he was Professor of Pathological Anatomy and General Pathology until 1884. Then began his long association with Johns Hopkins, where he laid the foundations of the university medical faculty of which he was dean from 1893-1898. In 1916 he organised and became Director of the Johns Hopkins School of Hygiene and Public Health, and at the age of seventy-five he founded the School of the History of Medicine where he lectured and taught for many years.

Recognised internationally as a leader in medicine, Dr. Welch was honoured by the entire medical world on April 8th, 1930, in a celebration of his eightieth birthday, during which President Hoover, in a radio address, referred to Dr. Welch as "our greatest statesman in the field of public health." The fame of William Henry Welch was world-wide, and he was the recipient of honorary degrees from a number of universities and colleges as well as many decorations from foreign countries. He was the author of many well-known medical works, and also of numerous papers on pathology and bacteriology.

A great scientist, teacher and counsellor, Dr. Welch was universally loved for his broad human sympathy, tact and earnest public spirit. Through his frequent visits to Europe, he was well known to many public health workers in this country, who will recall always with pleasure his unfailing courtesy, his hospitality, and his quiet geniality.

Dr. Welch was unmarried, but in his own country and in others there are many who will long mourn his loss.

MEREDITH YOUNG, M.D. EDIN., D.P.H.

With great regret the death of Dr. Meredith Young, which occurred at Chester on May 7th, at the age of sixty-four, is recorded.

He was Medical Officer of Health for Brighouse from 1892 to 1897, and then acted in the same capacity at Crewe for three years. From

1900 to 1908 he was Medical Officer of Health of Stockport, and then, following some eighteen months' service as Medical Officer of Health of the Metropolitan Borough of St. Marylebone, he was appointed County Medical Officer of Health for Cheshire, a post which he held for 23 years, retiring in 1932 on account of ill-health.

Dr. Young made numerous contributions to the medical journals on public health subjects; lectured at the University of Manchester; and served as President of the Chester and North Wales Medical Society.

He was held in high esteem by his colleagues in the Association of County Medical Officers, a body of which he was President in 1931.

DR. C. J. MCSWEENEY, Deputy Medical Officer of Health and Medical Superintendent of the City Isolation Hospital, Cardiff, has been appointed Medical Superintendent of Cork Street Fever Hospital, Dublin.

THE Institute of Medical Psychology (The Tavistock Clinic) announces that a short course of lectures, for medical students and graduates only, on "The Approach to the Psycho-neuroses," will be given at the Institute's new premises, Malet Place, London, W.C.1, from June 18th to 29th, 1934. Full details of the course, fees, etc., may be obtained from the Hon. Lecture Secretary at the Institute.

THE Thirty-Eighth Annual Congress of the Royal Institute of Public Health, held at Norwich from May 15th to 20th, 1934, attracted a good attendance of members and delegates. In addition to the work of the various sections, inspections of factories, sanatoria and other institutions were arranged, and visits were also made to Carrow Abbey, the Broads, Castle Acre Priory, Sandringham and Sennowe Park. Among the contributors to the many interesting discussions that took place were the following: *State Medicine and Industrial Hygiene*.—Dr. Arthur Massey and Dr. C. Killick Millard. *Women and Children and the Public Health*.—Dame A. Louise McIlroy, Dr. D. H. Geffen and Dr. G. A. Auden. *Tuberculosis*.—Dr. S. Vere Pearson. *Pathology and Bacteriology*.—Dr. S. Monckton Copeman and Dr. E. H. T. Nash.

The Housing Act, 1930.

By HUGH PAUL, M.D., D.P.H., Medical Officer of Health, County Borough of Smethwick.

Any contribution dealing in a practical way with housing, and the problems connected therewith, cannot fail to prove interesting to health officers at the present moment particularly, and this paper, which was read at a meeting of the Midland Branch and led to considerable discussion, is sure to be found helpful.

THE subject of the Housing Act of 1930 is such a vast one that I propose to give, first of all, consideration to a few of its broader aspects, and then to confine myself mainly to work done by my authority under section 19 of the Act, and to the difficulties which we in Smethwick have met or, perhaps I should say, successfully avoided.

Smethwick, a town of 85,000 population, is fortunate in having a slum problem of manageable proportion, there having been only some 530 unfit houses in the borough at the passing of the Act. This was due, of course, to the fact that the town is one of comparatively recent growth, and was almost non-existent at the time of the industrial revolution when most of our present housing problems had their foundation.

The framers of the Act must have realised that the conditions obtaining in the areas of various local authorities vary enormously, for they inserted in section 62, sub-section 2, an entirely new principle in dealing with slum houses, namely, that in determining whether or not a house is fit for human habitation, regard must be had to the extent, if any, to which, by reason of disrepair or sanitary defects, the house falls short of the provisions of any byelaws in operation in the district, or of the general standard of housing accommodation for the working-classes of the district. This means that it is not now necessary either under clearance area procedure, or under section 19, to prove that the house or houses are unhealthy. This is a great advance, for two reasons. First, it relieves the medical officer of health of the necessity of getting out, and proving in court or at an inquiry, those vital statistics as to illness and deaths, which are usually so unsatisfying. These statistics are of two kinds; those which support our case, and which we give (although without any great depth of sincerity, knowing that, dealing with small numbers, the possible percentage error is great), and those which support the other side, which we suppress from motives of honesty, realising that it would not

be fair to draw conclusions from inadequate data.

The second reason why this sub-section is a great advance is that it prevents a progressive town with a manageable problem from being held back by the comparisons which could be made with areas where conditions are much worse. This has been a very important and vital consideration in Smethwick, where many of the neighbouring towns, having been built at a much earlier date, have problems of much greater magnitude, which they will be unable to solve within five years. They can only hope at present to alleviate the worst conditions. We have constantly been confronted with the undisputed fact that many of the *reconditioned* houses in surrounding towns are very distinctly below the standard of the worst of the houses which we are now condemning, and this has been one of our greatest difficulties. It has been claimed, during the hearing of appeals in the county court, that other authorities would consider the houses we are dealing with as too good even to require any action in the way of reconstruction, and better than the results they are obtaining after reconstruction. This we admit, but claim that under section 62 we are statutorily bound to base our comparisons, not upon the country as a whole, but upon the actual conditions of the average working-class houses in our own district, and these conditions we claim are high.

From the time the Housing Act came into operation in 1930, up till twelve months ago, only about 40 houses in Smethwick were demolished. The reason was that we were engaged in preparing a very ambitious scheme for four large improvement areas, which contained within their boundaries the majority of the unfit houses in the town. When these were prepared and submitted to the council, together with an estimate of the cost, the financial crisis of 1931 supervened, and the whole matter had to be reconsidered, especially as the cost to the rates of the four clearance schemes would have

been extremely high in comparison with the cost if all the unfit houses in these areas were dealt with under section 19. Neither my chief sanitary inspector nor I have ever been keen on improvement area procedure in Smethwick. We have not had at any time any large aggregations of unfit houses, most of which are scattered fairly uniformly throughout the older part of the town, and we felt that our problem of slum clearance could be met most expeditiously by action under the sections 1 and 19, and we have in fact declared no improvement areas. As regards clearance areas, we have made but little use of section 1. In all, under the 1930 Act we have only had three clearance areas, comprising 9, 8 and 15 houses respectively. In two of these which were represented in 1930 there was no appeal; in the third the order was confirmed after an appeal by the owners. In addition to these houses, during the first two years after the Act came into operation we made demolition orders on 22 houses altogether. In February of last year, however, we placed a scheme before the council for dealing with our entire problem in two years. We proposed to deal with all our unfit houses, with the exception of the one small clearance area to which I have referred, by means of section 19. Exactly twelve months later I had represented every one of these unfit houses to the number of 510. The proceedings in respect of these houses have not yet been completed, of course, but it is hoped that within 12 months from the present time all these houses will be demolished or reconstructed. So far we have interviewed owners in respect of 434 of the cases. We have made 184 demolition orders, and have accepted 204 undertakings. We went on for some months before any of the owners ventured to appeal, but eventually in one month received notices of 40 appeals, and these have all been heard. They have all been decided in our favour, having been dismissed, or withdrawn, or the owners having given or been compelled by the court to give undertakings which we would have accepted before the appeals were made. We have been scrupulous to observe every detail laid down in the Act, whether definite or implied, and I attribute our success to our meticulous care and great caution. In interviewing the owners we have been careful to allow them to put forward their propositions in any manner they thought fit. The section states that every person upon whom the notices are served shall be heard. I would emphasise the word "heard," as the Act is not fulfilled if, when plans and specifications, however unsatis-

factory, are submitted, the committee refuses to allow the owner to discuss the plans.

When the notices of time and place at which the committee would consider the condition of the houses were sent to the owner, an informal invitation was also sent to him to meet one of the officers of this department, either on the property or at the health office, to discuss the condition of the property and our objections to it. We find that county court judges consider that corporations should place their cards on the table at the outset, and we usually do so. If the house is capable of being reconstructed, such as might happen when two back-to-back houses are converted into one through house, we are willing to give the owner a specification of the minimum requirements which will satisfy us, making it plain at the same time that this specification is submitted without prejudice; that it is the specification of the officers, and that it does not bind the committee or the council, who alone have judicial rights in the matter. Should the property, in our opinion, be one in which we consider that no undertaking can be accepted, we tell the owner that the property is unsatisfactory, and that while we can think of no way in which it can be rendered fit for habitation, and therefore submit to them no specification, nevertheless the committee would be willing to consider any schemes which they might put forward, and we would be glad to discuss with them any plans which they might wish to submit to us beforehand. This procedure seems to have been appreciated by the owners, who invariably consult with our officers before the meeting of the health committee, and in many cases the owners are able to come to the committee with plans which we have seen and approved beforehand. This saves the committee a considerable amount of time, which is an important matter, as owing to the large number of houses with which we are dealing, the committee meets almost weekly, and the meetings each last several hours.

The question has arisen in a midland town as to whether the corporation has authority under the Act to accept an undertaking to make two back-to-back houses into one under section 19 of this Act. The corporation of Leicester have lost on this point in the county court, and having taken it to the high court have lost again, so that it is now definite that the corporation has power to accept undertakings in such cases. This seems to me common sense, and very definitely in accordance with the wording of the Act.

In Smethwick we have been very chary of allowing houses, which we have scheduled as unfit under section 19, to remain standing, under an undertaking that they shall not be used for human habitation. We have actually accepted two such undertakings, and in both of them it is proposed that they shall be added to and make part of adjoining business premises. I would have preferred demolition.

Our appeals were heard before Judge Tebbs at the West Bromwich county court, the first on October 24th, 1933. The judge visited the property in company with representatives from each side, and this procedure he has adopted in all our appeal cases. The visit to the property was not made until the evidence had been given. The town clerk at the outset of our first cases based our defence on section 62, sub-section 3, which reads:—

“In determining for the purposes of this Act whether a house is fit for human habitation, regard shall be had to the extent, if any, to which by reason of disrepair or sanitary defects the house falls short of the provisions of any bye-laws in operation in the district, or of the general standard of housing accommodation for the working classes in the district.”

He made no attempt either directly or indirectly to prove that the houses were unhealthy. The houses which were the subject of the appeal were twelve back-to-back houses which the owner offered to convert into six through houses. The appellants offered an undertaking to convert, which we refused to accept on the grounds that the houses could not by any means be made fit, and that the only satisfactory solution was total demolition. The rooms were small and cramped. The density was high and the structure was dilapidated. The appeal was dismissed.

In the next appeal, which concerned eight back-to-back houses, the owners submitted no proposals for rendering the houses through houses. They did submit a half-hearted undertaking, mainly of maintenance work. After hearing both sides the judge stated that he could not accept any undertaking that did not provide for through ventilation, and instructed the appellants to produce plans which would be satisfactory to the local authority. This the appellants did.

The third appeal was in respect of seven single houses, in which a very complete and thorough scheme of reconstruction had been submitted to the committee. The property was old and dilapidated and of obsolete type, and four of the seven houses had only about 10 feet of open space at the back. The rooms were

small and the structure poor. The undertaking submitted would have cost about £500, and would have met most of our objections. We refused it, however, on the ground that the houses were of an obsolete pattern, and that the rooms were too small, and that there was insufficient air space at the back, and that the density of the area was too high. In this case, the judge stated that in the four houses with their restricted area space at the back, he would not accept anything but demolition, but would be prepared to hear the appellants with regard to an undertaking for the other three houses. The appellants, however, declined to submit undertakings for these through houses under these circumstances, and withdrew the appeal.

The remainder of the appeals were withdrawn voluntarily by the appellants with the consent of the court. During the last fortnight we have received notice of appeal in the cases of twelve further houses, but I have now been informed that the appeal will be withdrawn in respect of three of them.

Occasionally we find that an owner, after he has received notice that the houses are scheduled for demolition under section 19, and has been served with notices as to time and place of meeting of committee, has carried out fairly extensive maintenance repairs in order that he may make a better showing when he appeals. This expenditure is somewhat in the nature of a gamble, and usually does not pay. The owners in the case of our most recent clearance area spent no less than £200 on the fifteen houses concerned, but in spite of this, the appeal was dismissed and the order confirmed. In this case the offer made to the inspector to re-condition this property was estimated to cost an additional £500. This, in our opinion, would have been uneconomic, as well as leaving the property still unfit for habitation. Eight of the houses would still have been of the single type.

At the beginning of our campaign, several owners, with the support of the local property owners' association, confidently asserted to us, both before coming to the committee and at the formal committee meeting, that they wished to take a test case to the high courts if necessary, on the stipulation we made that all undertakings must include provision for through ventilation. We have so far definitely made a stand that we will not permit the perpetuation of back-to-back houses, and have consistently refused to accept undertakings which would provide this ventilation by air brick, air shafts, Tobin's tubes, Sheringham valves, or other similar con-

trivances. A block of ten back-to-back houses was chosen as test property, and the owner frankly told us he intended to appeal. These houses were in quite good condition structurally and contained one good-sized room downstairs, a medium-sized scullery and two rooms upstairs. The owner was willing to provide a water supply and a separate water-closet to each house, but not through ventilation; indeed, he was willing to carry out practically all our specified work except the provision of through ventilation. As we deal with the worst property first, we were unable to accede to the request to have this property dealt with before any others, and as a result the owner could not use this block for the first test appeal, and was compelled either to fight on an inferior block, or to give in to the council's requirements. He did both; he allowed several to go through without appealing, and then appealed on the properties which I have described.

When these appeals were dismissed so summarily, most of the owners decided that discretion was the better part of valour. The owner of the intended test property has now submitted a very sensible scheme of reconstruction involving the conversion of twelve back-to-back houses into six through houses. This has been accepted.

I do not know what the procedure is in other towns, but in Smethwick the officials who advise the council both as to the adequacy of the undertakings submitted and the plans deposited, and as to the cost of suggested reconstruction, are the medical officer of health and the chief sanitary inspector. While we are willing to discuss undertakings submitted as rough plans, we insist before acceptance that detailed scale plans should be presented. This entails no extra expense, as the public works committee, to whom the plans must again be submitted, will also insist on scale plans, and the one set will do. Our method in theory might have the disadvantage that the public works committee might reject plans which we had accepted, but in practice this has not arisen, and as we keep in touch with the borough surveyor in doubtful cases, where it is a question of meeting the building bye-laws, no future difficulties are anticipated.

Insanitary dwellings may be dealt with mainly under one of four sections, namely, sections 1, 17, 19 or 20, and all these are useful according to the type of property and the extent of the dilapidations. As regards clearance area procedure, there is no limit specified in the Act as

to the number of houses which may be included. I maintain that it may be as low as two, and in this town we should have no hesitation in representing very small clearance areas. There is not usually any difficulty in deciding as between section 17 and section 19, but occasionally one comes upon a house which can without serious reconstruction be rendered fit, but in which the cost would be high. It is safer in these cases to represent under section 19, and throw the onus of deciding whether the cost is or is not reasonable upon the owner. If section 17 is used the council must be satisfied that the expense is reasonable, and if the owner feels aggrieved he may appeal to the county court judge, who may order the council to purchase the property and carry out the necessary repairs. It is often found, however, that owners, for sentimental and other reasons, are willing to spend what we would consider an uneconomic amount to render a house fit. If the necessary repairs are considerable in extent, procedure under section 19 allows the owner to render the house fit if he is willing to spend the money. We do not usually ask for work involving actual reconstruction under section 17.

Section 20 is of limited use, but some authorities have used it to close one of two back-to-back houses, in order to render the other a through house. Its chief advantage in regard to back-to-back houses seems to have been that it enabled the council to claim grant for rehousing, but as the Ministry of Health now admit that two back-to-back houses made into one through house may give rise to a legitimate claim to grant, this point is not now of great importance.

The question of section 19 *versus* section 1 (clearance areas) seems to be the most controversial. In Smethwick we very definitely prefer section 19. Clearance area procedure is slow and involved. The county court judge, on the other hand, decides quickly. The Ministry of Health inspector, in towns with a high standard of housing, may be inclined to regard with disfavour the pulling down of old houses which, while deplorably below the standard of accommodation of the district, may still be much better than many thousands of houses in less fortunately placed towns. In other words, his standard may be a uniform one, and not a varying one. It would, therefore, seem expedient for authorities with a low standard of housing, and especially when there are considerable aggregations of unfit houses, to proceed by way of clearance areas, and for authorities with a high standard to place reliance on the county court judge.

Ut Ita Dicam.

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

Dr. Veitch Clark Next President.

At the Council meeting of May 25th, when much business of great importance was done, that of the greatest importance was, as the agenda paper put it, "to select a name to be submitted for election as President of the Society, 1934-35, at the annual general meeting in October next." Practically the business of selection had already been done before the Council was reached, and all that was left was to endorse the view of a majority of the Branches that the name to go forward was that of Dr. R. Veitch Clark, Medical Officer of Health of Manchester. Dr. Veitch Clark himself was not present to learn of the solidity of the support given to his nomination, and to receive congratulations and warm wishes for a happy and successful year of office. That the selection of Dr. Veitch Clark will meet with the general approval of the whole Society, and that all his fellows will delight in conferring this supreme honour of making him President, is quite certain. As a fact, the choice is a sound and suitable one, and the honour well earned. Dr. Veitch Clark from the beginning has taken a foremost place amongst health officers, and was destined for one of the higher appointments such as that he holds at Manchester. Practically from the time he joined it, he has given service to the Society and to the interests of his fellows. For these two reasons he has deserved well of them and, even before selecting him for the Presidency of the Society, they have shown appreciation in an unusual way by conferring the Presidency both of the Home Counties and of the North-Western Branch upon him. In addition to serving upon the Council of these Branches, he has been a member of the Council of the parent Society for many years. In all these capacities he has shown himself wise and capable and on many occasions, when situations of difficulty have had to be faced, has helped by his advice and guidance to a correct solution. In the Presidential Chair these qualities will stand him in good stead, and will help him to play well his part in the conduct of the affairs of the Society, just as his high professional qualifications will be of advantage to that body in adding to the high esteem it already enjoys in matters affecting preventive medicine and the public health generally.

Representation upon the Council.

Amongst matters that came in for a great deal of attention during the two hours and a half of the Council's deliberations were many that had already received consideration by the General Purposes Committee. There was, for instance, the question as to what was to be done with the provision (Article 19) in the draft Articles of Association relating to the constitution of the Council. The difficulty, it may be remembered, was as to how best to meet the demand of the Groups for increased representation. The suggestion originally made was that each Group should be allowed two representatives but, though there was a good deal of support for this, it failed to pass the extraordinary general meeting called to approve the Articles, and Article 19 was again sent back in order that the Council might find some way out of what looked like an *impasse*. One method that might be employed, and that appeared likely to satisfy the Groups, was suggested by Dr. Ernest Ward, who put down a resolution to amend Article 19 by substituting for a provision that, amongst others responsible for the management of the Society, there shall be "not more than six Fellows of the Association who shall be in active practice," these words: "not more than *nine* Fellows of the Association, three of whom shall be departmental officers." On the whole this met with approval as constituting a compromise, and the principle was adopted subject to the General Purposes Committee finding words that would make clear what was meant by "departmental officers."

Hospital Construction.

As a matter of fact, if nothing more had been done at the meeting than securing settlement of this vexed question of representation of medical health officers other than medical officers of health on the Council of the Society, there would have been grounds for rising and calling it a day. There were other matters to be dealt with and settled, however, and that were, in fact, settled. The report of the committee appointed to advise as to the line to be taken in giving evidence before the departmental committee considering questions relating to cost of hospital construction, etc., was presented by the General Purposes Committee.

The report submitted was quite a voluminous production and, so far as could be made out, met with more or less general approval, except as regards the superficial area and cubic space per patient in fever hospitals. The view of the committee was that the floor space per patient should be 144 square feet and no less: the wall space 12 feet per bed, and the minimum air space 1,728 cubic feet. To the General Purposes Committee this appeared too generous, and they recommended the addition of words limiting the floor space to 100 square feet and the air space to 1,000 cubic feet in the wards, "provided that 25 per cent. of the space in the hospital is arranged in the form of cubicles." After discussion, the Council decided against this and in favour of the scale originally suggested. The report as a whole was then adopted, though members of the Council who thought fit might still send forward suggestions for amendment and have them considered.

Milk Pasteurisation—Again.

A considerable amount of time was devoted to the discussion of the propriety or otherwise of addressing a communication to the Press expressive of the views of the Society on the subject of pasteurisation, and the form that the communication should take. That a communication should be made was readily decided but, when the form came to be considered, a good deal of difference of opinion was seen to exist as to just exactly how best to inform the public that pasteurisation was the most effective and least objectionable of all known methods of securing safety. The argumentation that took place produced further evidence of the hopelessness of leaving the preparation of a letter to a group of people. It gave opportunity also for renewed reference to the necessity of directing attention to the need for and advantages of boiling of milk. In the general view such references on the present occasion would be entirely out of place, and the question of boiling, much to the regret of certain members, was dropped.

Control of the Common Infectious Diseases.

The ordinary meeting of the Society which followed the Council provided one of the most noteworthy of the symposia that have been so much a feature of the present session. The Fever Hospital Medical Service Group, which on this occasion was responsible, chose "Current Methods of Control of the Common

Infectious Diseases." The opening papers were contributed by Dr. H. Stanley Banks, who is President of the Group and acted as Vice-Chairman of the meeting; by Dr. E. H. R. Harries, and by Dr. William Gunn. All of these openers are superintendents of isolation hospitals of the London County Council, and each took a subject in which he has been specially interested. Dr. Banks himself dealt with scarlet fever; Dr. Harries with diphtheria, and Dr. Gunn with measles, chicken pox, and whooping cough, and each showed most convincingly that the current of all the methods of control now in operation was steadily in the direction of the use of vaccines and sera in the prevention and treatment of the common infectious diseases. As they spoke, so complete was their mastery of the subject, and so delightful the manner of their exposition, it was made to appear that control was the simplest thing in the world, and that inevitably and before long, though there might be infectious diseases, "common" would not be at all suitable as a description of them. In the long discussion which followed, speakers distinguished and experienced in dealing with the diseases referred to took part, and it was noteworthy that not one word of criticism of the views expressed by the openers was uttered. On the contrary, there was complete unanimity of view as to the direction of the present-day trends in regard to prevention and treatment, and many of the newer ideas and methods suggested, for example by Dr. Banks in regard to the necessity for outpatient scarlet fever departments; by Dr. Harries in respect of swabbing in diphtheria, and by Dr. Gunn and Dr. McCartney as regards sera in the prevention and treatment of measles, came in for great praise. Taking it all round, the meeting definitely deserves to be described as a notable one, both on account of the very high level attained by the contributions and the discussion, and the excellence of the attendance.

As announced elsewhere in this issue, the 1934-35 course of study for the Diploma in Public Health of the University of London commences at the London School of Hygiene and Tropical Medicine on October 1st next. One place will be allotted, without fees, after open competition on June 28th and 29th, the successful candidate being awarded the Fishmongers' Company Studentship. Applications to compete for this Studentship must be sent in to the Secretary of the School by June 18th.

An Investigation of Streptococcal Infections from a Chemico-physical Angle.

By B. A. PETERS, B.A., M.D., B.CH., D.P.H. (CANTAB.), Medical Superintendent, Ham Green Hospital and Sanatorium, Bristol; Lecturer in Infectious Diseases, University of Bristol; and B. J. BOULTON, M.B., CH.B. (BRISTOL), and C. SHORT, M.B., CH.B., D.P.H. (EDIN.), Assistant Medical Officers, Ham Green Hospital and Sanatorium.

In this paper, submitted at a meeting of the West of England Branch, Dr. Peters and his colleagues get away from the lines commonly followed by writers and readers of papers at meetings of the Society, and at the same time make what may prove to be a contribution of real value to the elucidation of the problems of the more malignant types of streptococcal infection.

FOREWORD.

BEFORE reading our joint paper we think it advisable to outline the line of investigation on which it is based. We have been studying for several years what appears to be a non-specific factor in true immunity. The pathologist has been so much interested in the specific reactions that he has largely ignored the non-specific factor, although it is common knowledge that a population ravaged by war and famine is a favourable breeding ground for pestilence. The considerable rise in tuberculosis during the late years of the Great War was striking evidence of the effects of under-nutrition in the incidence of this disease. It is also known that it takes weeks or months to immunise patients against scarlet fever or diphtheria, whilst patients can recover from either disease in a few days without artificial help. Peters and Allison showed that 30 per cent. of all scarlet fever cases still give a positive Dick test a month after the acute attack, although few of them will contract the disease a second time. In Dick and Schick testing our staff we have found many persons who give a strong positive test to either reaction who have nursed scarlet fever and diphtheria for years without contracting either disease.

Numerous observations have been recorded on isolated peoples, where diphtheria and scarlet fever are unknown, showing that their age-curves to the Dick and Schick test are identical with those of people amongst whom these diseases are endemic. Topley records the presence of all manner of antibodies in the serum of animals which are extremely unlikely to have been infected at any time with such diverse organisms. It is known that lipoids can bind a certain amount of diphtheria toxin. The most obvious explanation of all these facts is that

there exists in the blood a non-specific antibody which can combine with and detoxicate an ordinary dose of infection within a few days. If this is insufficient to overcome the disorder, the patient dies or else has a long illness during which the more slowly mobilised specific immunity develops. The question of the importance or otherwise of non-specific resistance is of more than academic interest. On the answer depends whether our efforts in the public health service are of value to the community or otherwise. The study of the death-rates from all the zymotic diseases during the last 40 years suggests that our efforts to improve the general well-being of the community by non-specific means are having a beneficial effect.

Our investigations suggest that this non-specific factor is related to the visible colloid particles seen in examining the serum by dark ground illumination. The visible particles are only a small fraction of the total colloid particles of the sera, the rest of the protein particles being invisible owing to their refractility being nearly the same as water. We think the particles visible are usually lipoids, the protein only becoming visible under conditions of extreme dehydration causing it to flocculate. We think the state of dispersion (*i.e.*, the amount of surface exposed to physico-chemical reaction) of these particles is an important factor as well as the actual amount of material present. By the methods at our disposal we have only been able to study the physical changes in these particles, but it is probable that with these are chemical changes also.

In addition to the work hereafter recorded, we have studied these phenomena in other diseases. From a purely unbiased attitude we have become convinced that these phenomena (first recorded by McDonagh) are of extreme

importance in acute disease. The living organism is a colloidal system. It does not seem a wild proposition that colloidal changes occur in it. We know the body fluids can develop the property of flocculating foreign protein (precipitin reactions) or bacteria (agglutination phenomena), examples of colloidal condensation; likewise we know the body fluids can cause dissolution of foreign colloids (proteolysis or bacteriolysis), examples of increased colloidal dispersion.

Contrariwise it would seem reasonable to expect bacterial toxins to have the same effects on the colloidal particles of the attacked organisms, *i.e.*, alter their state of dispersion. Briefly, it is on these lines that our investigations are based.

In the course of an investigation into the life history of *T. Pallida*, using a dark ground condenser, McDonagh¹ observed the presence of visible colloid particles in the serum. He observed that the numbers and state of dispersion of these particles changed during the course of the infection, and that certain drugs had the power *in vivo* of altering the picture back to normal in association with clinical improvement. He extended these observations to many other diseases and observed similar changes. He considered that a series of cyclical changes occurred in all infections, and showed that the effects of drugs were different according to the stage of infection. In health, only two visible forms of particles occur in the serum—very bright particles and duller greyish particles. The former he deduced to be globulin and the latter albumin. In disease, profound changes occur. The particles may be either enormously increased in number and undergo a secondary coagulation (gelation), or reduced in number with partial disappearance of the bright particles and increase in the duller particles (reduction with over-dispersion), or enormously decreased in number (as low as 0.1 per cent. of normal), or diminished in number and increased in size and brightness with the formation of large clumps (condensation).

Only half a c.c. of blood is necessary for this examination, collected from the ear in a Durham's tube and allowed to stand for eight hours. There are generally obvious macroscopic differences in the specimens. In the normal or condensed blood the clot is adherent at the top of the column. In the remainder of the column the clot is well retracted with separation of the serum. The gelated blood produces a loose

clot, which does not adhere to the tube but tends to sink, and the serum collects on the top. In the over-dispersed and optically empty blood the whole clot is adherent to the tube with little or no separation of the serum. In the condensed type of blood, at times, various abnormal particles may appear, namely, flat discs, fibrils, strings of globules or mulberry-like masses of highly refractive particles. These peculiar forms are very suggestive of the forms known to be assumed by the lecithin.

We have examined many hundreds of specimens of sera by this method and can confirm all these observations. For reasons which have been fully discussed elsewhere,² we are of the opinion that these particles are not protein, or at least are only a very minute fraction of the total serum protein, except in the gelation group. We think they are more likely sterols or lipins, possibly combined with, or adsorbed to, protein. They may even possibly be granules derived from neutrophile leucocytes. We also consider for other reasons³ that the exotoxic infections produce different effects in these particles from the endotoxic infections. Applying these principles to the treatment in severe diphtheria has been successful in reducing the death-rate by nearly half,³ and in application to scarlet fever in eliminating 80 per cent. of the renal complications.³

The observations herein recorded may be regarded as a critical examination of these principles in their application to erysipelas. This disease differs from all the other acute infections which we have studied, in that the blood picture is remarkably variable. This may be due to the peculiarity of streptococci. They produce an exotoxin, but also have the invasive power of the endotoxic bacteria. It may be that in some cases one or other of these factors is predominant—as is, indeed, the case clinically—producing the different blood pictures, or, what is more probable, that the type of attack is dependent on the state of the blood previous to the infection. Many cases of erysipelas give histories of some former recent septic infections such as boils, sore throats, etc., which may have rendered their bodies susceptible to a streptococcal infection.

We have divided our cases into four groups dependent on the dark ground appearance of the serum. We have estimated the blood sugar 40 minutes after 50 g. of glucose given on an empty stomach, and again two hours after the glucose, as McDonagh states that the blood sugar varies with the state of dispersion of the colloids. We

have examined the sedimentation rate of the red blood corpuscles in the 40 minutes specimen and the 2 hours specimen, as McDonagh states that this factor varies with the blood picture. In addition, Professor Walker Hall has very kindly carried out for us some total serum cholesterol estimations, as it has been suggested⁴ that the amount of this substance in the serum bears some relation to the resistance of the patient to infection. We also thought that these readings ought to show some correlation with the dark ground picture if these particles were cholesterol. Our findings appear entirely to contradict both of these ideas, as the figures were normal in some of the sera which were almost optically empty, and normal in some of our most severe prolonged cases. This, however, does not necessarily negative either idea, as Gardner⁵ has shown that the state of the cholesterol, whether free or in an ester form, is important. We have been unable so far to estimate these forms of cholesterol. Such an estimation might have given different results, *i.e.*, one or other form may be in a visible colloid state and the other not.

GROUP 1.—36 CASES : "CONDENSATION."

In this group the dark ground picture showed the presence of condensation of the colloids, as already defined. The striking feature is the high proportion of mild cases with well-marked local lesions but little or no general intoxication or pyrexia. The mean blood sugar levels were 0.15 and 0.113 at 40 minutes and 2 hours after glucose respectively. Three cases showed a transient glycosuria, two with figures of 0.2 or over, and one without hyperglycæmia. Although the mean figures bear out McDonagh's contention, there are so many exceptions that his idea regarding glucose metabolism is untenable. The mean sedimentation rate in one hour was 1.6 and 1.7 in the two specimens. In recording these rates it has been noted that in most cases the differences in the readings of the two specimens showed wide variation. In 11 cases the sedimentation rate was higher when the blood sugar was lower (in the 2 hour specimen); in 10 cases the sedimentation rate was lower when the blood sugar was higher, and in 2 cases the readings were identical. In carrying out this test we doubt if it is generally recognised that such wide variations, *i.e.*, from 3.5 to 0.7, can occur in such a short time. As this variation is so constant throughout all our cases we are convinced that there was no experimental error.

These cases respond amazingly well to the

administration of the symmetrical urea product SUP 468 or to contramine. In 22 cases no other treatment but one or other of these drugs was used with immediate improvement. In the remainder streptococcal antitoxic sera were also given, but with increasing experience this has been omitted. The mean duration of the disease before admission was 3.4 days. The lesion immediately stopped spreading and the temperature, if raised, dropped to normal in the mean time of 2.3 days after admission. In some cases SUP 36 was given when first trying out these drugs, but this always aggravated the condition. The effect of SUP 468 in cases with such bloods seems to challenge orthodox theories of immunity. The dose given of SUP 468 was 2 to 4 milligrams. If this drug remains in the blood only, it means that it functions in bringing the infection to an end in a dilution of 1 part in 3 million. If the drug is dispersed throughout the tissues as well, it means that it functions in a dilution of 1 in 30 million—a homeopathic dilution.

SUP 468 should be given in the slighter degrees of condensation, and contramine 0.125 g. in the more marked degrees. The cases in this group should be given iodine, thyroid, and alkalies, and their diet should consist of glucose lemon water only, as all these agents have the same tendency to cause dispersion of the condensed colloids. One death occurred in this group in a patient who was already suffering from long-standing severe chronic nephritis.

It would appear, therefore, that patients whose blood shows this change are relatively resistant to infection and respond easily to drugs which break up the large visible colloid masses.

GROUP 2.—17 CASES : "REDUCTION WITH OVER-DISPERSION."

Cases in which the colloid particles were reduced in number and broken up into smaller aggregates. In this group the proportion of mild cases was low—one mild case, seven moderate cases and nine severe cases. The duration of the disease was longer, taking 4.6 days to terminate.

The best antidote of these cases is SUP 36 (0.01 g.) and antitoxic serum. These cases are made worse by SUP 468 or contramine. One death occurred in an infant who had been given 5 c.c. of milk subcutaneously before admission. In this type of blood, protein shock appears to aggravate the over-dispersion of the particles and completely breaks down the patient's resistance. Four cases in this group showed

very nearly normal sera. In the light of greater experience our interference in these cases was probably unhelpful; they would probably have done better with serum only. The blood sugar estimations and sedimentation rates in this group were the same on the average as in the former group. Glycosuria occurred in four cases without hyperglycæmia, and two with hyperglycæmia.

It would appear that patients whose blood shows this change of reduction with over-dispersion react more severely to streptococcal infection, and take longer to get over it.

GROUP 3.—13 CASES : "GELATION."

In this group the general blood picture is variable but the characteristic is the appearance of patches of gelation. The specimen generally may be comparatively empty of visible particles. In localised patches myriads of particles are visible which eventually settle out into sheets of coagulated protein. This phenomenon is quite different from normal coagulation which appears in the dark ground picture as needle-like threads of fibrin. The patches are always grouped round clumps of small lymphocytes as though the lymphocytes were playing some part in the phenomenon. With very few exceptions this condition is only seen in gravely ill patients. It is constantly present in acute tuberculosis, but we have never observed it in diphtheria or scarlet fever. In this condition the proteins are undoubtedly involved, as they appear to have been rendered so unstable—probably by excessive de-hydration and loss of electric charge—that they undergo flocculation and gelation. This appearance can be exactly imitated by running in alcohol under the slide of a normal serum.

In this group all the cases but one, a surgical tuberculous case, were gravely ill. The mean blood sugar values were higher, being 0.172 and 0.142. The sedimentation rate was about the same. Glycosuria occurred in three cases without hyperglycæmia. These cases responded well to SUP 36 alone (six cases), or to SUP 36 combined with serum. One was made worse by SUP 468, but immediately improved with SUP 36. The mean duration of the disease was three days after admission.

GROUP 4.—18 CASES : "EXTREME REDUCTION."

In these cases the reduction of the visible colloid particles was so great that in many the specimens were almost optically empty. These cases were all gravely ill. They showed no

response to large doses of antitoxic sera or any other form of medication; relapses were frequent, and two deaths occurred. The duration of the disease was 13.5 days after admission. The blood sugar values were high and the drop in two hours slight, the mean figures being 0.185 and 0.166. Glycosuria *sine* hyperglycæmia occurred in five, and with hyperglycæmia in another known diabetic. The mean sedimentation rate was also higher than in the former group—the figures being 2.6-2.5. The restoration to the normal blood appearance was very slow and no drug appeared to affect it. In cases of high blood sugar values, insulin appears to be of value, as hyperglycæmia has the tendency to aggravate the condition in the last three groups. The diet should consist of milk and eggs with a minimum of carbohydrate.

We think our observations in this group confirm our view that these particles are the non-specific protective substance of the blood. Where this substance is plentiful but its normal state of dispersion is altered, drugs can convert it back to normal with clinical arrest of the lesion. Where it is nearly absent no treatment at present available is of any value. We think that the drugs we use probably act on these particles as reducing or oxidising agents, causing alterations in the electric charge of the substance which would tend to alter its physical state of aggregation. The complete lack of any response to streptococcal antitoxin suggests that the combination of toxin and antitoxin may require the presence of this substance. It is known that certain lipins can bind or unite with a tetanus antitoxin. It is also known that a cobra venom must unite with one of the blood lipins to produce hæmolysis. A similar mechanism may be necessary for the union of toxin and antitoxin.

Cholesterol estimations were carried out in 29 of a total 84 cases investigated, but there was a great divergence in the results, even in cases of the same group.

CONCLUSIONS.

Although it is probably within the power of a competent biochemist definitely to determine the nature of these particles, we have been unable so far to procure such assistance. Mr. J. Ward, Chief Chemist of Crookes Colloids Limited, at our request has prepared for us a stable colloid sol containing 1 per cent. cholesterol and 0.1 per cent. lecithin. We have tried this in doses of 50-100 c.c. in the last four cases recorded after other treatment had failed. Its use appeared to be followed by rapid improve-

ment. This line of treatment is being further investigated but, of course, one can draw no conclusions from four cases. We are aware that this line of investigation has so far been regarded by our profession with complete indifference. We insist, however, that anyone who examined a few dozen sera in acute illness by this quite simple technique would be convinced that the changes we record do occur, and that they are of a much greater degree than any changes hitherto observed in the blood. We believe if the exact nature of this substance could be found, and the missing material provided, it would solve the problem of streptococcal and probably many other acute infections.

As a critical examination of McDonagh's work we conclude that our observations confirm that :

- (1) Alterations in the colloid picture occur in acute infections.
- (2) The type of reaction of the patient to the infection is associated with the appearance of the blood.
- (3) Certain drugs alter the picture with clinical benefit.

(4) Patients react to these drugs differently according to the blood picture, and that they should only be given after dark ground examination of the serum, otherwise the patient may be made worse.

(5) There is a general tendency to a higher blood sugar and more disturbance of carbohydrate metabolism in those with over-dispersed colloids than in those with the opposite picture, but there are so many exceptions in each group that the general principle is untenable universally. The same applies to the sedimentation rate of the R.B.C.

Our findings also suggest that :

- (6) The visible colloid particles are not protein, but more probably some lipoid substance, and when this substance is nearly absent no drug can restore it.
- (7) This substance may play some part in the combination of toxin and antitoxin *in vivo*.
- (8) The total serum cholesterol content is no guide to the resistance of the patient to the infection.

REFERENCES.

- ¹McDonagh, J. E. R. "The Nature of Disease," 2 vols., London, 1924-7.
- ²Peters, B. A. *Practitioner*, Nov., 1932.
- ³Peters, B. A. *Medical Officer*, Jan. 24th, 1931.
- ⁴McAdam, W. *British Medical Journal*, Aug. 6th, 1932, p. 253.
- ⁵Gardner, J. A. *British Medical Journal*, Aug. 27th 1932, p. 392.

The Registration and Inspection of Nursing Homes.

By ETHEL CASSIE, M.D., D.P.H., Assistant Medical Officer of Health (for Maternity and Child Welfare), City of Birmingham.

Legislation dealing with maternity and nursing homes is so recent that there are still many who are anxious to have information as to the methods adopted in areas in which practice has become more or less established. In her paper read at a meeting of the Midland Branch of the Society, Dr. Cassie gives a description of the procedure followed in Birmingham so full and clear that it is certain to be found both interesting and helpful.

WHEN first called upon to deal with the various problems presented, a tentative and tactful attitude appeared most appropriate. There can be no doubt that such an attitude proved valuable in avoiding friction, establishing confidence, and finally leading to the acceptance of a fairly high standard of requirements in nursing homes.

Although aware of the unsatisfactory accommodation provided for maternity cases, it is certain that the preliminary inspection under the Midwives and Maternity Homes Act, 1926, produced many surprises. At the same time, it is probable that the worst examples were never seen, since no applications for registration were made.

In Birmingham, ten applications for registration of their houses as maternity homes were

received from handywomen, and among these were two in which the proposed accommodation was half of the handywoman's own double bed. In another case the patient's room opened directly into that of a male lodger, which was not otherwise accessible. These were, of course, extreme instances. The majority of the handywomen had accommodation similar to that offered in the smaller homes run by midwives, but from the first we insisted, of course, that the keeper of a maternity home must hold the certificate of the Central Midwives Board, or instal a holder of the certificate as "sister-in-charge."

Questions of equipment and accommodation ruled out a number of the smaller homes. For instance, the absence of a bathroom or an indoor water-closet, was made the ground of

refusal in several cases. The insistence on single beds, the provision of bells, the need for cleaning and decorating, caused others to withdraw their applications.

These preliminary inspections were all carried out by myself, assisted by the midwives inspector of the area, under the direction of Sir John Robertson, and in the great majority of cases where it was felt that the house was unsuitable, the decision was accepted with little difficulty, although one or two applicants appealed to the committee for further consideration. Greater difficulty was met with in those homes where the keeper was a handywoman, who objected to employing a trained midwife, or could not afford the salary required.

In certain of these cases where the home was a mixed one (not maternity cases only) the difficulty was met by allowing the keeper to engage a midwife for each maternity case; but where the home was for maternity cases only, a resident midwife was insisted on after a given period.

Another difficulty met with was the absence of a second responsible person in many of the smaller homes, and this was naturally more serious when the midwife was also carrying out a district practice. In such cases it was necessary to insist on an arrangement with another midwife, who would be available for emergencies, and for the employment in the home of a responsible person who would always be present, and would be on call in the absence of the midwife. This arrangement is not entirely satisfactory but, although it is obviously preferable to have two midwives in each home, particularly where there is any district practice, no difficulty has in actual fact been encountered, since the arrangement has been allowed only where the number of cases taken is very small.

In addition to such arrangement, all rooms were measured, and a minimum of 90 square feet of floor space per patient was insisted on. This meant a reduction in the number of beds in many cases. It was also insisted that where there were two patients in a room in a maternity home, a single room must be available to act as a labour room, and must be kept for the emergency case arriving weeks too soon, which constitutes one of the difficulties of midwifery accommodation.

In very few cases was a properly equipped labour room already provided. In one case, in quite a large nursing home, the staff bathroom was also used as the labour room, an unsatisfactory arrangement which was afterwards

corrected by the provision of a separate staff bathroom.

It was considered necessary to have a water supply provided on the same floor as the maternity rooms, and to have means available of heating water, and sterilising instruments by gas or electricity.

The arrangements for sterilising in the smaller homes usually consisted of a "fish kettle," kept for the purpose and heated on the kitchen gas stove, and while this was passed for the time being, keepers were warned that something more convenient would have to be provided shortly. The equipment as to linen, blankets, crockery, etc., was in every case inspected by the midwives inspector and brought up to a reasonable standard. A cot for the infant had to be provided.

By the end of 1927, all this preliminary work had been completed, all the maternity homes were registered, and suitable bye-laws had been made and adopted, and a register supplied.

We were fully aware that we had not insisted on a really high standard in every case, but we had gone as far as seemed advisable, for it was desirable not to cut down accommodation too drastically, while the standard we had endeavoured to impose was quite as high as that available in the better-class private house.

The number of homes registered in 1927 was 48, but no less than 30 were mixed homes, a very usual combination being one chronic patient on the ground floor, with two or three beds for maternity cases on the first floor. The 48 homes contained 311 beds, but 33 had less than six beds each, and only seven had more than 12 each.

In the following year the passing of the Nursing Homes (Registration) Act, 1927, meant not only further inspections, but a re-assessment of the 30 mixed homes already registered.

The new Act made it necessary to insist on the keeper of a mixed home being a trained nurse or employing a trained nurse, and in a certain number of cases this meant that the smaller maternity homes had to give up certain cases after the period of grace ended. Eighteen new homes were registered, increasing the available registered beds to 497.

The procedure as to inspection remained as before, the homes being visited by myself and the midwives inspector, and a report submitted through the medical officer of health to the public health committee.

Now for the first time the homes for chronic and senile patients came under review, and in a

few cases overcrowding and bad ventilation had to be corrected. In some of these homes the insistence on a state registered nurse being employed caused some difficulties, and has required subsequent vigilance.

The large surgical and medical nursing homes usually take a few maternity cases, and consequently had already been inspected from that point of view. Some matrons were inclined to think further inspections unnecessary, but explanations were readily accepted. The surgical homes reached a much higher standard than the maternity homes, and much better provision was made for sterilisation, etc., though, of course, the great majority failed to reach hospital standard.

It was considered advisable to adhere to 90 square feet of floor space per patient in all homes, and this has caused no difficulty.

A nursing home admitting cases in the antenatal period, and subsequently retaining infants for indefinite periods, was closed soon after the preliminary inspection.

New byelaws were made and adopted. The report of the committee now included a sketch plan of the rooms, showing the size of the patients' room and the number of beds, and the staff accommodation.

Inspection in every case covered the whole house, including the kitchen premises, and criticism of these in several cases produced good results. It was often possible to make helpful suggestions as to re-arrangements, and these were usually gratefully acted on.

In 1930, Dr. Newsholme decided it would be an advantage to have every home inspected by the fire department and city surveyor, and the drains tested by the sanitary inspectors, and this procedure was carried out.

The fire department insist on a fire escape if patients or nursing staff are accommodated on the second floor of a house, but permit domestic staff or members of the family to use this floor in the absence of an escape. They also insist on a direct telephone service, and a liberal supply of buckets of sand and water. Sometimes fire extinguishers are required. Accommodation for the buckets is often a problem. Special doors are sometimes ordered, and these are always considered a nuisance by the keepers.

In operating theatres or labour rooms where an anæsthetic may be administered, the fire department insist on heating without a naked flame, e.g., with tubular electric heaters or central heating; and objections are raised to gas sterilisers in the near vicinity. These rules

caused much perturbation and time had to be given to allow these requirements to be met. In single rooms, where deliveries take place, we now ask that gas or electric heating should be available till after delivery, since the heating apparatus can be turned out when an anæsthetic is given. This is not yet universal. Little difficulty was met with as to drains, for less was found to be necessary.

No home is registered till all requirements are fully met, with the exception of occasional provisional registration for limited work for a short period. The requirements are set out as follows:—

MATERNITY HOMES.

Rooms.

Rooms used for maternity nursing must be on the same floor as the sanitary arrangements.

The walls should be covered with washable paint or distemper.

The floor should be covered with linoleum, or satisfactory wood floors, well polished, may be approved.

There should be 90 square feet of floor space per patient. Electric bells must be provided for the patients' use, and ring where attention can be given by day or night.

Sanitary Arrangements.

There must be a water-closet on the same floor as the maternity rooms to act as a bed-pan sluice.

There must be a separate room with a sink and steriliser.

A bathroom should be available for the patients, preferably on the same floor.

Kitchens and out-places must be kept clean and in good order.

Staff accommodation must be sufficient and satisfactory.

Furnishings.

The bed must be a suitable single bed, and there must be a separate cot for the baby. The inspector must be satisfied that there are sufficient utensils and linen available.

There must be no excess of furnishings.

Nursing.

The midwife must be responsible for the home, and she must have a responsible assistant always available. This staff will be sufficient for four beds, provided the midwife has no outside practice. There must be an increase in staff according to the number of beds.

GENERAL NURSING HOMES.

Nursing, etc.

The keeper of the home must be a fully-trained state registered nurse and must be assisted by a suitable staff. The rules as to wall and floor coverings and sanitary arrangements may be relaxed in homes where chronic and senile patients only are admitted.

Before registration, the requirements of the fire department and the sanitary inspectors' department must be carried out satisfactorily.

The procedure on receipt of an application for registration is as follows:—

Application form is received with fee of 5s.

1. Midwives inspector visits for the purpose of excluding impossible applications. Reports to assistant medical officer of health for 'maternity and child welfare.

2. Inspection by assistant medical officer of health for maternity and child welfare and midwives inspector.

3. Report to medical officer of health. Report from sanitary inspector. Report from fire department. Report from city surveyor.

4. Report to committee for approval.

5. Certificate of registration and copy of byelaws are sent, and the keeper is asked to purchase necessary registers and cards.

After registration, *routine inspection* is carried out by the midwives inspectors, usually every six months, or in some cases every three months. One of the subjects dealt with is the question of renewals and re-decoration. Registers are also inspected.

Special inspections are carried out for such things as a request for an increase in the number of beds, or alterations in premises or changes in staff. In the case of maternity homes, special visits may be required for puerperal sepsis, ophthalmia neonatorum, etc. In the case of puerperal pyrexia there is a strict rule that until the patient leaves the home and the room is disinfected, no other maternity case must be admitted, *whatever* the cause of the pyrexia. This has proved most valuable.

In a certain number of cases, registration has been *cancelled*; in two cases because the home had become a boarding-house, in one because it was not functioning, and in one because a trained nurse was not regularly employed.

Action has been taken in one case where the home had not registered, and a conviction was obtained.

When there is a change of premises, the case is treated as a new application.

On the whole, the keepers of the homes have loyally and cheerfully co-operated with the supervising authority in all the requirements under the Act. The standard has undoubtedly risen, with definite benefit to the public, and no real loss to the keepers of the homes. The number of beds is more than sufficient for the needs of the city; in fact, during the recent financial stringency the homes, particularly the smaller ones, were far from full.

The question of exemption caused difficulties in only one case, and that has not yet been decided, since the character of the institution is changing.

It is pleasant to be able to record the excellent relations existing with the nursing homes of all

types, since so much has been required, including the keeping of records.

Some adjustments were required in this matter, and the simplified registers and cards now in use appear entirely satisfactory.

A simple record card for office use has been prepared and is most useful. In addition, a sheet register is kept for rapid reference.

It is only occasionally that special visits are required from the medical officer of health or myself, after registration, but such visits are of value in maintaining good relations, and in supporting the midwives inspectors.

A new problem is the question of allowing young children to be "boarded" in the nursing homes. These are foster children under the infant life protection section of the Children and Young Persons Act, 1932. The regulation relating to notice of reception has caused difficulties, and will require further explanations. It is doubtful whether any nursing home is a suitable place for boarding a healthy child for a prolonged period, though in very small maternity homes there is often a strong temptation to retain a young infant, and it is difficult to find grounds for refusal. It appears necessary to insist on the provision of a "nursery" for such a child; this, however, reduces the number of available beds. In addition, the period during which any child can be kept should be limited. Even then it is probable that when the home is busy the child may suffer some neglect. It seems advisable that where a foster child is kept, additional inspection should be carried out by the infant life protection visitors.

This short paper can give no more than an outline of the various aspects of administration under the Nursing Homes Act. It is probable that, as time goes on, further measures of control and supervision will appear advisable. Such matters as the provision of sterilised maternity packets, or "drums," in the smaller maternity homes are under consideration, but with the smaller homes, questions of finance are a constant difficulty.

THE Joint Tuberculosis Council have issued the programme of a post-graduate course to be given by the medical and surgical staff of the Royal Chest Hospital (Royal Northern Group of Hospitals), City Road, London, E.C.1, during the week June 18th to 23rd, 1934. The fee is £3 3s., and intending entrants should give early notice to Dr. William Brand (Hon. Secretary for Post-Graduate Courses), Pembury, The Drive, Rickmansworth, Herts.

AN AMERICAN LETTER.

Our Correspondent discusses Investigations following the 1933 Outbreak of Amœbic Dysentery—and the Value of Medical Examination of Food Handlers.

Dysentery in Chicago.

The outbreak of amœbic dysentery in Chicago during the Exposition in 1933 still holds much of interest, and is the subject of very intense investigations now in progress. Many of our lay papers have flayed the Chicago health authorities for suppression of news until practically the time when the Exposition closed. The term "suppression" may be a little strong, but there is no question that the facts were not given out, although they must have been known to certain of the health authorities, who fix the date of the outbreak as August 16th, at which time a temporary laboratory was set up in one of the hotels incriminated. The first investigation traced the outbreak to a carrier who had been detected in 1927, and who was serving as a food handler at this hotel. There was no news release until October 9th, when a paper was read before a section of the American Public Health Association. In the meantime, the United States Public Health Service had been consulted, and on November 10th a statement prepared in collaboration with a representative of that Service was issued. On November 14th, for the first time, the radio was used. This was practically three months after the outbreak was officially recognised (August 16th), though it is perfectly certain that there were cases before that time. It must be borne in mind that these cases did not occur in Chicago. One of the first intimations that was had of its widespread character came from Boston in the report of cases and deaths which had occurred in visitors to Chicago who were widely separated. Owing to the long period of incubation, cases occurred after the visitors got home. They were discovered in Canada as well as in the Gulf States, and from the Atlantic to the Pacific. Diagnoses made after the warning had been sent out by the health officer of Chicago came in as late as January and February, 1934. The majority of deaths have been those who underwent operations. The average doctor is not expecting amœbic dysentery in the temperate zone, and diagnoses of appendicitis, colitis, ulcerative colitis, etc., were made. Up to January 24th, 721 clinical cases of amœbic dysentery in 206 cities have been found and traced to Chicago,

in addition to which, 1,049 carriers have been found in Chicago. Ninety-four per cent. of the cases detected were guests at either hotel C or A. Hotel A obtained its water from a tank on the roof of hotel C. This water had been used for cooling and air-conditioning purposes before being pumped to the roof. On January 22nd, a committee selected by Drs. Bundesen (Commissioner of Health of Chicago), Fishbein (Editor, Journal of the American Medical Association), Hektoen, O'Connor and Portis, met in Chicago for six days and heard reports. Their conclusions have entirely changed the picture, if they are accepted.

Defective Sanitation or Food Handlers?

On November 22nd, an investigation of the water and sewage pipes of the hotel was begun, and a careful check of the entire system has been made. On November 27th, the hotel was directed to correct conditions which might permit contamination of the water supply. In January, 1934, the chief engineer of one of the hotels revealed that on July 2nd, owing to two rains which occurred on June 29th and July 2nd, two sewer pipes had broken under the ice storage room, and that areas in which food was stored, prepared and handled were flooded. Here also 345 food handlers worked, and many took their meals in the quarters which were flooded. The investigation showed further connections between potable water and waste pipes which constituted a "potential hazard," and a leakage from a waste pipe into a water tank. As far as the reports show, no examination of the water was made for sewage pollution. Further study throws considerable doubt on the causative effect of this broken sewer. Indeed, the data prove that after the breakage there was a period of approximately three weeks in which cases were less numerous than either before or afterward, which an engineer in charge of the study attributes to good drainage which took place after the rupture of the sewer. Five surveys of food handlers and two of non-food handlers have been carried out, revealing 165 and 141 carriers respectively among a total of 1,100 employees. In view of these findings, the

committee, which was selected by the local committee already mentioned, have discarded the theory of food infection by carriers with the statement that this "potential" pollution which is believed to have taken place would have given much larger doses of the *E. histolytica* than could have been obtained by eating food prepared by carriers or active cases. If what the committee has decided is correct, it puts a new light on outbreaks of amœbic dysentery, but there are many who do not accept their findings, and even those who believe them to be correct must admit that they are far from having been proved, at least as far as the report goes. The report holds that the research by the Chicago Board of Health has thrown further light on the epidemiology and mode of transmission of amœbic dysentery, but admits that our knowledge is still defective in many respects, and that further studies are needed to enable health authorities to combat the spread of the disease successfully. Perhaps all of those who have studied the outbreak have begun with the fixed opinion that the infection was due to carriers among the food handlers. Great doubt has been thrown upon this by the investigations of Spector and Buky. The protozoologists hold that the staining properties of the cysts, alive and dead, are absolutely diagnostic of the condition. The writer saw slides loaded with cysts, dried for six minutes, then stained. Every cyst was found dead according to this test. Further, a thick emulsion of faeces loaded with cysts was painted on the hands and under the nails of doctors who submitted themselves for experiment. After ten minutes no living cysts could be found. This seems to rule out the problem of the carrier except for such foods as salads, which come from the preparation room moist after having been handled by carriers. As an outcome of the outbreak in Chicago, there have been already upwards of 100 suits filed against the health commissioner of Chicago and the hotels involved. Three of these aggregate \$1,800,000. They claim negligence and suppression of the facts, which means that physicians in general were not warned of the danger, though the dates show that it was known to the health authorities.

Examination of Food Handlers.

There is a marked difference of opinion in this country in regard to this question. The Public Health Reports for February 2nd, 1934, published an article which emphasises all the

difficulties which may be encountered, and questions the value of the examination of food handlers, resting the conclusion largely on the possibility of educating these people. It must be clear, even to a casual observer, that education alone cannot be depended on where the health and lives of a large number of people are involved. It would have paid Chicago and the hotels involved handsomely to have had officers always in the toilet rooms to compel food handlers to observe cleanliness. The difficulties mentioned in regard to the examination of food handlers and the futility of these examinations is contradicted absolutely, in my judgment, by the results already quoted from the laboratory in Chicago, as well as by the previous work done there in 1927, even admitting that the 1933 outbreak was not due chiefly to food handlers. We have had some very severe lessons in this country through infection by food handlers. For example, in 1913, on the steamship *Rochester*, carrying an excursion of 300, there was a bad outbreak of intestinal trouble, 235 passengers being traced, among whom there were 122 cases of gastro-enteritis and 42 cases of typhoid-like, with five deaths. The outbreak was traced to a meat cook who had a profuse diarrhoea during the febrile stage of typhoid fever. The case of Typhoid Mary (Mary Mallon), a cook, is well known. The latest reliable statistics show 57 cases of typhoid fever traced to her, and some believe that the epidemic in Ithaca, New York, which affected largely students at Cornell University, was due primarily to infection of the water supply by the same woman. Certainly there was a cook of the same name in the town. In this case, the several outbreaks due to her were stopped immediately when she was put in confinement. Perhaps the best known of these is that in the Sloane Hospital in New York City (1915)—25 cases involving chiefly the residents who had a special cook, who turned out to be Typhoid Mary. Another most instructive case was that of a winch tender on a lumber steamship running between San Francisco and a northern port. In spite of cleaning the water tanks, filling them with distilled water, and other precautions, typhoid continued to break out in the crew; so much so, that she was known as the "fever ship." Finally, the winch tender was found to be a carrier. He was not a cook, but used the common water tank. Many other examples could be given, but these, in my view, show the importance of the medical examination of food handlers.

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The Society.

Reports, Proceedings and Announcements.

COUNCIL MEETING.

A meeting of the Council was held at the Society's house on May 25th, 1934, at 2 p.m. The President (Dr. Charles Porter) was in the chair, and there were also present: Drs. T. W. Naylor Barlow, Vynne Borland, G. F. Buchan, J. J. Buchan, Ethel Cassie, James Fenton, James Ferguson, R. P. Garrow, C. Herington, W. W. Jameson, A. Joe, R. H. H. Jolly, G. W. N. Joseph, G. C. M. M'Gonigle, James Mair, H. J. Milligan, W. A. Muir, E. H. T. Nash, T. Orr, W. Paterson, R. M. F. Picken, E. H. Snell, V. F. Soothill, P. H. Stirk, J. A. Stirling, D. J. Thomas, A. G. G. Thompson, Ernest Ward, H. Gibbons Ward, and F. T. H. Wood.

The minutes of the meeting held on February 16th, 1934, were approved and signed, and apologies for absence received from Drs. C. Killick Millard and J. A. Charles.

The late Prof. W. H. Welch.—The President asked the Council to stand in silence as a mark of respect to one of the Society's most distinguished Honorary Fellows, Prof. W. H. Welch, of Johns Hopkins University, whose death occurred at Baltimore on April 30th.

Dr. A. K. Chalmers.—The Council learnt with regret of the serious illness of Dr. A. K. Chalmers, who had been a long-standing and valued member of the Council. It was unanimously agreed to send a message of sympathy and good wishes through the relatives of Dr. Chalmers.

Public Health Service Representatives.—A letter was received from the British Medical Association reporting that Prof. R. M. F. Picken and Dr. H. J. Milligan had been re-elected as Public Health Service members of the Association's Council for 1934-35, and that Drs. E. H. T. Nash and R. H. Wilshaw had been elected Public Health Service representatives on the Representative Body for the same period. The remaining nominations of representatives and deputy representatives would rest in the hands of the Chairman of the Representative Body.

It was decided, on the recommendation of the General Purposes Committee, that the names of Drs. James Fenton and R. J. Maule

Horne be put forward for nomination as Public Health Service representatives.

The President of the Society, 1934-35.—The Secretary reported that the following nominations had been received from the Branches, namely: Drs. R. Veitch Clark, W. G. Savage and R. H. Wilshaw. Before the ballot was proceeded with, Dr. P. H. Stirk announced that, by the wish of Dr. Savage, the West of England Branch were withdrawing his nomination. Upon a ballot being taken, the nomination of Dr. R. Veitch Clark proved successful, and it was agreed to submit his name to the Society at the Annual General Meeting for election as President in the coming session.

Officers of the Society, 1934-35.—The following were elected officers of the Society for the session 1934-35:—

Vice-Presidents.—Drs. Charles Porter, G. H. Pearce and C. Killick Millard.

Hon. Treasurer.—Dr. G. F. Buchan.

Hon. Editor.—Dr. Charles Porter.

General Purposes Committee Report.—Dr. Fenton presented reports of the meetings held by the General Purposes Committee on March 23rd and May 4th, 1934, the following being the chief items:—

(1) *The Milk Supply and Milk for School Children.*—At the March meeting a letter was received from Prof. G. S. Wilson, of the London School of Hygiene, regarding the Milk Marketing Board's proposal to make milk available at cheap rates for school children. Prof. Wilson expressed the fear that unbottled raw milk might be supplied to schools with a resultant risk of infection, and that if this were allowed to happen it would be difficult to object later to milk of the same doubtful quality being sold to the public generally. Prof. Wilson suggested that the Society should make its views clear by a public announcement.

The Committee were of opinion that the best course was to place the views of the Society of Medical Officers of Health before the Milk Marketing Board. It was therefore agreed that a letter should be sent to the Milk Marketing Board (1) setting out the resolutions already passed by the Society in connection with the milk supply; (2) pointing out that the co-operation of the medical profession and all medical officers of health be secured, and (3) expressing the willingness of the Society to confer with the Milk Marketing Board at any time if desired. It was further agreed that a copy of the Society's letter should be sent to the Ministry of Health and the Board of Education.

The Committee considered that action on the above lines would meet with the general approval of the Council and ask to have their action confirmed.

At its May meeting, the Committee received a report of an interview between representatives of the Society (the President, Dr. Fenton and Dr. T. Orr) and a Committee of the Milk Marketing Board.

After discussing this report the General Purposes Committee decided to recommend to the Council that the views of the Society of Medical Officers of Health should be expressed in a letter to the Press. The Committee asked the President, Dr. Fenton, and Dr. Orr to draft a suitable letter for submission to the Council. It was further agreed that this letter might be based on the Society's letter of April 3rd to the Milk Marketing Board, but excluding reference to the boiling of milk as an alternative method of making it safe.

The Committee also agreed to suggest to the Council that it might be advisable for representatives of the Society to discuss the position with the Ministry of Health and the Board of Education.

With regard to the projected scheme for the supply of milk for school children at cheaper rates, the Committee decided to recommend to the Council that an announcement of the Society's policy should be made to all members through the journal.

A letter, dated April 3rd, addressed to the Secretary of the Milk Marketing Board, drew attention to the views of the Society given to the Cattle Diseases Committee of the Economic Advisory Council in July last.

The following is the report of the discussion with the Milk Marketing Board, April 19th, 1934:—

"As a result of the letter sent to the Milk Marketing Board on the instructions of the General Purposes Committee an invitation was received for representatives of the Society to discuss the question of the milk supply with a Committee of the Board. Accordingly the President with Drs. James Fenton and Thomas Orr attended at the Board's offices on April 19th.

"The Chairman of the Board stated that it was their intention to secure a greater cleanliness in the general milk supply by forming an Accredited Milk Producers' list and that the Board recognised that the Society was anxious to secure the freedom of milk from tubercle infection, but that the attainment of this object would necessarily be a slow one. He explained that by the scheme which the Board had in mind, a contributory pool would be made and that those producers whose milk came up to a certain standard would receive from the pool an extra 1d. per gallon. In this way farmers in general would have to pay the extra penny per gallon to those producing clean milk. This contribution by one group of farmers to another would act as a penalty and would, it was confidently hoped, prove a great incentive to the production of clean milk. Accredited milk would be on sale at the same price as other milk. He asked what view the Society would take of such a scheme.

"The Society's representatives stated that they did not like the proposal to have a new grade of milk inasmuch as there was so much difficulty over the grades which are in existence at the present time. They felt, however, that as the Milk Marketing Board were pledged to the term 'accredited' they must accept it. 'Accredited' milk in their view should not be of a lower standard than the present Grade A which was readily attainable by any dairy farmer

using reasonable care and with regular veterinary inspection of the stock every three months. They expressed the view that although 'accredited' milk did not meet their views generally regarding the safety of the milk supply, nevertheless, the raising of the whole milk supply to a standard of general cleanliness, as exemplified by Grade A, would be an accomplishment for which the Board would be justified in receiving encouragement, but that it would not be the solution of the milk problem at the present time and there would remain the question of pasteurisation to be considered.

"In reply to questions by the Board, the Society's representatives stated that in all probability public health departments would be prepared to undertake the bacteriological examination of 'accredited' milk as is already done in regard to Grade A milk, because if the Grade A standard were adopted for 'accredited' milk, the producers would be justified in asking for licences from the local authorities for this grade of milk.

"The Society's representatives then raised the question of the projected supply of milk for school children at a special rate. The Society's view was that, as it is impracticable to supply Grade A (T.T.) milk to all children on account of its cost and on account of the small quantity of this grade of milk produced in the country, pasteurised milk should be supplied wherever possible. If this is not possible, then milk of Grade A standard should be supplied, this milk to be kept under the supervision of the local medical officers of health and tested regularly for the tubercle bacillus. The Board explained that they would be responsible only for the financial arrangements and that the responsibility of approving of the quality of the milk supplied to the schools would be placed on the local medical officers of health. The Society's representatives informed the Board that the medical officers would require to be satisfied in each instance that a safe milk was being supplied. Another question raised by the representatives was that the milk should be delivered to the schools in bottles to be drunk by means of straws as in the present scheme of the National Milk Publicity Council and that the supply of milk in bulk to be dispensed in cups at the schools would be a retrograde step and one that would not meet with approval.

"The Society's representatives would like to add that, as a result of the interview, they formed the impression that an opportunity was now offered by which medical officers of health could bring pressure to bear on the producers and distributors of milk in obtaining a satisfactory supply for the children in schools. If, as it appeared, the Board intended to place the responsibility for the nature of the supply of milk to any school on the medical officer of health, then it is for the medical officer of health to aim at as high a quality as is practicable and to insist on it being supplied in the hygienic way which is already adopted in practically all the schools operating the scheme of the National Milk Publicity Council."

(2) *Training of Medical Students in Obstetrics.*—A letter was received from the British Medical Association enquiring whether the Society was now in a position to offer its views with regard to the above subject. The Association wished to find a practical remedy for the problem involved by the declining volume of

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material available for the teaching of obstetrics to medical students by reason of its absorption in the training of nurses and health visitors who do not intend to practise midwifery.

The Chairman reminded the Committee that a reply to the enquiry originally made by the Association in March, 1933, had been delayed pending negotiations between the Society and the College of Nursing in regard to a suggested modified midwifery course for health visitors. They had also to take into consideration the lengthened course for midwives projected by the Central Midwives Board.

Dr. J. J. Buchan reported that the Central Midwives Board's scheme for a lengthened course was now under discussion in Scotland and Ireland. Under this scheme, the practical training would be divided into pre- and post-certificate sections.

As the above scheme is not yet settled, it was agreed that the Secretary should inform the Association forthwith that in the opinion of the Society it is unnecessary for women intending to become health visitors to take the full Central Midwives Board course, and that a modified course, by which less of the material available for the teaching of obstetrics would be taken up, would be sufficient for those intending to practise as health visitors only.

The Committee asked the Council to confirm their action.

(3) *Action taken by Local Division of the B.M.A.*—The Committee considered a letter from Dr. F. C. Linton (Tunbridge Wells) with reference to the action taken by the local Division of the B.M.A. in connection with the recommended appointment of a whole-time assistant medical officer of health in his department. He mentioned that a deputation from the Tunbridge Wells Division had attended the borough council meeting in order to put forward "the views of the Association in regard to medical officers of health and general practitioners and their respective spheres of work"; the same deputation had already attended a meeting of the Health Committee. Dr. Linton complained that all steps possible with due regard to economy and efficiency in the health department had already been taken to further the interests of local medical practitioners, and this being so he did not think that action should be taken in the name of the B.M.A. which might prove injurious to one of its members.

The Committee were of opinion that the action taken by the Tunbridge Wells Division had not transgressed the understanding between the Society and the Association as set out in the current B.M.A. handbook, pages 103 and 104.

The Secretary was instructed to refer Dr. Linton also to the agreed policy of the B.M.A. and the Society in regard to Public Health Medical Services set out on pages 97-99 of the handbook, 1933-34. It was also suggested that Dr. Linton's attention should be drawn to the speeches at the B.M.A. Council meeting regarding the appointment of an assistant Medical Officer of Health, Kensington, reported in the *B.M.J.* Supplement for February 3rd.

(4) *Medical Officers of Health and Black-listed Appointments.*—The Committee considered two letters of complaint addressed by medical officers of health to the British Medical Association with regard to the black-listing of appointments for assistant medical

officers in their departments. In one instance, the vacant post of assistant school medical officer had been blacklisted. The particular post was advertised in the lay press at the agreed rate of salary, but the B.M.A. had made the appointment the subject of an "Important Notice," on the ground that other members of the medical staff were not receiving the agreed rate. In the other case, an advertisement for a Senior R.M.O. to a City Hospital had been blacklisted as the necessary increments were not being offered. In this instance the medical officer of health complained that he had secured a *commencing* salary of £50 above the minimum.

The Committee decided that letters should be sent to the two medical officers of health in question, giving an explanation of the B.M.A. policy and pointing out the importance of all members of the public health service loyally supporting this policy.

(5) *Public Health Meat Regulations.*—The Committee gave further consideration to paragraph (3) of the Smethwick resolution, which reads as follows:

"(3) That the following foods may be brought within the scope of the regulations—rabbits, poultry, fish, butter, margarine, cheese, cooked meat, lard and sausages"

and decided to recommend that the Council should support such resolution. They recognise, however, that trade requirements in regard to the various articles mentioned may necessitate modifications and amendments of the regulations before they would be suitable for wider application.

(6) *Inspection for Repairs under the Housing Acts.*—The Committee considered the above subject in accordance with instructions of the Council, with special reference to a letter received from the Sanitary Inspectors' Association suggesting that there was a tendency in various parts of the country for Surveyors to be given the duties in connection with the re-conditioning of houses.

The Committee instructed the Secretary to draw the attention of the Sanitary Inspectors' Association to the case of *Cohen v. West Ham*. In this case a landlord had appealed against a repair order by the local authority. Lord Hanworth held that Section 17 was intended to be a wide section, and the authority were entitled to act upon their officer's report, and were not obliged to make a precise estimate, based upon the report of a Surveyor, as to the reasonable expense of rendering the premises fit for habitation. The Committee felt that the above decision might re-assure the Sanitary Inspectors' Association.

(7) *Use of Society's Rooms.*—The Committee considered the request of the Metropolitan Branch for a revision of the charges for the use of the Society's rooms for Branch meetings in view of the financial position of the Branch and the large number of meetings which had been held during the past session as a result of changes under the Local Government Act. The Branch asked that they should have the use of the Society's rooms free of charge.

It was pointed out that the provincial Branches of the Society have to pay for accommodation for their meetings, and it was agreed to recommend that an "all-in" charge of six guineas per annum be made to the two Branches using the Society's house for their meetings, i.e., the Metropolitan and Home Counties.

It was decided to go into the question of rent charges

for other organisations using the Society's rooms. The following is a list of bodies using the house of the Society, of the present charges, and the charges recommended by the Committee:—

	Present Charge.	Charge Suggested.
Metropolitan Branch	1 gn. per mtg.	6 gns. p.a.
Home Counties Branch	1 " " "	6 " " "
Association of County M.O.H. ...	No charges since 1923	6 " " "
Central Council for Health Education...	No charge	No charge.
British Numismatic Society ...	Rent of back room and use of Committee room	£30 p.a.
Dental Officers' Group	1 gn. per mtg.	6 gns. p.a.
Association of School Medical Officers ...	1 " " "	1 gn. per mtg.
Institution of Fire Engineers ...	1 gn. large room, 10/6 small room, per mtg.	1 " and 10/6 per mtg.
Association of Public Health Chief Clerks	10/6 per mtg.	10/6 per mtg.
Public Vaccinators' Association ...	1 gn. " "	1 gn. " "
Joint Tuberculosis Council ...	No charge	No charge

(8) *Pharmacy and Poisons Act.*—The Chairman suggested that it might be expedient to remind the Poisons Board set up under the above Act of the evidence submitted by the Society to the Departmental Committee on the Poisons and Pharmacy Acts in 1930. It was agreed to forward to the Poisons Board a summary of the evidence given on behalf of the Society by Professor H. R. Kenwood.

(9) *Appointment of Medical Officer of Health, Dorset.*—The Secretary reported that he had received a letter from one of the two Fellows of the Society who was reported to have been an applicant for the vacancy of Medical Officer of Health, Dorset, at the time when this post was the subject of an "Important Notice" in the *British Medical Journal*. It appeared to the Committee that the Fellow in question had been actually an applicant at this time, and as no reply had been received from the other Fellow concerned, it was agreed to recommend the Council to take action under Article 11 of the Articles of Association in regard to the above Fellows by making due enquiry, of which fourteen days' notice be given to them, specifying where and when they may be heard in their defence, and, if necessary, by admonishing them or calling for their resignation.

(10) *Drs. George Buchan and Naylor Barlow.*—The Committee agreed that it be recommended to the Council that Drs. G. F. Buchan and T. W. Naylor Barlow be the guests of honour at the Annual Dinner of the Society to be held in November, 1934, as some recognition of the great part played by both in the salaries' campaign, and of their services to the Society.

(11) *Direct Representation of Cases by the Local Supervising Authority before the Central Midwives Board.*—Dr. J. J. Buchan had made available for inspection of the Committee the draft rules of procedure intended to regulate the proceedings of the C.M.B. on complaints made to the Board relating to the conduct of midwives. The Committee consider these draft rules to be in agreement with the earlier

suggestions made by the Society and a copy is to be submitted to the next meeting of the Council.

(12) *Medicines and Surgical Appliances (Advertisement) Bill.*—The Committee considered a memorandum and draft of the above Bill, prepared by the Parliamentary Committee on Food and Health. The memorandum stated that the Drafting Committee had been strengthened by the addition of representatives of the newspaper interests and of the Proprietary Association of Great Britain, and that it was hoped to convene a conference of all bodies interested on June 4th.

The Committee recommended that the Council should express approval of this draft bill by the Society, and that the President with Dr. J. Fenton and the Secretary, should be nominated to attend the Conference on June 4th.

(13) *Research in Contraceptives.*—The Committee considered a letter from Dr. Cecil I. B. Voge in regard to materials and records in connection with contraception, which have been housed in a room at the London School of Hygiene. Dr. Voge stated in his letter that owing to the arrival of the Ross Institute at the London School, it was now necessary for him to find fresh quarters for this collection, and asked whether the Society could house his records and materials.

The Committee instructed the Secretary to reply to Dr. Voge that (a) unfortunately the limited accommodation at the Society's house makes it impossible to comply with his request; (b) the Society recognises the great value of the work being done by Dr. Voge and much regrets that it cannot help him; and (c) he is at liberty to show the Society's letter as a testimonial to the value of his collection if this will in any way help him in securing a new home for it.

(14) *Sessional Programme, 1934-35.*—In regard to the sessional programme the Secretary reported that it was likely that the Royal Society of Medicine's dinner would be on November 15th, so that the Annual Dinner of the Society might be provisionally fixed for November 22nd. The Committee suggest that the Council meetings should be held on November 23rd, and on the third Fridays of February, May and September, 1935, and that the Annual General Meeting should be held on October 19th, the Ordinary Meetings on November 23rd, December 21st, and the third Fridays in February, March and May, 1935.

(15) *Advisory Committee.*—Prof. Picken reported that at a meeting of the Advisory Committee held on May 2nd, the question of conditions of salaries to be paid to district medical officers of health who were also acting as assistant medical officers to the East Suffolk County Council, and of the salary of the Medical Officer of Health, Portsmouth, had been discussed. In the case of the Portsmouth salary, a reply had been given to the Portsmouth Corporation that in the opinion of the Advisory Committee the salary offered was in accordance with the minimum at the time when the vacancy was advertised and when the appointment was actually made.

(16) *Senior Medical Officer for Maternity and Child Welfare, Ministry of Health.*—A letter was received from the Maternity and Child Welfare Group expressing the feeling of the Group that a definite appointment of a Senior Medical Officer, Maternity and Child Welfare, should be made by the Ministry of Health

in succession to Dame Janet Campbell. The Group were of opinion that the work of maternity and child welfare might be felt to have lost importance through the omission to appoint another Senior Medical Officer.

The Committee were of opinion that no action should be taken in this matter.

(17) *Questionnaire regarding Neo-Natal Mortality.*—The Committee considered complaints made by several members of the Society regarding the questionnaire recently circulated by the National Association for Prevention of Infant Mortality. The covering letter sent with the questionnaire stated: "Should no reply be received by the end of this month we shall assume that in your area no steps are being taken to reduce this mortality."

The Chairman stated that he had on receipt of this letter immediately made a personal protest by telephone to the Hon. Secretary of the Association, and that an apology had subsequently been circulated.

The Committee put on record their disapproval of the letter above-mentioned and their approval of the apology subsequently sent. It was agreed that, in general, questionnaires addressed to medical officers of health must be treated strictly on their merits and that the Society cannot take any responsibility in regard to advising medical officers of health whether or not they recommend that a reply ought to be made to any particular questionnaire.

(18) *Domiciliary Visiting by a Whole-time Assistant Medical Officer.*—The Secretary reported that a Fellow of the Society who had been appointed assistant medical officer for public assistance and tuberculosis work in a county borough in November last, was now being instructed to carry out domiciliary medical work on behalf of the public assistance committee. The B.M.A. had questioned the terms of this appointment when it was first advertised in November, 1933, and had been given an assurance that until May, 1934, the officer appointed would not be required to do any domiciliary visiting. Since that time the borough council had apparently consulted the Association of Municipal Corporations, and they have now informed the local Division of the B.M.A. that on the advice of the A.M.C., they propose to instruct their assistant medical officer to include domiciliary visiting in his duties at the original advertised salary (£500 to £700) plus £100, and that if he refused to undertake this duty (which is contrary to the policy of the B.M.A.), they would terminate his appointment and issue a fresh advertisement.

The Executive Secretary was authorised to enquire of the Association of Municipal Corporations what, in fact, was their attitude in this particular case and whether an individual medical officer was being put into the difficult position of being coerced to carry out work which was not approved by the B.M.A.

(19) *Relations between the Clerk of the Council and Other Officers.*—Correspondence was reported with a Fellow of the Society with regard to the resolutions adopted by the rural district council, to the effect that the clerk was the chief officer of the council, and that other officers should consult the clerk, and not the chairman of their committee in cases of emergency arising between meetings.

The Fellow in question had asked the Society to

await a communication from his solicitors, who were in charge of the matter.

The Committee authorised the President and the Chairman of the Committee to take any urgent action that may be found necessary before the next meeting of the Society's Council.

(20) *Other Matters.*—The Committee also reported correspondence with Dr. A. H. G. Burton, regarding security of tenure; a letter from the General Council for the National Registration of Plumbers reporting the appointment of their first whole-time Secretary, and correspondence with an assistant school medical officer at York regarding superannuation allowance.

The Council adopted the report of the General Purposes Committee with the following provisos relating to the items given above.

Para. (2) The Council decided that it would be unwise to report finally on the question of the training of medical students in obstetrics to the B.M.A. until further information was in their hands regarding the projected lengthened course for midwives.

Para. (16) The General Purposes Committee were asked to consider a letter relating to this matter received from the National Baby Week Council.

Para. (19) The solicitors of the Fellow in question having sent additional papers relating to this case, it was referred to the General Purposes Committee to consider the matter at their next meeting, or alternatively the President and Chairman of the Committee were authorised to take any action found to be immediately necessary in the meantime in the interests of the member.

Cost of Hospitals and Other Institutions.—The General Purposes Committee recommended for adoption by the Council the memorandum prepared by a special sub-committee on the cost of hospitals, this to be submitted as evidence of the Society to the Departmental Committee now considering the subject. An amendment of the General Purposes Committee suggesting the addition of the following words to para. 145, "A floor space of 100 sq. ft. and air space of 1,000 cu. ft. per patient, would be sufficient in the general wards of an Infectious Diseases hospital, provided that 25 per cent. of the space in the hospital is arranged in the form of cubicles," was not carried.

In view of the length of the memorandum and lack of time for its proper consideration, it was agreed that members of the Council should forward any observations or criticisms they had to make to the Executive Secretary, who was authorised, in consultation with the

chairman of the special committee, to call a further meeting of that committee. The Council further authorised the special committee to take action with regard to forwarding the memorandum of evidence to the Departmental Committee and with regard to the giving of verbal evidence.

Constitution of the Society.—The Council had before them the decision of the Extraordinary General Meeting held on February 16th, by which the Articles of Association were referred back for further consideration with especial reference to Article 19. In this connection, Dr. Ernest Ward proposed the following resolution:—

"That Article 19 (d) of the Articles of Association be altered to read:—

"(d) Not more than nine Fellows of the Association, three of whom shall be Departmental Officers."

After discussion the Council adopted Dr. Ernest Ward's resolution subject to a satisfactory definition of the term "Departmental Officers" being arrived at by the General Purposes Committee.

Correspondence with Dr. A. H. G. Burton regarding proxy voting was referred to the General Purposes Committee also.

Representation of the Society.—The following were appointed to represent the Society:—

British Social Hygiene Council: Dr. Vynne Borland.

Sanitary Inspectors' Association Conference: Dr. T. W. Naylor Barlow and Dr. G. F. Buchan.

General Council for National Registration of Plumbers: The President.

The Council decided to nominate no representative at the Royal Sanitary Association of Scotland Congress, and referred the appointment of two representatives on the Panel Committee for the County of London to the Metropolitan Branch.

Milk for School Children.—A resolution from the Joint Tuberculosis Council on this matter was received.

Correspondence.—(a) An enquiry was received from Prof. Louise McIlroy, D.B.E., regarding the Society's view of Clause 1 of Lord Dawson's Contraceptive Bill where it was stated midwives may sell or offer for sale contraceptives. The Secretary was instructed to reply that the Society was in favour of the omission of all references to nurses and midwives from the clause referred to.

(b) The Council referred to the General Purposes Committee the consideration of corre-

spondence with the M.O.H. of a combined district regarding the adjustment of his salary.

(c) The Council received a letter from Dr. W. G. Willoughby regarding an article supplied recently by N.A.L.G.O. to the "Birmingham Mail" in which borough treasurers were referred to as "the second most important officials in our Local Government Service." The Secretary was instructed to enquire of N.A.L.G.O. if this was to be taken to be the official opinion of the organisation.

The question of filling the vacancy in the roll of Honorary Fellows of the Society following the death of Prof. Welch, and a resolution of the West of England Branch recommending a Fellow for Life Membership were referred to the General Purposes Committee.

The Council adjourned at 4.30 p.m.

ORDINARY MEETING.

An Ordinary Meeting was held at the house of the Society on Friday, May 25th, 1934.

The President (Dr. Charles Porter) was in the Chair and Dr. H. Stanley Banks, President of the Fever Hospitals Group, acted as Vice-Chairman. There was a large attendance of members.

The Minutes of the last meeting having been approved and signed, the following candidates were elected as members of the Society.

As Fellows:—

Aitken, Isabella Macindoe Malcolm, M.B., CH.B. (EDIN.); Argles, Edgar Bernard, M.R.C.S., L.R.C.P., (LOND.); Brunyate, William Donald Tristram, B.M., B.CH. (OXON.), D.P.H. (R.C.P.S.); Currid, John G., M.B., CH.B. (ABERD.), D.P.H. (LOND.); Dick, Andrew, M.B., CH.B., D.P.H. (GLAS.); Howell, Nancy G., M.R.C.S., L.R.C.P. (LOND.), D.P.H.; Krause, Robert Arno, M.D., D.P.H. (EDIN.); Rankin, Roberta Theresa, M.B., CH.B., D.P.H. (EDIN.); Thomas, George Morley Arundel, L.R.C.P., L.R.C.S. (EDIN.); Russell, Violet I., M.D., M.R.C.S., L.R.C.P. (LOND.); Walker, Victor Robert, M.B., CH.B. (GLASG.), B.SC., D.P.H.

As Associate:—

Fisher, Lewis William George, L.D.S., R.C.S. (ENG.).

A number of nominations were received for the next election.

There followed a discussion on "Current Methods of Control of the Common Infectious Diseases," opened by Dr. H. Stanley Banks, Dr. E. H. R. Harries and Dr. William Gunn. Dr. J. E. McCartney briefly demonstrated apparatus for the collection of measles serum and there also spoke in the discussion Drs. E. W. Goodall, J. J. Buchan, T. B. Layton, A. R. Southwood (of Adelaide), A. Joe, J. B. Howell, R. A. O'Brien, and J. G. Forbes.

A warm vote of thanks to the opening speakers was moved by Dr. J. N. Dobbie and seconded by Dr. F. A. Belam and supported by the President. This vote of thanks was passed by acclamation and the opening speakers made brief replies. The papers and a full report of the discussion will appear in a later issue.

THE METROPOLITAN BRANCH.

President : Dr. James Fenton, M.O.H., Kensington.

Hon. Secretary : Dr. Vynne Borland, M.O.H., Bethnal Green.

The Council of this Branch met on April 27th, 1934, at the Westminster City Hall. In the absence of the President, Dr. Radford presided. Eight other members were present.

Dr. Radford was congratulated on his appointment to St. Pancras.

It was resolved to hold the annual meeting on June 1st, and to invite Dr. C. I. B. Voë to give a paper on "The Rubber Shop," after the meeting. It was further decided to recommend the Branch to meet on the second Friday in the month next session.

Several letters with reference to the Presidency of the Society were read, the Council finally deciding to recommend the Branch to support the nomination of Dr. R. Veitch Clark.

Dr. Radford, on behalf of the sub-committee, submitted a draft form of certificate of diphtheria immunisation which, after slight amendment, was approved.

Dr. Howell raised the question of the need for uniform practice throughout London in respect of the steam sterilisation of milk apparatus, and it was decided to refer the matter to the Special Purposes Committee.

The draft byelaws of the Branch again came up for discussion but consideration was once more adjourned, this time to a special meeting to be arranged.

At the Branch meeting which followed, Dr. Howell took the chair, supported by twelve members, together with twenty-four members of the Home Counties Branch present by invitation.

After approval of the Council's report, the members listened with great interest to a paper by Dr. H. E. Magee, of the Ministry of Health, on "Nutrition in Relation to Public Health." Drs. Buchan, Nash and Garrow took part in the discussion which followed, and hearty thanks

were expressed to Dr. Magee for his contribution.

THE HOME COUNTIES BRANCH.

President : Dr. Thomas Orr, M.O.H., Ealing.

Hon. Secretary : Dr. R. P. Garrow, M.O.H., Hornsey.

A meeting of this Branch was held in the Council Chamber, Westminster City Hall, on April 27th, 1934. In the absence of the President (who was in Rome attending the Dairy Congress) the chair was taken by Dr. George Buchan.

Three nominations, by other Branches, for the Presidency of the Society were received. It was proposed by Dr. Garrow, seconded by Dr. Nash and carried by a large majority that Dr. W. G. Savage should be nominated as President for the session 1934-35.

A letter was read from Dr. J. Greenwood Wilson (Medical Officer of Health, Cardiff), regarding the liability of Dr. Graham Forbes for the publication of his work on Diphtheria. The general feeling of the meeting was that individual members of the Branch should support the fund opened by the City Treasurer, Cardiff.

At 5.30 p.m. the Branch joined with the Metropolitan Branch, at the kind invitation of the latter, to hear a paper on "Nutrition in Relation to Public Health," by Dr. H. E. Magee of the Ministry of Health.

The discussion which followed this interesting contribution indicated clearly that Dr. Magee's exhortation, "Every medical officer a nutritional physiologist," was endorsed by the meeting.

THE MIDLAND BRANCH.

President : Dr. G. N. Anderson, Deputy S.M.O. Staffs. C.C.

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

On May 10th, 1934, a visit of inspection was made by the members of this Branch to the Biological Laboratories of Messrs. Evans Sons, Lescher and Webb, at Runcorn. The President and twenty-eight other members were present.

The party was received by the Medical Director and conducted round the Institute.

Demonstrations of the work carried out were given in the physiological laboratory and the serum laboratory, and visits were also made to the ampoule department, the biological and chemical laboratories and the chemical works.

The members were afterwards entertained at tea in the canteen. The President expressed to the Director the thanks of the Branch for a very interesting afternoon, and Dr. Mitchell suitably replied.

THE FEVER HOSPITAL MEDICAL SERVICE GROUP.

President : Dr. H. Stanley Banks, Med. Supt., Park Hospital, London County Council.

Hon. Secretary : Dr. Alexander Joe, D.S.C., North-Western Hospital, London County Council.

An ordinary meeting of this Group was held at the house of the Society on April 27th, 1934.

"The Relationship of Measles and Whooping Cough to Chronic Inflammatory Conditions of the Chest" formed the subject of a discussion which was opened by Dr. C. D. Agassiz, Dr. G. Jessel (President of the Tuberculosis Group), and Dr. J. E. McCartney, who dealt with the clinical, radiological and pathological aspects respectively. Drs. Jessel and McCartney illustrated their remarks with lantern slides, and the discussion was continued by Drs. Westwater, Dobbie and Freeman.

After the President had summed up from the chair, hearty votes of thanks were accorded to the opening speakers.

At a meeting of the Council of the Group, held prior to the ordinary meeting, it was agreed to re-nominate the present President, office bearers and members of the Council for the session 1934-35.

THE DENTAL OFFICERS' GROUP.

President : C. Doswell Wallis, Esq., L.D.S., Dental Officer (Schools and M. & C.W.), West Sussex C.C.

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 16th, 1934, the President occupying the Chair. Members of the School Medical Service Group were invited. The subject for discussion was "Administration in the School Dental Service," and excellent papers were read by Mr. Doswell Wallis on "Administration in a County Area"; by Mr. J. F. Pilbeam on "A Borough Dental

Service"; and by Mr. J. Fletcher on "The Aims of the School Dental Service." The discussion was continued by Drs. Nash, Puddicombe, Horne, Pearson and Weaver, as well as by members of the Dental Officers' Group. The general view appeared to favour the appointment of a chief dental officer in each area, responsible for the organisation and administration of his own specialty, the service being regarded as an important unit of the health service under the direction of the medical officer of health.

A further meeting was held on April 13th, 1934, Mr. Doswell Wallis presiding. A paper on "Diet and its Relation to the Teeth," was read by Dr. Magee of the Ministry of Health, and produced an animated and interesting discussion in which many members present took part.

THE MATERNITY AND CHILD WELFARE GROUP.

President : Dr. Thomas Y. Finlay, M.O. (M. & C.W.), and Asst. M.O.H., Edinburgh.

Hon. Secretary : Dr. Isobel Wright, 1, Briton Close, Sanderstead, Surrey.

A meeting of this Group was held at the house of the Society on April 27th, 1934. In the absence of the President the chair was taken by Dr. Agnes Bernfeld. Nineteen members and visitors were present.

Dr. John Freeman opened a discussion on "Allergic Reactions." He gave the English and continental interpretations of the term; described various methods of applying the tests; emphasised the care needed in interpreting results, and the importance of experience in work on both children and adults for accurate interpretation.

In the discussion which followed, Drs. Nash, Maitland Radford, Stella Churchill, Maule Horne, Saunders-Jacobs, Wright, Freeman, Nicoll, and Lady Alden took part. The points discussed were mass psychology in immunisation clinics; the eczematous condition of the scalp during teething; infantile eczema; the relations of epilepsy and allergic reactions; between epilepsy, migraine, and urticarias; between seborrhœa, ichthyosis and urticarias; migraine and menstruation; and the effect of injections of the endocrine glands.

A vote of thanks to Dr. Freeman was proposed by Dr. Nash, seconded by Dr. Marguerite Hughes, and carried by acclamation.

those in another, and the writers of the report are careful to point out that the tentative conclusions arrived at relate only to the institution in which the observations were made. The work of the experimental epidemiologist and such observers as Dudley is essential to progress. Certain broad principles emerge which, with reservations perhaps, may become of general application.

The immediate effect of producing and maintaining Schick immunity amongst 90 per cent. of the boys was the virtual disappearance of clinical diphtheria from the school in which it had formerly been of frequent occurrence. It is pointed out that three doses of toxoid were capable of securing in three months as high a frequency of Schick immunes as three years' residence in a community where diphtheria was endemic and where, under natural conditions, protection was purchased at the price of one clinical case to every three or four latent immunisations. This is clearly an observation which should prove of great service in persuading still-reluctant committees. When diphtheria ceased to be troublesome at Greenwich as the result of immunisation, the prevalent infecting strain was *mitis*, but with the temporary replacement of *mitis* by *gravis* at the end of 1932, an outbreak of modified "diphtheria" occurred.

Evidence is accumulating that the *gravis* and *intermediate* strains of the *C. diphtheriae*, described by the Leeds workers, show greater invasive properties than *mitis*, and that they are frequently, but not invariably, associated with cases of great clinical severity. But can it be shown that in the natural or artificial Schick immune, the test being negative at the time of the attack, either of these strains is capable of causing severe or even moderately severe clinical diphtheria? Are, for example, immunised fever hospital nurses, who are constantly exposed to massive infection with *gravis*, contracting clinical diphtheria as a result? There is no evidence that this is happening.

So far as the Greenwich cases are concerned, the attacks amongst Schick-immunes and lapsed Schick susceptibles were of trifling severity, and Dudley considers that the clinical mildness of the outbreak of *gravis* "diphtheria" in an artificially immunised institution is one of the finest testimonials on record of the value of the method. It is true that Schick immunity

may wane, but once it has been produced this is of little importance. The stimulus of an infection or of the Schick test itself is sufficient rapidly to raise the antitoxic titre not only to Schick negative level but far above it. For all practical purposes, once immune is always immune.

Although children of school age experience the highest morbidity, it is amongst the pre-school group that the highest mortality from diphtheria occurs. Thus, carried out upon a sufficient scale, immunisation of the latter effects a double purpose; it diminishes mortality when mortality is most likely and, by securing that school entrants are already immune, diminishes incidence also. It is agreed that to immunise those of school age to the exclusion of those of pre-school age is largely wasted effort, but, according to Dudley, it may be worse than this. It was found at Greenwich that the virulent carrier rate increased among the immunised and, if this holds good for the community at large, it is clear that the mingling of immune school children with susceptible children of pre-school age might bring an added danger to the latter. Field observations upon a large scale are obviously desirable to clear up this point, but since the importance of immunising the pre-school child is now fully realised, the observation, even if of general application, which is doubtful, has not the cogency it might at one time have had.

The original view that infants were Schick negative owing to transmitted maternal passive immunity has been badly shaken by the work of Okell and others who showed that they might possess a negligible quantity of antitoxin in the blood. Dudley thinks that skin insensitiveness to toxin in infants may nevertheless be an immunity index to clinical diphtheria. Whether this is so or not, a relative irresponsiveness to antigenic stimuli accompanies skin insensitiveness and, therefore, until further good reasons can be shown to the contrary, it would seem reasonable to continue the present practice of commencing immunisation at twelve months of age.

So rich in material is this report that it has only been possible to discuss a few points of more practical appeal. Since the whole is certain to be widely read, this is no great matter. As a record of sustained observations and as a stimulus to the work of others, the report is admirable and fully upholds the great prestige of the series in which it appears.

The Tuberculosis Conference.

THE twentieth annual conference of the National Association for the Prevention of Tuberculosis, held in the County Hall, Westminster Bridge (by kind permission of the London County Council), on June 14th and 15th, 1934, was fairly well attended, though the removal of the restrictions imposed upon delegates, introduced in 1932 by the Ministry of Health, has not yet produced its full effect.

Presided over by Sir Robert Philip, the conference received a warm welcome from Lord Snell (Chairman of the London County Council) and there were noteworthy addresses by Sir Edward Hilton Young (Minister of Health), who inaugurated the conference, and Viscount Astor, who was Chairman of the Departmental Committee on Tuberculosis (1912-13) which issued the Astor Report. The general subject for discussion was "The National Tuberculosis Scheme: The Experience of Twenty-One Years," and, intentionally or otherwise, it was mainly from the administrative aspect it was regarded. Quite suitably and conveniently the various contributions arranged themselves into two groups, one having reference to the tuberculosis dispensary and permitting concentration upon problems affecting this arm of the service, and the other covering a variety of matters affecting residential institutions.

In regard to the dispensary, two of the most knowledgeable and experienced workers in this part of the scheme—Dr. Lissant Cox (Central Tuberculosis Officer, Lancashire County Council) and Dr. Melville Dunlop (Tuberculosis Department, University of Edinburgh)—acted as openers. The view the former appeared most desirous of urging was that there should be the most complete association between the dispensary unit and the institutional unit. This he held was best achieved when the tuberculosis or dispensary officer and his assistants were in charge of a small institution, say 50 beds, in the area of the dispensary unit, each unit serving an area containing 200,000 to 300,000 in population. Dr. Melville Dunlop also discussed co-operation, but in his case it was between the tuberculosis dispensary and the school medical service that closer touch was required. The ideal tuberculosis officer, in his view, was "a real specialist in tuberculosis and not a medical Pooh-Bah," and to secure such an officer it was essential to increase the size of the units.

Contributions on the subject of residential

institutions not unnaturally came from Dr. James Watt (King George V Sanatorium), Dr. R. C. Wingfield (Frimley) and Dr. J. B. McDougall (Preston Hall). The first-named drew attention particularly to the change that had taken place in the character of the sanatorium, the result largely of the development of collapse therapy, from a sort of convalescent home to a complete hospital. He noted that the practice of graduated work by sanatorium patients had steadily become less common, although the necessity for occupational therapy was still recognised. Dr. McDougall, in what he had to say, made reference to the functions of after-care committees and village settlements. Like others of the several very valuable contributions made to this discussion, his brought out many points of great practical importance.

On the medical officer of health side of the discussions, Birmingham occupied a position of some prominence, both Sir John Robertson and his successor, Dr. H. P. Newsholme, submitting papers, the former urging the need for closer supervision of contacts, and the latter showing from the working of the Birmingham scheme how great were the advantages to be obtained from proper co-ordination between the sanatorium and the dispensary.

From every point of view it may be accepted that the conference of 1934 was no less of a success than that marking the coming of age of the tuberculosis scheme in this country should have been, and there are very real reasons why those concerned with it should be pleased with the results secured.

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The Making of an A1 Nation.

NATIONAL Baby Week for 1934 falls in the week July 1st to 7th, and, since at the moment there appears to be a tendency in several quarters to endeavour to assess the national health, the National Baby Week Council, in a desire to assist in this connection, has selected "The Making of an A1 Nation" as the theme of its propaganda during the week.

All the activities associated with the Council's campaign are based on the idea of nutrition as a fundamental factor in improving racial health. Professor Cowell, of St. Thomas's Hospital Medical School, has written for the Council an admirable pamphlet on the diet of the expectant mother, which is being issued in connection with National Baby Week. It is intended particularly for

midwives, to whom it is being distributed through the local supervising authorities.

A series of competitions for schools is also based on the nutrition idea. Senior school-girls are preparing sets of six health rules which they would bear in mind in preparing the family's meals, while the boys are competing to produce the best set of six rules which they would follow if they had gardens of their own, and wished to use these gardens to help their mothers to feed the family well all the year round.

Reformation of the feeding habits of the British nation cannot be accomplished in anything less than a generation. It will take the combined efforts of public health experts, dietists and propagandists to instruct the man in the street and his wife how to adjust their food budgets to the best advantage on a limited income. From year to year the emphasis shifts from one public health problem to another. Nutrition is certainly the problem of the moment, and it is one which the National Baby Week Council, with its exceptional facilities for propaganda, may well be expected to assist in solving.

Brompton Hospital Reports.

THE first volume of this series, reviewed in these columns last June, received a warm welcome and, incidentally, set a standard of excellence which the producers may find hard to maintain. The second volume,* which contains a copy of the annual report of the hospital and nineteen papers, with an index, it may at once be said shows no sign of falling off. Many of the contributions are to be regarded as essays or summarised reflections rather than published research.

The first is a biographical account of Nicholas Culpepper by Dr. Cecil Ward, and was delivered to the London Hospital Medical Society in December, 1932. Such biographies are of general interest, and assist also in understanding the foundations of modern medicine.

Next comes an essay by Dr. R. A. Young on "The Influence on Medicine of the Discovery of the Tubercle Bacillus by Robert Koch." It is also partly biographical, but contains a fund of useful information. Dr. Batty Shaw provides some reflections upon tuberculosis, which may not meet general approval but are none the less

stimulating. Dr. Wingfield offers new, though perhaps not yet completely formulated, thoughts on tuberculosis. All will not be with him when he states: "It will be generally agreed that... we are able to handle the acute and sub-acute stages of chronic pulmonary tuberculosis with reasonable success." The statement largely depends on the definition of success; but he then goes on to qualify suitably this statement by emphasising the dangers of relapse. Relapse he believes due to excessive allergy, and advocates desensitisation by tuberculin; some may doubt if the complicated reactions from tuberculin are of real value in this respect, and such a suggestion certainly needs considerable statistical support before acceptance.

Dr. Cedric Shaw contributes a lengthy study on the results of artificial pneumothorax treatment in 267 cases, of whom, however, only 55 attended the clinic for further investigation, but it must be admitted that 62 were still receiving treatment, and his statistics, moreover, have been submitted to an actuary. The average age of the patients was 31 for males and 27 for females, the range of age being from 14 to 66. Eighty per cent. had a positive sputum. In minimal cases there were no deaths, while Midhurst (report of 1919) records a mortality of 23.1 per cent. for males and 13.5 per cent. for females in a similar class. In moderate cases the Midhurst mortality was four times as great, and 50 per cent. greater in advanced cases. In respect of working capacity also the results were overwhelmingly in favour of artificial pneumothorax. The difficulty in forming a statistical picture of artificial pneumothorax is that the published results are so often classified on a different basis and the numbers too small, but these figures strongly support the general belief that artificial pneumothorax saves lives and shortens the treatment of tuberculous persons.

Dr. R. A. Young writes on tuberculin, but is expressing opinions and impressions rather than providing a controlled study of cases. A useful paper by Dr. A. Brian Taylor deals with 79 cases of tuberculous empyema.

Sir James Dundas Grant has found that the complaint of pain in tuberculosis of the larynx is sometimes relieved by gargling with warm bicarbonate solution, and in other cases relief is obtained by cauterising a painful spot.

Drs. Lloyd and McPherson have been re-investigating, after an interval of 1½ to 2 years, the tuberculin reaction of children previously thus examined. Four per cent. previously

positive have now become negative—a rather important observation and in accord with that of Aurtrian who found that 10 per cent. positives became negative in three to five years.

Drs. Roles and Todd discuss the diagnosis and prognosis of bronchiectasis based on a study of 106 cases; they use the term "simple" instead of "dry" bronchiectasis. There was a total mortality of 34 per cent. in a 64 years' period. They regard lobectomy as the ideal treatment, and the disease so treated should be minimal. As minimal cases may live a normal span in spite of their disability, some treatment useful for more pronounced cases would have been preferred.

At the end of the book Dr. Maurice Davidson writes on intra-thoracic new growths and emphasises their increased frequency. He also gives a useful account of the symptomatology and physical signs. Dyspnoea, which may be paroxysmal, is an important symptom.

This is a book which should be read carefully by all those interested in chest disease, and who wish to keep abreast of the trend of current opinion.

Antimony in Enamelled Hollow-ware.

IN consequence of a series of outbreaks of antimony poisoning some years ago in Newcastle-upon-Tyne and elsewhere, due to the consumption of lemonade prepared or stored in enamelled vessels, an investigation was carried out in the chemical laboratory of the Ministry of Health, under the supervision of Dr. Monier-Williams, into the whole question of antimony in enamelled hollow-ware. The results of the investigation are given in No. 73 of the Reports on Public Health and Medical Subjects issued by the Ministry of Health.* Here it is shown that antimony oxide, because of its relative cheapness, is used to a large extent in place of tin oxide as an opacifier in enamel. Some enamels, it was found, are readily disintegrated by acids, and, if they contain antimony, dangerous amounts of this metal may find their way into food.

Dr. Monier-Williams discusses various ways in which the use of antimony might be controlled, e.g., by (a) marking or labelling of enamelled goods containing antimony, (b) applying a solubility test, or (c) allowing only the pentoxide or its compounds to be used. In his view, however, it is doubtful

whether these measures would be entirely effective, and he suggests, therefore, that total prohibition of antimony in hollow-ware might be found to be in the best interests both of the public and of the trade.

Birth Control.

IN a circular (1408), dated May 31st, 1934, dealing with this subject, the Minister of Health makes further reference to the use that may be made of clinics provided under the Public Health Acts for women suffering from gynaecological conditions. After reminding maternity and child welfare authorities that originally, so far as advice on contraceptive methods was concerned, this might be given only to married women who attend the clinics for medical advice or treatment for gynaecological conditions, and in whose cases pregnancy would be detrimental to health, the circular draws attention to the fact that the Departmental Committee on Maternal Mortality and Morbidity, in their final report had stressed the importance of the avoidance of pregnancy by women suffering from organic disease such as tuberculosis, heart disease, diabetes, chronic nephritis, etc., and had recommended that advice and instruction in contraceptive methods should be readily available for such women.

The main object actually of circular 1408 is to inform local authorities who have provided a clinic at which medical advice and treatment are available for married women suffering from gynaecological conditions, and at which contraceptive advice is afforded to married women so suffering in whose cases pregnancy would be detrimental to health, that it would be proper also for married women who are suffering from other forms of sickness, physical or mental, such as those mentioned in the report of the Departmental Committee, which are detrimental to them as mothers, to be afforded contraceptive advice at the clinic if it is found medically that pregnancy would be detrimental to health. What is, or is not, medically detrimental to health must be decided by the professional judgment of the registered medical practitioner in charge of the clinic. As a result of this extension, it is not improbable that the usefulness of the clinics will be greatly increased, and that they will be more widely resorted to by women in need of contraceptive advice.

* Price 2s. 6d., from the Secretary, The Hospital for Consumption, Brompton, London, S.W.3.

* H.M. Stationery Office, 1934. Price 4d. net.

Ophthalmia Neonatorum.

By DAVID LEES, D.S.O., M.A., M.B., CH.B., F.R.C.S. (EDIN.), F.R.C.P. (EDIN.), D.P.H., Surgeon, Royal Infirmary, Edinburgh; Clinical Medical Officer, Edinburgh Corporation.

This paper, submitted at a meeting of the Maternity and Child Welfare Group on February 23rd, 1934, was the last prepared by Dr. Lees before his lamented death on March 25th, 1934. Providing as it does a critical survey of the progress made in the prevention and treatment of ophthalmia neonatorum since 1881, with tables illustrating the incidence of the condition in Scotland during the last decade, and the loss of vision due to it, Dr. Lees' contribution possesses a remarkable value since, in addition to the very complete manner in which the subject is dealt with, it contains so many references to the published views of the recognised authorities on the disease.

THIS disease has been recognised for a long time as one of the principal causes of blindness in children. One of the greatest achievements of preventive medicine has been the reduction of its incidence, and consequently of the amount of blindness resulting from it. Over a century ago Gibson, of Manchester, pointed out that the disease could be prevented by "removing the noxious matter from the maternal passages before child-birth," if possible. Short of that, it should be removed during delivery and also from the child's eyes immediately after birth. The discovery of the gonococcus by Neisser¹ (1879), and the application of bacteriological methods to a study of the vaginal discharge in mothers before and after their delivery, and of the discharges from the eyes of infants after birth, made further advances in methods of prevention. This discovery established the scientific basis for the treatment of this purulent inflammation of the eyes. Credé, of Leipzig,² published his prophylactic treatment in 1881. He introduced a solution of 2 per cent. silver nitrate into the conjunctival sac of new-born infants, and thereby reduced the incidence of ophthalmia neonatorum in a remarkable degree. In Copenhagen the incidence fell from 8.49 per cent. to 1.72 per cent. in 1887, according to Christensen³; while in Berlin, Uppenkamp states that it fell from 9.14 per cent. to 0.9 per cent. in the same year in the maternity hospitals. Hirsch⁴ states that by adopting Credé's methods and technique in Munich the figures fell from 10 per cent. to 0.5 per cent. This method, with slight modifications, was adopted with immense benefit in the maternity hospitals of practically every

country, and when used with knowledge and care it has been an unqualified success.

After the annual meeting of the British Medical Association⁵ at Exeter in 1907, a special committee was appointed to investigate and report on ophthalmia neonatorum. The first of their recommendations, published in 1909, was to the effect that ophthalmia neonatorum should become a notifiable disease. On April 1st, 1914, all cases in England and Wales became compulsorily notifiable. This led to much greater knowledge as to the incidence and the end-results of cases, and paved the way for administrative action being taken by local authorities to provide hospital accommodation for the treatment of cases of ophthalmia. This measure was recommended by Walker and Mussen⁶ in all cases. Nimmo Walker instituted the first special ward for such babies and their mothers in Liverpool in 1907, and the London County Council set apart St. Margaret's Hospital for this purpose in 1918.

The urgency of this question and its adoption by all local authorities had been urged by Mayon⁷, Bywater⁸ and others. Some local authorities in Scotland, of their own accord, followed the procedure in England, but it was not till 1919 that Regulations were issued to local authorities and to general practitioners. These regulations pointed out that notification without treatment was of no practical value, and impressed on local authorities the need for ensuring that skilled assistance should be available in every case as soon as it was notified. Obligations were also placed on midwives to report such cases at once to the medical officer of health, and to call in medical

aid immediately they became aware that there was a discharge from the eyes within 21 days after birth. Since 1918 various government departmental committees have investigated further the prevention of ophthalmia, and have issued circulars under the maternity service and child welfare schemes, the main objects of which are as follow:—

- (a) Provision of centres for treatment of mother and child both as in- and out-patients.
- (b) Practical teaching at these centres for midwives and students.
- (c) Recommendations that every child with a purulent discharge from the eyes should be sent to hospital.

In spite of this administrative action by the central authorities and its adoption by many local authorities, ophthalmia is prevalent still in this country, and there are still too many cases of blindness resulting from it. In this respect it is pertinent to note the statement of Gordon Norrie⁹ that in Denmark in 1900 it was made compulsory for every medical practitioner and every midwife to drop 1½ per cent. AgNO₃ into every child's eyes at birth; as a result the incidence of ophthalmia was now as low as one case in every second year. In this respect it has to be noted that the midwife is trained in this work for a period of one year.

TABLE I.
Ophthalmia Neonatorum (Compulsory Notification—SCOTLAND.)

Year.	Number of cases of ophthalmia neonatorum notified.	Number removed to hospital.	Number of cases reported to department resulting in appreciable loss of vision.
1919	1,431	162	—
1920	1,871	127	—
1921	1,897	115	—
1922	1,485	71	5
1923	1,390	105	7
1924	1,289	119	15
1925	1,246	115	5
1926	1,295	140	2
1927	1,311	124	13
1928	1,305	154	4
1929	1,215	149	5
1930	1,431	160	3
1931	1,443	185	6
1932	1,652	168	4
TOTAL (14 years)	20,261	1,894	69

The lack of compulsory prophylaxis and of sufficient training for students and midwives are possibly the greatest causes of our failures to reduce the incidence of ophthalmia in Britain as rapidly as might be done.

The Public Health (Ophthalmia Neonatorum) Regulations define ophthalmia neonatorum as "a purulent discharge from the eyes of an infant, commencing within 21 days from the date of its birth." As far as our experience goes during the past 20 years, the disease is not so prevalent as it was in the immediate post-war years.

Table I shows the number of notifications in Scotland between 1919 and 1932. These figures indicate the measure of success of the administrative action taken since notification was made compulsory in Scotland in 1918. They also show the number of cases removed to hospital either alone or with their mothers, and the number of cases reported to the Department of Health as resulting in appreciable loss of vision. Of the 69 cases reported, in 12 there was total blindness, in 14 partial blindness of both eyes, and in 43 partial blindness of one eye. In 33 the gonococcus was the cause of the ophthalmia; in 36 the infection was not gonococcal or was not ascertained.

Table II shows the number of cases notified

TABLE II.
Ophthalmia Neonatorum (Compulsory Notification—EDINBURGH.)

Since 1922, when provision was made for in-patient hospital treatment under venereal diseases scheme.

Year.	Number of cases of ophthalmia neonatorum notified.	Number removed to hospital.	Number of cases reported to department resulting in appreciable loss of vision.
1922	58	34	—
1923	38	13	—
1924	46	16	—
1925	25	10	—
1926	34	22	—
1927	26	18	—
1928	37	20	—
1929	29	18	—
1930	21	10	1
1931	14	10	—
1932	30	16	—
1933	35	15	—
TOTAL (12 years)	393	202	1

to the local authority in Edinburgh during the period of twelve years, 1922-1933. The number of cases treated as in-patients in hospital was over 50 per cent. of all cases notified.

There is reason to believe that immediately after notification was made compulsory, a considerable number of cases of conjunctival catarrh and irritation were notified which were not due to venereal infection. While this notification still occurs and is desirable, because it secures more careful and more hospital treatment, it undoubtedly makes the statistics somewhat unreliable.

In May, 1922, the public health authority of Edinburgh made more extended provision for nursing mothers and infants with ophthalmia neonatorum in one of the municipal hospitals, and arrangements were made with the local authorities of the Lothians and the Border Counties to take their cases also. In Tables III and IV are set out the statistics of the cases treated in this hospital from May, 1922, to May, 1933.

In this series of 173 cases there was impairment of vision in one eye in a case from Edinburgh (1930). This was due to delay in sending the child to hospital until 10 days after

TABLE III.

Cases of ophthalmia neonatorum and their mothers from all areas in south-east Scotland treated at the Northern General Hospital, May, 1922, to May, 1933, showing the number of cases in which gonococci were found in the discharges from the eyes in children, and in the secretions from maternal parts.

Year.	Gonococci present.		Gonococci absent.	
	Mother.	Child.	Mother.	Child.
1922-23 ...	5	6	7	10
1923-24 ...	7	8	1	—
1924-25 ...	10	14	4	1
1925-26 ...	8	9	1	1
1926-27 ...	2	3	4	5
1927-28 ...	6	10	5	8
1928-29 ...	7	8	2	1
1929-30 ...	12	15	2	6
1930-31 ...	9	9	6	9
1931-32 ...	5	7	8	15
1932-33 ...	9	10	16	18
TOTAL	80	99	56	74

Children in Hospital, 173.

G.C. found in eyes in 99 = 57.2 per cent.

G.C. not found in eyes in 74 = 42.8 per cent.

Mothers in Hospital, 136.

G.C. found in genitals in 80 = 58.8 per cent.

G.C. not found in genitals in 56 = 41.2 per cent.

TABLE IV.

Summary of cases of ophthalmia neonatorum treated in Northern General Hospital which resulted in appreciable loss of vision.

Year of child's birth.	Total number of cases.	Analysis of cases resulting in impairment of vision.				Cases due to gonococcal infection.	Cases where infection was not gonococcal or not ascertained.
		Total blindness.		Partial blindness.			
		Both eyes.	One eye.	Both eyes.	One eye.		
1922	—	—	—	—	—	—	—
1923	—	—	—	—	—	—	—
1924	—	—	—	—	—	—	—
1925	—	—	—	—	—	—	—
1926	—	—	—	—	—	—	—
1927	2	—	2	—	2	—	2
1928	—	—	—	—	—	—	—
1929	1	1	—	—	—	—	1
1930	1	—	—	—	1	1	—
1931	1	—	1	—	1	1	—
1932	1	—	1	—	—	1	—
1933	1	—	1	—	1	1	—
TOTAL (12 years)	7	1	5	—	5	4	3

Total cases treated in Hospital = 173.

Cases in which impairment of vision resulted = 7.

Analysis of above 7 cases:—

(1) Complete loss of vision in both eyes = 1.

(2) Complete loss of vision in one eye = 5.

(3) Partial loss of vision in both eyes = —.

(4) Partial loss of vision in one eye = 5.

notification, when a staphyloma was found to be present. In one case (1929) sent from one of the outlying counties, on admission to hospital there was severe ulceration of the cornea in both eyes. Gonococci were not found in either mother or child, and there is reason to believe that in this case chemical irritation by too intensive use of strong silver nitrate may have aggravated the condition. The same state of affairs was present in two cases from Berwickshire in 1927, and here again antiseptic treatment had been applied too intensively. In a case from the country in 1931 the child was sent to hospital on the twenty-second day at an interval of 12-14 days after the eyes had shown a purulent discharge. The cornea showed ulceration in both eyes, and undoubtedly loss of vision in one eye resulted from the unnecessary delay in placing the patient under appropriate treatment.

The record of cases from Edinburgh itself for this 12-year period is 393 cases notified; 202 of these were treated in hospital.

Since special hospital provision was made for these cases in 1923, there has been only one case in which any degree of vision was lost, and that largely due to delay in providing appropriate treatment. This child was poorly nourished and marasmic; it developed broncho-pneumonia and died a few weeks later.

Prophylaxis.—This may appropriately be dealt with under three headings:—

- (1) Accurate diagnosis and efficient treatment of every case of gonorrhoea in the adult male and female, and the application of careful tests of cure in all cases.
- (2) Ante-natal examination of every pregnant woman, and investigation during the ante-natal period of any discharge from the urethra, the Bartholinian ducts, and the cervix. If gonococcal infection is found it is treated up to the date of delivery. If leucorrhoea or other discharge is present, treatment should be administered even if, after repeated tests, gonococci have not been found in the secretions. This does not stigmatise the patient. It is interesting to note in this connection that, in our experience, the puerperium in cases so treated is less morbid than in cases which are not given local treatment ante-natally.
- (3) Prophylaxis of ophthalmia at the time of delivery by—

(a) careful cleansing of the maternal parts;

(b) instillation of the eyes of the child with antiseptics.

There is no doubt that while (1) and (2) are essential factors in lessening the incidence of ophthalmia, the most important and immediate step in reducing its incidence is prophylaxis applied to the eyes at birth.

It has long been urged that Credé's method of prophylaxis should be employed at every birth, apart altogether from the social standing of the parents. There need be no stigma attached to it. It is a little anomalous that a midwife is compelled to adopt precautions to prevent ophthalmia in every case, while medical men are under no such obligation. It was pointed out by Stephenson¹⁰ that the precaution was just as necessary in the one as in the other, and in our experience rather more cases occur in the practice of doctors than of midwives.

Everyone is agreed that cleansing of the maternal parts is the important prophylactic measure; there is less agreement on prophylaxis applied to the eyes of the newborn child, and still less on the antiseptic which should be used.

Dunstan Brewer¹¹ objects to the routine use of prophylactics in that it leads to a false sense of security and consequent carelessness. The preparations of silver may injure the eye, and silver nitrate, in his opinion, does more harm than good, while argyrol and colloids are less effective although less objectionable.

Sir George Newman¹² in his annual report for 1924 stated that nitrate of silver does more harm than good, especially in these days when one is able to hold a watching brief over all newborn children. "The evidence is pretty definite that prophylactics fail; for cases of ophthalmia, both gonorrhoeal and otherwise, have occurred in the maternity home in spite of the use of a prophylactic." We cannot wholly agree with these conclusions.

Weiss¹³ considers silver of little value as a prophylactic.

Bell-Taylor¹⁴ is averse to instilling a healthy eye with silver nitrate, and recommends 25 per cent. argyrol as it is less irritating.

De Schweinitz¹⁵ states that in his experience silver nitrate leads to catarrh, and that it is not always advisable to use it in 2 per cent. strength. In his opinion a 1 per cent. solution should be confined to suspected cases; it

should be used only by midwives who have had a proper training in its use. Oliveres¹⁶ prefers 20 per cent. argyrol to silver nitrate for preventive instillation. Mayou¹⁷ warns against the combination of irrigation of the eye with perchloride of mercury and the instillation of drops of silver nitrate. A warning note on this form of prophylaxis is also given by Duncan Forbes¹⁸. The objections to the use of silver nitrate are well summarised by Mayou¹⁹. They are as follows:—

- (1) Conjunctival reaction.
- (2) Conjunctival hæmorrhage.
- (3) Corneal opacities.
- (4) It does not prevent ophthalmia.
- (5) The moral or sentimental objection.

While admitting that these conditions may occur as a result of using silver nitrate, Mayou does not infer that any of them are true objections.

W. G. Ricker²⁰ maintains that proper cleansing of the eyes at the right time is more important than the instillation of silver nitrate. He stresses the importance of drying the child's head to avoid the entrance into the eyes of any fluid from the birth canal. The eyes should never be opened until all the face has been cleansed and especially the skin of the upper and lower eyelids.

Pfeiffer²¹ warns against using substitutes for silver nitrate, and the Harvard Medical School²² are insistent on the use of this preparation. All prophylactics except silver nitrate are condemned by De Lapersonne who criticises the use of argyrol or protargol.

Mehl²³ claims that the general use of Credé's method has reduced ophthalmia to negligible proportions. He urges the importance of making certain that the solution of silver nitrate reaches all the recesses of the conjunctiva and that its irritant action is neutralised by washing out the conjunctival sac subsequently with normal saline.

Sydney Stephenson²⁴ considers that a 1 per cent. solution of silver nitrate is the best prophylactic, and that the most important point is the technique; special care is necessary he points out, in washing the baby, to prevent contamination of the eyes from the eyelids, knuckles, etc. He mentions two other preparations, 1 per cent. silver acetate, recommended by Zweifel in 1900, and 5 per cent. sophol recommended by Herff. The former does not cause a "silver" catarrh and does not concentrate on evaporation. Sophol

also is in his experience efficient and non-irritating.

Hans Treber²⁵ draws attention to the use of 1 per cent. silver acetate, and states that silver nitrate, if it is kept too long, will become concentrated by evaporation, and so increase in strength and cause "silver" catarrh.

The results from the use of silver nitrate and silver acetate were compared by Thies, who instilled these preparations in different eyes in 2,000 cases. Only five cases of ophthalmia developed, and in two of these children the site of disease was in the eye in which silver nitrate was used. He is strongly in favour of prophylaxis, and considers that a 1 per cent. solution of silver acetate is the best preparation.

A. E. Iles²⁶ recommends a 1 per cent. solution of mercurochrome in castor oil, and finds it efficient. Weiss²⁷ is of opinion that an instillation of 4 per cent. cocaine is best because it renders the conjunctiva anæmic and so unsuitable for the growth of gonococci. He recommends this instillation at birth and once daily for one week afterwards. He considers silver preparations of little value.

Mayou²⁸ has suggested acriflavine in a 1 in 5,000 solution in oleum ricini, while proflavine in a 1 in 1,000 in ol. ricini is preferred by Lawson²⁹ as less irritant to the eye than acriflavine.

In our work we have used silver nitrate 1 per cent., colloidal silver, lunosol 10 per cent., acriflavine (1 in 500) and neo protosil, 10 per cent. In our experience it is immaterial which preparation is used so long as it is freshly prepared. It is most important, however, to recognise that, if "silver" catarrh is to be avoided, the preparation of silver nitrate should not be over 1 per cent. in strength, and that its continued action should be neutralised by washing out the conjunctival sac subsequently with normal saline.

We agree with W. L. Benedict³⁰ that the success of prophylaxis depends largely on the skill with which it is carried out. We have no hesitation in stating with Mayou³¹ that the teaching of medical students is not as good as it should be (1931). The Council of British Ophthalmologists³² in 1928 issued a statement that in their opinion the facilities for teaching pupil midwives and giving them practical experience of ophthalmia neonatorum were very poor, and that most of the instruction was theoretical. This is true of the teaching given

to the medical student and the midwife alike, and requires the attention of the Central Midwives Board and of the General Medical Council.

Van der Straeten³³ summarised the essentials of successful prophylaxis under three headings:—

- (1) Disinfection of the genital tract in the infected mother.
- (2) Careful cleansing of the face and eyes of the baby.
- (3) Instillation of 2 per cent. silver nitrate.

Our recommendations for successful prophylaxis are:—

- (1) Ante-natal examination and treatment of all suspected cases of gonorrhœa.
- (2) Disinfection of the genital tract in all cases at the birth of the child; we recommend a solution of mercurochrome of $\frac{1}{2}$ to 1 per cent. strength as non-irritant; chloramine T., or oxycyanide of mercury, 1/5,000 are equally effective.
- (3) Care in dry cleansing the face and eyelids of the child immediately after birth, and avoidance of contact of the child's hands with the eyes before washing it, or of the bath water with the eyes.
- (4) Immediate instillation of any antiseptic which is capable of killing the gonococcus, but at the same time is non-irritating and is not likely to cause chemosis. In our experience lunosol 10 per cent. (colloidal silver chloride) has proved very efficient. So also has acriflavine 1 in 500 in castor oil.

It has to be observed that there are cases of conjunctivitis which are not due to gonococcal infection. In addition to the common infections by pneumococci and other pyogenic organisms, Mehl³⁴ has drawn attention to an inclusion blenorrhœa which is due, he states, to a virus from the female passages. It does not attack the cornea. The same prophylactic measures as advocated above are effective in these cases also.

Treatment of Ophthalmia by Irrigation.—There is not the same controversy of opinion regarding the treatment of established ophthalmia. The primary requirement is undoubtedly constant drainage of the conjunctival sac and the prevention of any accumulation of pus which will irritate and ulcerate the cornea. To establish this drainage, Hosford and James³⁵ recommend a continuous stream of 1/15,000 to 1/20,000 potas-

sium permanganate night and day.

Stephenson³⁶ favours 30 per cent. perhydrol, a picric acid free hydrogen peroxide, because of its detergent and curative properties; subsequently he washes away the perhydrol with any lotion such as 1.4 per cent. saline. The perhydrol is diluted with an equal quantity of freshly boiled water and is applied in drops from an undine, the end of which is protected with a short length of rubber tubing. Mayou³⁷ recommends a solution of 1 in 10 of eusol which has stood for 24 hours after making.

Duncan Forbes³⁸ and Lindsay Rea³⁹ favour boracic acid or normal saline as the irrigating fluids to establish drainage.

In our experience it is immaterial which preparation is used so long as it is not irritating to the conjunctiva, and is very slightly alkaline in reaction so as to dissolve the purulent and mucopurulent discharge. The important and vital point is the cleansing of the whole conjunctival sac at frequent intervals. Lavage of the eye may require to be carried out half hourly if necessary, both day and night, in the early acute purulent stages. We agree with Pillat⁴⁰ that the irrigating fluid should be changed frequently, and we alternate between permanganate of potash, boracic acid, soda bicarbonate and normal saline.

Treatment by Instillation.—There is a wide choice of applications, in the nature of drops, which have for their purpose a definite bactericidal action. There is a common consensus of opinion that silver nitrate either in 1 per cent. or 2 per cent. solution is contra-indicated in the acute stages and tends to predispose to ulceration.

Oliveres⁴¹ recommends 20 per cent. argyrol both for prophylaxis and treatment. Arnold Pillat⁴² favours 20 per cent. argyrol or 5 per cent. protargol, while Fletcher⁴³ recommends 4 per cent. protargol and ice-cold irrigation followed by instillation of $\frac{3}{4}$ per cent. zinc sulphate.

E. B. Hecker⁴⁴ uses exclusively iced physiological salt solutions. His treatment is based on the vulnerability of the gonococcus to cold. He wraps a towel, wrung out of hot water, round the eye margins and then drops the iced saline on the lids. The swelling and œdema subside quickly (2 min.) and then the lids are everted and the conjunctiva is washed out with the cold saline. The treatment is repeated every six hours. He states that the treatment is harmless, effective, easily

applied, and well borne. In 14 cases so treated there was no bacteriological evidence of organisms after 72 hours.

Mayou⁴⁵ uses 1 in 1,500 acriflavine in oleum ricini or protargol in 10 per cent. solution. Both are found to be efficacious. External canthotomy is recommended by him in the early stages if the lids are greatly swollen and the palpebral aperture is so small that the conjunctiva cannot be properly washed with a 1 in 10 solution of eusol. Cyril Hudson⁴⁶ also speaks favourably of his experience with this treatment.

A solution of mercurochrome 1 per cent. in oil is favoured by A. E. Hes⁴⁷ both for prophylaxis and treatment. Weiss⁴⁸ has no use for any antiseptics and recommends the instillation, at intervals of 2 hours, of a 4 per cent. cocaine solution as it is inimical to the growth of gonococci. These instillations are continued for 24 to 48 hours and have proved effective in his experience. Attention has been drawn by Stephenson⁴⁹ to a preparation called lenicet, a basic aluminium acetate, which was employed by Wolffberg⁵⁰ and was stated to have a great effect in reducing the purulent discharge. It is used as a 10 per cent. ointment made with euvaseline. It is favoured by Schoeler⁵¹ but doubt has been cast on its utility by Spiro, Bayer, and Kummell. Another useful remedy to which Stephenson drew attention is liquid paraffin with which the conjunctival sac is filled between irrigations.

Lindsay Rea⁵² considers that protargol in 10 per cent. solution is a safe instillation for treatment. He suggested that the osmotic action of 10 per cent. magnesium sulphate as an irrigation three or four times daily greatly aided recovery. He also uses an atropine ointment 1 per cent. to keep the pupil dilated. This, in our experience, is a useful precaution if the cornea is at all hazy. Lawson⁵³, in discussing this treatment in the reported case, was of opinion that it was immaterial whether one used magnesium sulphate or anything else. The antiseptic or osmotic property of any lotion was of no importance and normal saline was just as good.

Adjuvant Treatment.—In addition to local treatment, numerous workers have recommended what may be termed adjuvant treatment. The chief recommendation is attention to the child's general health by fresh air, careful diet, and good management. If possible,

the mother should continue to nurse the child and everything should be done by good feeding, hygiene, etc., to improve the supply of milk. Mayou⁵⁴ has pointed out that breast-fed children invariably do better than infants who are admitted to hospital without their mothers, and it may well be that some natural protection is conveyed to them from the mother through breast feeding.

Congenital syphilis, if present, should be treated as it is always detrimental to the nutrition of the child. Its prevalence is not so great as one would expect in the class of patient who suffers from ophthalmia, although F. Mann⁵⁵ found syphilis in 50 per cent. of her cases. She considered that in a case of ophthalmia, syphilis predisposed to ulceration of the cornea and other complications.

Vaccines and Sera.—S. H. Browning⁵⁶ recommends vaccine treatment. Although it does not materially shorten the acute stage of a case, he considers that it prevents complications.

M. Macnicol⁵⁷ finds vaccine therapy of assistance and reported a case of arthritis complicating ophthalmia in which vaccines proved useful in alleviating the condition.

Stephenson⁵⁸ reported favourably on intramuscular injections of vaccine which he found were not toxic. Nicolle⁵⁹ obtained striking results with a similar preparation named dmégon prepared by the Pasteur Institute of Tunis, and described before the French Academy of Science in 1913. Cuénod and Penet⁶⁰ and Offret⁶¹ also state that in 14 cases the use of dmégon reduced the inflammatory symptoms, diminished the purulent secretion, and rendered it less thick and tenacious.

We have used detoxicated and ordinary stock vaccine in many of our cases, and prefer the former in that they do not cause any gross general reaction. We agree with Browning⁶² that they do not materially shorten the acute stage, but are convinced that they lessen the severity of the disease and help to prevent complications. We have used a "gonophage" locally in the eye in six cases with very marked and rapid improvement. The preparation was applied thrice daily after irrigating the eyes with saline. We have also tried antiviral but were not impressed with its effect.

Mayou⁶³ and Hudson⁶⁴ have not been able to convince themselves that vaccine treatment is of any value and the former is of

opinion that a general local immunity is provided in the conjunctiva.

Alfred Cowan⁶⁵ claims good results in adult gonococcal conjunctivitis from the subconjunctival injection of Pregl's solution, but this has not been tried on infants.

Many workers have recommended protein shock produced chiefly by intramuscular injections of milk. F. S. Mainzer⁶⁶ states that two injections of boiled skimmed milk, 1 to 3 c.c., at intervals of 2 to 3 days, reduces the oedema and controls the discharge. Arnold Pillat⁶⁷ uses $\frac{1}{2}$ to 1 c.c. of cow's milk which is kept boiling for three minutes and is then cooled. A pyrexia occurs in 6 to 12 hours after the injection and this is repeated the following day. He considers that commercial milk preparations are inferior to boiled cow's milk.

E. C. Ebert⁶⁸, on the other hand, after comparing a series of cases, concludes that milk injections have no therapeutic value, and that they give no better results than local treatment alone. Mussbaum⁶⁹ claims quick cures with milk injections. Mehl⁷⁰ advocates the use of milk injections to shorten the duration of gonococcal cases. The milk is kept boiling for exactly four minutes. After cooling, two injections of 2 to 3 c.c. are given intramuscularly on successive days, and are usually sufficient to reduce the symptoms, but more injections may be given. De Haan⁷¹ also recommends injections of $\frac{1}{2}$ c.c. of milk at intervals of approximately 2 to 3 days. The greater the pyrexia obtained the better in his experience are the results. H. F. Shorney⁷² states that the milk should not be boiled for more than five minutes because a longer period coagulates the albumen and changes it. He administers 2 c.c. to the newborn child and claims good results.

We have tried the effect of Aolan, a proprietary milk preparation, and are not convinced that it in any way influences the progress of a case favourably. In children there is practically no reaction following an injection of from 1 to 4 c.c. of this preparation. We have also tried injections of tubercle-free milk boiled for three minutes, without any apparent effect other than a definite upset to the child's health, in that diarrhoea and vomiting resulted. We have not been impressed with any of the milk preparations as an adjuvant to treatment.

Our results with milk injections in a case of adult gonococcal conjunctivitis were more favourable,

Institutional Treatment.—As a result of the pioneer work of A. Nimmo Walker⁷³ in Liverpool in 1907, institutional treatment of the mother and child, under conditions enabling the child's eyes to be treated night and day by special nurses, was instituted in this country. Walker recognised that ophthalmia was very amenable to treatment if attacked vigorously at its onset, but that this intensive treatment by constant irrigation was impossible in the homes of the majority of patients. Further, as W. R. Benedict⁷⁴ has pointed out, the success of early treatment depends largely on the skill with which it is carried out, and there is no doubt that the large part of the success of the treatment depends on the efficiency of the nursing staff.

W. R. Fulford Eales⁷⁵, in discussing at Birmingham the subject of preventable blindness, advocated strongly that every practitioner would do well to avail himself of institutional treatment for such cases at the earliest possible moment.

Bywater⁷⁶ has emphasised the necessity of hospital treatment in every case, and that they should be looked on as urgent cases.

Mayou⁷⁷ states that since St. Margaret's Hospital was set apart for this purpose by the London County Council, while the number of cases notified in London has not diminished for 15 years, and the number of admissions to the hospital has become a fairly constant factor, the striking fact is that the amount of blindness has decreased by more than half, as the hospital has become known and recognised.

We are in a position to report the same results with regard to our work in Edinburgh. Since beds were set apart for the treatment of mothers and children in one of the municipal hospitals in 1922, there has been almost a 100 per cent. reduction in the preventable blindness due to ophthalmia neonatorum.

Institutions for this purpose should be utilised to the full by all practitioners and by maternity hospital staffs. The earlier a case is admitted, the better the prognosis, and it is of paramount importance to admit the mother with the child if the best results are to be obtained in the prevention of communicable disease.

Every case of ophthalmia should be looked on as an emergency of general practice and sent to hospital at once. When admitted to hospital the first duty is to ascertain whether the cornea is involved. The prognosis for

vision and complete recovery depends on the presence or absence of corneal ulceration. If the swollen and oedematous lids cannot be separated without undue pressure, fine wire retractors may be used, but great caution is necessary in their use to avoid conjunctival and corneal injury. The slightest abrasion may be the starting point of a severe ulcer. If ulceration already exists any undue pressure on the globe may produce perforation.

A case of ophthalmia neonatorum must never be regarded lightly; there is no doubt that in some cases the lack of gross symptoms at the outset has led to treatment not being administered as assiduously and methodically as it should, with consequent loss of vision, which was preventable.

In every case the attendant should remember that the prevention of blindness depends on sustained and adequate treatment, and that every case is virtually a candidate for blindness till rescued by recovery from this latent threat.

Further, it should be incumbent on every health authority to provide hospital accommodation for such cases within reasonable reach of the patient. In this respect it is interesting to note the success attending Edinburgh cases as compared with those from country districts which have the same hospital facilities but not so accessible. Time is a most valuable factor in treatment, and every day put off spells additional danger to the child's sight. It is practically impossible to prevent destructive changes in the cornea in a severe case unless the child is in a hospital, and some attempt should be made to educate the profession at large as to the paramount importance of early admission to hospital. Many mothers may be deterred from entering a special hospital under the impression that they will be labelled as suffering from venereal disease. As the gonococcal infection in many of these mothers is not acquired venereally, the greatest discretion should be exercised by members of the hospital staff in not stigmatising these patients. If possible, they should be treated by a specially selected and trained staff in an annex to wards for the treatment of other diseases of women and children.

In summing up the main points in the prevention of ophthalmia and in the prevention of blindness which results from it, stress should be laid on the following:—

- (1) The provision of ante-natal centres where expectant mothers can be examined and treated for vaginal discharges.
- (2) Antiseptic toilet of the vulva and vagina by the accoucheur or midwife at the time of the confinement.
- (3) Careful prophylaxis of the eyes at every confinement by the doctor and midwife, with an antiseptic preparation which does not irritate the eyes and does not produce an inflammatory reaction.
- (4) Immediate bacteriological investigation of any discharge from the eye, however slight, which occurs within the first 21 days after birth. Provision for this investigation is made, free of charge, by every local authority. It should be compulsory, especially in late cases from the 8th-21st day when the symptoms are not so acute and the danger is often greater.
- (5) In every suspected case the mother (puerperal) and child (ophthalmic) should be hospitalised.
- (6) Provision by every health authority of nurses trained and experienced in the treatment of these cases.
- (7) Provision by local authority of an ophthalmological expert for consultation in difficult cases.
- (8) Provision whereby the medical officer of health should have power to investigate and follow up the source of infection.
- (9) Provision by every university and maternity school of ample facilities for the practical teaching of prophylaxis and treatment to students and midwives.

Although much has been done to reduce ophthalmia since Credé's work in 1881, there is no apparent reason why it should not be still further reduced and made a rare condition, if only the medical profession will utilise to the full the possibilities of preventive and curative medicine.

REFERENCES.

- ¹Neisser. *Cent. f. d. Med. Wissenschaft*, 1879, xvii, 497.
²Credé. *Arch. f. Gyn.*, s. 50, 1881.
³Christensen. *Med. Annual*, 1887, p. 167.
⁴Hirsch. *J.A.M.A.*, Dec. 24th, 1921.
⁵B.M.A. *B.M. Jour. Supplement*, May 8th, 1909.
⁶Walker and Mussen. *Lancet*, May 2nd, 1908, p. 1267.
⁷Mayou. *B.M.J.*, Nov. 28th, 1931, p. 973.
⁸Bywater. *B.M.J.*, Aug. 1st, 1931, p. 211.
⁹Gordon Norrie. *Brit. Jour. Ophth.*, vii, No. 8374, quote *Med. Annual*, 1925.
¹⁰Stephenson. *Lancet*, Nov. 16th, 1912, p. 1358.
¹¹*Practitioner*, vol. 93, Sept., 1914, p. 374.

- ¹²Dunstan Brewer. *Medical Officer*, Sept. 19th, 1925.
¹³Sir George Newman. *Annual Report*, Ministry of Health, 1924, published 1925.
¹⁴Weiss. *Jour. Med. Soc.*, New Jersey, May, 1927, p. 290.
¹⁵Bell-Taylor. *Lancet*, Feb. 20th, 1909, p. 574.
¹⁶Schweinitz, G. E. de. *Medical Annual*, 1925.
¹⁷Oliveres. *Jour. des Pratiques*, xxvi, 1912.
¹⁸Mayou. *Lancet*, Oct. 25th, 1924, p. 885.
¹⁹Duncan Forbes. *Lancet*, Nov. 14th, 1931, p. 1102.
²⁰Mayou. *Practitioner*, vol. 80, March, 1908, p. 357.
²¹Ricker, W. G. *New England Jour. of Med.*, May 23rd, 1929, p. 1101.
²²Pfeiffer. V.D. Information, viii, No. 3, March, 1927.
²³Harvard Medical School. *New England Jour. of Med.*, Boston, 1931, ccv, 265.
²⁴Mehl. *Medical Record*, April 15th, 1922.
²⁵Stephenson. *Lancet*, Nov. 16th, 1912, p. 1358.
²⁶Hans Treber. *Wein. Klin. Rund.*, Nos. 35 and 36, 1911.
²⁷Iles, A. E. *Lancet*, Aug. 6th, 1927, p. 291.
²⁸Weiss. *Jour. Med. Soc.*, New Jersey, May, 1927, p. 290.
²⁹Mayou. *B.M.J.*, Nov. 28th, 1931, p. 973.
³⁰Lawson. *Procs. Roy. Soc. of Med.*, Sect. of Ophth., Vol. 25, 1932.
³¹Benedict, W. L. *Procs. of Annual Conf. of Nat. Soc. for the Prev. of Blindness*, Chicago, Oct. 13-15, 1925.
³²Mayou. *B.M.J.*, Nov. 28th, 1931, p. 973.
³³Council of British Ophthalmologists. *Brit. Jour. Ophth.*, March, 1928, p. 149.
³⁴Van der Straeten. *Arch. d. Ophth.*, 47, 587, Sept., 1930.
³⁵Mehl. *Medical Record*, April 15th, 1922.
³⁶Hosford and James. *Lancet*, Jan. 13th, 1912, p. 91.
³⁷Stephenson. *Lancet*, Nov. 16th, 1912, p. 1358.
³⁸Mayou. *B.M.J.*, Nov. 28th, 1931, p. 975.
³⁹Duncan Forbes. *Lancet*, Nov. 14th, 1931, p. 1102.
⁴⁰Lindsay Rea. *Procs. Roy. Soc. of Med.*, Sect. of Ophth., Vol. 25, 1932.
⁴¹Pillat. *Mitt. d. Volksgesundh.-annt.*, Vienna, 1929, July 7th, p. 207.
⁴²Oliveres. *Jour. des Pratiques*, xxvi, 1912.
⁴³Pillat. *Mitt. d. Volksgesundh.-annt.*, Vienna, 1929, July 7th, p. 207.
⁴⁴Fletcher. *United Fruits Coy.*, Annual Report, Honduras, 1929.
⁴⁵Hecker, E. B. *J.A.M.A.*, 1929, xcii, 1582, *Med. Soc.*, State of Penn., 1915, Sept. 20th.
⁴⁶Mayou. *B.M.J.*, Nov. 28th, 1931, p. 975.
⁴⁷Hudson. *Lancet*, April 4th, 1925, p. 717.
⁴⁸Iles, A. E. *Lancet*, Aug. 6th, 1927, p. 291.
⁴⁹Weiss. *Jour. Med. Soc.*, New Jersey, May, 1927, p. 290.
⁵⁰Stephenson. *Practitioner*, Vol. 93, Sept., 1914, p. 387.
⁵¹Wolffberg. *Woch. f. Ther. u. Hyg. des Auges*, 1906, No. 24.
⁵²Schoeler. *Munch. Med. Woch.*, 1911, p. 1139.
⁵³Lindsay Rea. *Procs. Roy. Soc. of Med.*, Sect. of Ophth., Vol. 25, Feb., 1932.
⁵⁴Lawson. *Procs. Roy. Soc. of Med.*, Sect. of Ophth., Vol. 25, Feb., 1932.
⁵⁵Mayou. *B.M.J.*, Nov. 28th, 1931, p. 975.
⁵⁶Mann, F. *B.M.J.*, May 17th, 1931, p. 1080.

- ⁵⁷Browning, S. H. *Procs. Roy. Soc. of Med.*, Vol. xii, No. 8, June, 1920.
⁵⁸Macnicol, M. *Edin. Med. Jour.*, Sept., 1914, p. 388.
⁵⁹Stephenson. *Pract.*, Vol. 92, Sept., 1914, p. 388.
⁶⁰Nicolle. *Gaz. des Hopitaux*, Oct. 21st, 1913.
⁶¹Ceunod and Penet. *Annal d'Occultistique*, Feb., 1914.
⁶²Offret. *Annal d'Occultistique*, Feb., 1914.
⁶³Browning, S. H. *Procs. Roy. Soc. of Med.*, Vol. xii, No. 8, June, 1920.
⁶⁴Mayou. *B.M.J.*, Nov. 28th, 1931, p. 973.
⁶⁵Hudson. *Lancet*, April 4th, 1925, p. 77.
⁶⁶Cowan, Alfred. *Arch. Ophth.*, Chicago, 1930, 11, 325.
⁶⁷Mainzer, F. S. *Med. Jour. & Rec.*, Oct. 21st, 1931, p. 371.
⁶⁸Pillat. *Mitt. d. Volksgesundh.-annt.*, Vienna, 1929, July 7th, p. 207.
⁶⁹Ebert, E. C. *United States Nav. Med. Bull.*, Washington, 1928, xxvi, 99.
⁷⁰Mussbaum. *Med. Klin.*, Berlin and Wein, 1918, No. 23.
⁷¹Mehl. *Medical Record*, April 15th, 1922.
⁷²Haan. *Nederl Tijdschr. v. Geneesk.*, Sept. 17th, 1921.
⁷³Shorney. *Med. Jour.*, Australia, Feb. 13th, 1926, p. 177.
⁷⁴Walker, A. Nimmo. *Lancet*, May 2nd, 1928, p. 1268.
⁷⁵Benedict, W. R. *Procs. of Annual Conf. of Nat. Soc. for the Prev. of Blindness*, Chicago, Oct. 13-15, 1927.
⁷⁶Eales, W. R. Fulford. *Birmingham Med. Review*, Vol. iv, June, 1929.
⁷⁷Bywater. *B.M.J.*, Aug. 1st, 1931, p. 211.
⁷⁸Mayou. *B.M.J.*, Nov. 28th, 1931, p. 973.

THE Medical Centre at British Industries House, Marble Arch, London, to be officially opened on July 19th, 1934, will display in full detail the lay-out and complete equipment of a modern operating theatre suite and hospital ward on 12,000 square feet of the ground floor. The unit will be kept up-to-date, and will be available at all times to those interested in the equipment and maintenance of hospitals and institutions at home and abroad.

THE Empire Municipal Directory and Year Book, 1934-35, is so well established as scarcely to need further recommendation. The present is the fifty-second 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 13s., post free in the United Kingdom) may be obtained from the Sanitary Publishing Co., Ltd., 8, Breems Buildings, London, E.C.4.

Ut Ita Dicam.

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

National Baby Week.

National Baby Week falls to be "celebrated" during the period July 1st to 7th. As usual, and as one of the ways in which support may be given to the objects of the week and there may be in some sort participation in its activities, the papers for publication in the July issue of the journal have been specially selected because of the bearing they have upon the problems with which the organisers of Baby Week are concerned. That medical officers of health and their Society should be supporters of this movement, and that any other, voluntary or official, which aims at securing the "welfare" of the young, and indirectly also of the mothers of the children, must have claims to all the help that can be afforded to their efforts, is obvious. Year by year ever since the inauguration of the practice of devoting a week to this matter, medical officers of health throughout the country have more and more closely identified themselves with it: have given thought to it, devising and perfecting methods of propaganda and display for use in connection with it, in order to ensure greater success for it and its objects. So far as regards the Society of Medical Officers of Health, the Group concerned with maternity and child welfare, in particular, has identified itself with the work of the National Baby Week Council, assisting it as well as making use of the occasion of National Baby Week for activities of their own and of the Council for the help they can give in widening the field of their influence amongst the people. The National Baby Week Council, indeed, claims to be in some degree a connecting link between official effort, such as that in which the bulk of the members of the Maternity and Child Welfare Group are engaged, and the people on whose behalf this effort is made, and that claim is justified. The theme for National Baby Week this year is "The Making of an A1 Nation," and as this is the operation in which the health service as a whole is engaged, there should be on this occasion a wider interest even than usual taken by the Society in what is being done. It is not unreasonable to suppose that, at the National Conference on Maternity and Child Welfare to be held in Birmingham on the Tuesday, Wednesday and Thursday of the "Week," representatives of the Society will

be present in large numbers and prominent. Judging from the programme to be submitted on these days, the time of any who attend will not be wasted. The conference, indeed, is designed for success, and it is hoped that it will be successful, and National Baby Week as a whole no less so.

The President of N.A.L.G.O.

Though the public health service made rather a poor showing in the birthday honours list, it is pleasant to find that even in his own country the medical officer of health is not without honour. There is, for example, Dr. Allan Wotherspoon of Stoke-on-Trent. The honour that has come to him—Presidency of the National Association of Local Government Officers, no less—is one that in all probability 99 per cent. of medical officers of health did not conceive it possible would ever be conferred upon one of their colleagues. This more particularly as the view of the Association generally would appear to be that, compared with the borough treasurer, the medical officer of health is very small beer indeed. Though it is not inconceivable that the selection of Dr. Wotherspoon is to be regarded as mainly a personal triumph, there is no reason why there should not be read into it a desire on the part of N.A.L.G.O. to honour officers of the grade of medical officer of health. For that reason, in addition to offering most sincere congratulations to Dr. Wotherspoon, it may not be improper for medical officers of health to congratulate themselves also. That they may congratulate themselves that Dr. Wotherspoon is the medical officer of health to be chosen is certain. His record so far as N.A.L.G.O. is concerned is excellent, and that he has a vast amount of experience of the working of the organisation, and is strong and influential in its counsels, cannot be doubted. In the interests of the public health service in all its branches there is need of someone able to speak and to speak effectively. Quite too often there has been necessity for taking note of statements and actions that suggest an overlooking, at least, of the claims of officers engaged on the public health side of local government. In the appointment of Dr. Wotherspoon there may be an indication of a desire to afford fuller

recognition to members of this non-clerical service. In any case, there is no reason why such a hope should not be entertained, or why it should not be taken as certain that if effort is required to secure such recognition, Dr. Wotherspoon, as the holder of an important position in the public health service, will see that it is made.

Barlow of Wallasey.

Another recognition that has come to a medical officer of health of a different and, perhaps, even more pleasant kind than that referred to in relation to Dr. Wotherspoon, is that made to Dr. T. W. Naylor Barlow, O.B.E., late of Wallasey. That the occasion seized for making recognition was the retirement of Dr. Barlow from the post of Medical Officer of Health of Wallasey is the only circumstance not entirely free from sadness associated with it. Otherwise there is in it nothing but what betokens and that must give the extremest delight to the recipient. Dr. Barlow for a long series of years had been Medical Officer of Health for Wallasey, and none who know him require to be told that during the whole period he showed himself in his own department a competent administrator, kindly to and considerate of the staff connected with it and him, and to others of every rank an ideal colleague. Keen to serve the interests of the authority and of the community to which he was attached, Dr. Barlow throughout his whole career showed himself no less keen to help his colleagues in the health service and that service as a whole. Evidence of recognition of his worth in all these relations has been shown in the desire of the various groups of individuals to present to him some token of esteem and regard. At his retirement, Dr. Barlow was the recipient of a remarkable number of presentations: the staff of the Wallasey health department, for example, tendered valuable gifts, as did also the Wallasey Branch of the National Association of Local Government Officers, and the North-Western Branch of the Society of Medical Officers of Health. Of this Branch, Dr. Barlow, while taking a prominent and active part in the affairs of the parent Society, has always been a keen and devoted adherent, and much as he will value the thought behind the presentations now made, almost more it is probable will he value the feeling that prompted the Branch to invite his acceptance of the Presidency in his last year of office as Medical Officer of Health. That

there is further recognition to come to Dr. Barlow from the Society as a whole, for the work he has done for the service generally, is known. On that occasion opportunity will be taken to show him honour and to make expression of the high regard in which he is held. Also there will be repeated the many expressions he must have heard of late, of the sincere hope that, while his retirement may bring him a greater degree of rest and relaxation than he has had the chance of enjoying while in office, it may not involve too complete a detachment from his colleagues and the Society and their and its interests and concerns.

THE Secretary to the Ministry of Health, Sir Arthur Robinson, G.C.B., C.B.E., has appointed Miss E. A. Sharp to be his Private Secretary.

DR. E. W. CARYL THOMAS, Medical Officer of Health for Dagenham, has been appointed first Medical Officer of Health for the reconstituted Harrow Urban District.

DR. WILLIAM H. BEST has been appointed Deputy Commissioner of Health of New York City. He has been associated with the Health Department for eighteen years.

DR. WADE HAMPTON FROST is retiring next month from the office of Dean of Johns Hopkins School of Hygiene and Public Health, Baltimore. Dr. Allen Weir Freeman, Professor of Public Health Administration at the School since 1923, has been named to succeed him.

THE Royal Sanitary Institute, London, has decided to offer for award annually a challenge shield for the best celebration of Health Week in the Empire, outside the British Isles. In view of the great interest which was taken by the late Professor Bostock Hill in the Health Week movement from the date of its inception, the challenge shield will be known as the "Bostock Hill Memorial." Professor Bostock Hill was for many years Chairman of the Empire Health Week Committee of the Royal Sanitary Institute. The date fixed for Health Week this year is the week October 7th to 13th, and overseas centres wishing to enter the competition for this Shield must submit full programmes and reports of any celebration held, by December 31st, 1934.

Maternal Morbidity.

By GLADYS HILL, M.A., M.D., B.S., Medical Officer, Ante-Natal Clinics, Shoreditch.

The Maternity and Child Welfare Group, which selected the subject for the symposium for the ordinary meeting of the Society held in London on March 23rd, 1934, did well to choose "Maternal Morbidity" for discussion. That this choice was happy as well as appropriate, the opening paper by Dr. Gladys Hill, which follows, makes entirely clear.

IN endeavouring to present, for discussion, the problem of maternal morbidity, I cannot improve upon the definition given by Professor Munro Kerr in his recent important study of the question of maternal morbidity and mortality. He defines maternal morbidity as the temporary or permanent injury which the individual sustains as the result of pregnancy or labour or both.

Immediately we are faced with the difficulty of assessing the extent of the damage and the magnitude of the price paid for reproduction. For any given individual this can only be fully appreciated at the end of the reproductive period. As regards the number of patients who suffer from temporary or permanent injury per confinement, we have no exact figures. Nor shall we have any such figures until (i) a careful post-natal examination is made of every patient after every confinement; (ii) accurate records are kept; and (iii) patients are educated to feel that a post-natal examination is just as much part of the care that they should have and expect to have in their pregnancy as adequate attention at the time of delivery.

It is a common experience to notice in the routine gynaecological work of a hospital, for instance, in how high a proportion of the patients attending, the trouble for which they come originates in, or is exaggerated by, pregnancy; and this, of course, is not the whole story. Take the other departments of a hospital, or the feminine section of a general practice, and consider what proportion of parous women need medical care for lesions attributable to, or intensified by, pregnancy or labour.

It has been estimated that among gynaecological cases only, at least 30 per cent. of such cases have lesions where a direct connection with pregnancy is obvious; while Miller in 1929 reported a follow-up of 2,000 women in the Edinburgh post-natal clinic among whom the condition was unsatisfactory in 30 per cent. Moreover, I am, perhaps pessimistically inclined to regard these numbers as an understatement,

rather than an overstatement, for from experience I find that there are a deplorably large number of women who do not expect to feel as well after childbirth as they did before, and who, therefore, would be inclined to regard minor disabilities as the natural lot of the parous woman, and so not seek the relief which they might obtain.

In discussing this problem, how far can we correlate it with the puerperium? "A morbid puerperium" has, I think, come to mean one in which there has been pyrexia, whether reaching the notification standard or not, during the lying-in period. This is in no way commensurable with maternal morbidity; the morbid puerperium, so-called, accounts for but a fraction of the whole.

To begin with, there are a considerable number of cases where there is some degree of pyrexia which may never reach or exceed on any occasion 100° F., and which, therefore, are not notifiable, yet in which there is definite morbidity present. I am referring to conditions such as minor degrees of localised uterine infection, or sepsis arising in perineal lacerations where the temperature runs around 99° F. Clearly the notifications of puerperal pyrexia are not going to cover the ground. Also there are many puerperia which are absolutely afebrile, where the patient has sustained lacerations of the reproductive tract, for instance, or relaxation of the sacro-iliac joints, which are leaving her damaged to some degree, and in this sense, no form of notification based on the temperature chart will enable us to estimate maternal morbidity justly. Any condition which prolongs the lying-in period, even if eventually complete cure be effected, is a factor in the maternal morbidity in that it involves days or weeks of wastage of maternal health; a loss of time, not only to the patient herself, but to the community.

The question also arises—what is the puerperium? One is apt to regard it as that period approximately, and on an average three weeks, during which the mother is directly under the

care of her doctor or midwife; but strictly speaking it covers the whole time during which involution of the reproductive organs is occurring, which is approximately 10 to 12 weeks.

To-day I am going to ask you to take the still larger view, and to consider the question from the standpoint, not of the puerperium only, but of the future life of the patient.

For our purpose, I should like to consider in the first place, those women who, prior to pregnancy, were in sound health; we must then think of the effect of pregnancy and parturition on women who were the subject of pre-existing disease.

In the first group the three main causes of maternal morbidity are trauma, infection, and toxæmia.

Probably puerperal insanity should be included here. It forms a very definite group of cases though, happily, comparatively a small one. Where there is no history of pre-existing mental instability and no familial tendency to insanity, it frequently appears to bear some relationship to either toxæmia or infection or both. The incidence is about one in every 1,100 births, and of these only 40 per cent. to 50 per cent. recover completely. Even in the cases that recover the question of a subsequent pregnancy is a very serious one which must be faced if the maternal morbidity from this cause is to be lowered.

Of the traumatic lesions, I would ask you to remember not only the cases of actual laceration of the reproductive tract, but also gross overstretching of the parts—abdomen, vagina, perineum; relaxation of the pelvic joints; and displacement of the pelvic organs. These are all possible causes of persistent disability, and though in many cases, particularly with regard to stretching of the vagina and perineum, are inevitable, yet they are all too infrequently considered worthy of attention. This is partly due, I feel, to the opprobrium which in student and house surgeon days was attached to the "tear," so that, having successfully delivered the patient without a laceration, one was so busy congratulating oneself, that the possibility that the patient might have sustained a more subtle but more serious lesion than a well-repaired perineum was overlooked.

The morbidity of the grosser forms of infection is, of course, obvious. Infection is the most glaring cause of the "morbid puerperium," yet just because its obviousness calls for prompt and adequate treatment, many of these patients are not ultimately sufferers from morbidity; that

is to say, they fall into the temporary and not the permanent group. Please do not misunderstand me. I am not underestimating the gravity of infection in the puerperium or its sequelæ, but its very gravity and its urgency compel attention, and so safeguard the patient from that insidious form of neglect which springs from an incomplete grasp of the largeness of the problem. And here again in the long run, the wearisomeness of a chronic cervicitis with erosion, backache and persistent leucorrhœa, may prove more of a drain on the health of the patient than a more severe illness from which recovery is complete and where no chronicity develops. Most of us would probably choose, if we could, the acute rather than the chronic illness.

Among the infective lesions I would also place pyelitis of pregnancy. This disease is a common complication of pregnancy, and I feel convinced that a considerable number of women who get a urinary infection in pregnancy become the subjects of chronic pyelitis. This fact was commented on to me recently in conversation with a colleague who was investigating a number of cases of albuminuria from the point of view of the physician. Of the cases under review, chronic pyelitis dating from pregnancy was responsible for an apparently surprisingly large proportion.

In the third place the toxæmias, particularly albuminuria. In 1929, Gibbard pointed out that as a result of toxic albuminuria of pregnancy, 10 per cent. of cases develop frank chronic nephritis; while a further 50 per cent. recover their kidney function only in so far as to be free from the disease in the intervals between pregnancies. In other words, the kidneys no longer pass that most delicate test of kidney function—pregnancy.

A somewhat different aspect of the problem is presented by those women who are already the subjects of some pre-existing disease. Can a woman with cardiac lesions, with tuberculosis, with diabetes pass through pregnancy and parturition and emerge none the worse? As for tuberculosis, the answer is almost certainly "No." In some of the other cases, given every facility for treatment, the answer is "Yes"; but a certain percentage have their lesions aggravated.

The figure given in 1931 for St. Mary's Hospital, Manchester, for cases of heart disease would indicate that 4 per cent. of such cases have their lesions exaggerated.

When we come to chronic nephritis, the

position is much more serious. Pregnancy here is almost in the nature of a catastrophe. With the utmost care, the result is always an increase in the extent of the maternal disability, coupled with an infant often premature, and frequently macerated. In this group, with our present knowledge, we cannot escape maternal morbidity, and can only urge the avoidance of pregnancy.

As regards treatment, I cannot speak now. I should be involved in a discussion of undue length, but I would urge that attention should be paid, not only to the more obvious, but also to the less obvious forms of morbidity, so that the damage should at least be temporary and not permanent, and that we should increasingly pursue, even in apparently trivial detail, the ideal of the mother who is as good a life from the health point of view after parturition as before.

With the question of prevention this Society is probably more nearly concerned, and at the risk of becoming tedious I should like to indicate what seem to me to be the main lines of attack. First, adequate ante-natal examination, with a just appreciation of those conditions which are adversely affected by pregnancy; and here I would stress certain points. In my personal experience many ante-natal examinations are carried out (i) without the blood pressure being taken (a most valuable indication of the possibility of toxæmia even before albuminuria appears); (ii) without the urine being tested for sugar, and so an incipient diabetes being missed; (iii) without an internal examination to exclude contraction of the outlet; and (iv) without the insistence of the removal of septic foci, especially the teeth (this, I am sure, is often for fear of losing the patient).

Secondly, adequate follow-up arrangements in ante-natal clinics, so that the patients shall not be able to attend once to secure for themselves the attention in delivery that they desire, and then neglect themselves.

Thirdly, a careful and adequate post-natal examination.

Fourthly, the education of all workers concerned—doctors, midwives and health visitors—in the conduct of pregnancy, labour and the puerperium.

Fifthly, adequate arrangements for delivery.

Sixthly, the education and not the frightening of the patient.

With regard to the patients with organic lesions, we must approach the subject of the induction of abortion with judgment and a due sense of the gravity of the step; yet with the

courage to advise it in instances of serious and definite maternal risk when we meet the case sufficiently early to make it a possible line of treatment.

Moreover, in conjunction with post-natal work, I feel we should be prepared to give advice on contraceptive measures when the health of the mother indicates their use, either for a limited period or if any further pregnancy is undesirable.

You will think that I have laid the greater stress on the more chronic and more insidious forms of maternal morbidity. I have done so because while we cannot entirely eliminate this morbidity, we could effect a definite reduction by a just appreciation of the importance of these aspects as well as of the more spectacular ones whose less subtle beginnings demand attention.

Not a very high number of women have an abnormal pregnancy, labour or puerperium, yet we find the figure for maternal morbidity round about 30 per cent. of cases per confinement if we accept the Edinburgh figures. Does it not follow that much ultimate maternal morbidity has its beginnings in the more insidious though unostentatious lesions?

REFERENCES.

- Professor Munro Kerr. *Maternal Mortality and Morbidity*.
Miller, Douglas. *B.M.J.*, April 20th, 1929.
Gibbard, G. F. *B.M.J.*, April 13th, 1929.
Crighton Bramwell. *Lancet*, January 31st, 1931.

DISCUSSION.

Dr. B. Marion Cockerell referred particularly to the points raised by the opener in regard to conditions affecting the teeth, and suggested that if extraction were allowed to stand over until towards the end of pregnancy, septic foci might be stirred up and the patient left in a worse position than before.

Dr. Agnes H. Nicoll said that after having observed, over many years, that slight glycosuria seemed to occur fairly commonly in pregnancy without appearing to affect the mother's health in any way, she inclined to the conclusion that it was not important. One factor in morbidity, in regard to which public health schemes might be held to be at fault, was that the mothers were not well enough looked after in a general way, apart from medical supervision. In most cases no provision was made for adequate rest or convalescence. It was admittedly difficult to place a mother with a baby; it was also very difficult to get her to go for convalescence because of the children at home who had to be cared for.

Dr. Maitland Radford held that if women thought that they were not going to be well after confinement, they created a fundamental psychological difficulty because acceptance of ill-health prevented them demanding ante-natal and post-natal advice.

Dr. Stella Churchill referred to the great amount of prolapse encountered, and protested against the length of time that ordinary confinement cases were kept in bed. In Vienna and Sweden, for example, routine cases got up for a few hours on the fourth or fifth day. It might even be wondered if weakness after childbirth was not due to prolonged stay in bed. The question of diet in the early months of pregnancy was of paramount importance. Another point that needed stressing was that many women felt at their best during the period of pregnancy.

Dr. E. H. T. Nash expressed gratification that the discussion was concerned with maternal morbidity, and not only with maternal mortality, which received practically all press publicity. There had been a large increase in post-natal examinations in his area; and in regard to dental sepsis, arrangements had been made for pregnant women to have complete extraction in hospital and to stay there several nights if necessary. In making provision for convalescence after childbirth, he had been grateful to Carnegie House for providing information as to where to send women.

Major-General P. H. Henderson, D.S.O., A.M.S., noted that in the Army close touch was maintained with from 80 to 90 per cent. of the soldiers' wives, whose medical histories were also known. Referring to pamphlets received from firms advertising new contraceptives claimed to be 100 per cent. effective, he held that there should be definite prohibition of such statements guaranteeing success.

Dr. Alexander Joe, D.S.C., Medical Superintendent of the North Western Hospital of the London County Council, where large numbers of cases of puerperal fever and puerperal pyrexia are received, agreed that there must be a large amount of sepsis of minor degree which did not come to the notice of the health department. Pyelitis was a most important factor in the production of puerperal pyrexia and puerperal fever, some 20 to 30 per cent. of the cases being due to that cause. Another large factor in puerperal infection was abortion. In his experience, something like 25 per cent. of the cases of puerperal sepsis were due to self-induced abortion, which was an outstanding cause of maternal morbidity. Ketogenic diet had been tried in the hospital for some time, but had been found definitely disappointing.

Dr. C. Isobel Wright held that the longer the time the woman remained in hospital following confinement the better. She endorsed strongly the remarks of Dr. Joe regarding morbidity after abortion, a subject closely concerned with contraception.

Dr. Marjorie Baek suggested that in the campaign against maternal morbidity the medical and nursing services should receive special attention. It was impossible to expect an untrained woman to be fitted in a year to take the full responsibility of conducting a woman through pregnancy and labour, and also for the ordinary medical student to be fitted to help that midwife. Morbidity and mortality rates would be lessened when better care could be provided. The mother herself was ready for it.

Dr. G. F. McCleary, in proposing a vote of thanks to Dr. Gladys Hill, said the question under discussion was one that had been very much neglected. A good deal of information with regard to the maternal mortality problem could be put before the public in a statistical form. Maternal morbidity, however, could not be dealt with in that way. Morbid conditions arising from childbirth embittered the lives of thousands of women, and it was imperative that more attention should be given to the subject. Reference had been made to the importance of the better training of medical practitioners and midwives. Equally important was the more judicious application of the knowledge already possessed. How far was interference responsible, not only for maternal mortality, but for maternal morbidity?

Dr. H. A. Bulman, in seconding, held that more morbidity was caused by criminal abortion than by anything else, and urged the need of something in the nature of control and legalisation of abortion. The adequate teaching of the medical student in obstetrics was also an essential factor in combating morbidity and mortality in maternity.

The President (Dr. Charles Porter), in conveying to Dr. Hill the thanks of the Society for her excellent paper, remarked that he had been greatly interested in what had been said in regard to morbidity, and in a recent lecture he had expressed the view that pregnancy appeared to be the most prominent disease of the moment in the slums. A fear he entertained was that a result of too much talk of the problems of maternal mortality and morbidity might be a tendency to convert discussion of the morbidities of maternity into one upon maternity as a morbidity. Dr. Joe and Dr. Bulman he considered were right in claiming that a great many of the troubles encountered were the sequels of abortion, and that, as Dr. Bulman had suggested, something should be done in the direction of recognising that there might be needs other than medical for interference with the process of gestation and, subject to special safeguards, for legalising abortion.

Dr. Gladys Hill, in reply, urged that women should be made to realise that health, and not ill-health, was their heritage after childbirth. Serious overwork and difficulties associated with housing and diet were aggravating factors but not causes of maternal morbidity. As regards glycosuria, she had treated cases by simple dietetic methods for a week or so if the patient was in good health, and in the vast majority of cases they had responded. The removal of grossly septic teeth late in pregnancy was not to be advocated, unless there was loss of sleep, because of the possibility of stirring up infection which might be harmful to the mother. The question of how long a patient should stay in bed would be governed by social and other circumstances. In her opinion the patient should, in normal cases, be kept in bed for a minimum of fourteen days, but should receive massage and carry out exercises in bed from the day after delivery. With regard to advertisements of contraceptives, a proposal (Lord Dawson's Bill) was before Parliament to make provision for dealing with the question. Ketogenic diet she had tried in cases of pyelitis, but with disappointing results.

Maternal Mortality in Liverpool.

By R. E. BELL, M.B., CH.B., M.R.C.S.(ENG.), L.R.C.P.(LOND.), D.P.H., Assistant Medical Officer of Health (Maternity and Child Welfare), Liverpool.

In this paper Dr. Bell sets out the actual particulars of the deaths investigated at the instigation of the Maternal Mortality Committee during the five years 1929 to 1933 inclusive. Although she draws no conclusions other than those which are obvious from the figures and particulars themselves, she provides a mass of most valuable information, and treats it in a way that cannot fail to prove as interesting to readers as it did to those who attended the meeting of the North-Western Branch at which it was submitted.

MEDICAL journals repeatedly call attention to the stationary condition of the maternal mortality rate in this country, and compare it unfavourably with that in continental countries, and the lay press have given to maternal mortality a publicity greater than that accorded to any other medical subject in recent years.

A study of the decennium 1855-1864 shows that the total maternal mortality rate, calculated on live births, averaged, during these years 4.7 for England and Wales and 4.9 for Scotland, with a puerperal sepsis rate of 1.6 for England and Wales and 1.7 for Scotland. The period 1925-1930 showed, for England and Wales, a total maternal mortality rate of 4.2, with a puerperal sepsis rate of 1.7, and, for Scotland during the same period, a total rate of 6.6, with a puerperal sepsis rate of 2.0.

It is not surprising when one reviews returns such as these, that maternal death-rates are a cause of grave alarm in this country, both on compassionate and utilitarian grounds.

In 1931, Sir George Newman, in his Annual Report for 1930, stated: "Since the beginning of the present century, the general death-rate has been reduced by one-third, the tuberculosis death-rate by one-third, and the infant mortality by more than one-half. But the maternal death-rate has remained stationary."

In 1932, he stated, with reference to the 1931 data, that "there is a slight rise on last year's figures."

Some slight allowance may be made for the influence of more exact certification, a falling birth-rate, increase in abortions, and so on, but these factors cannot be used in explanation of the practically stationary rate.

If, for a moment, we review the improvement in public health services in the present century, we find that the English people, with special reference to the working-classes, are

being increasingly better fed, better clothed, better housed and better educated. Water supplies are wholesome, national sobriety has increased, the manifestations of rickets are milder and health insurances have been established. The principal Midwives Act and the Notification of Births Acts were followed by rapid development of facilities for antenatal care. Latterly, the provisions of the Local Government Act gave the public health departments (having already some years before officially entered the field of obstetrics) responsibility for the reorganisation of the transferred poor law hospitals. This responsibility involves the control of a large number of maternity beds, and opens up possibilities for improvement in the co-ordination of maternity and child welfare services.

Setting out the maternal mortality rates for Liverpool beside those for England and Wales, it is seen that maternal death-rates in Liverpool, although they compare favourably with those for England and Wales, persist at an unsatisfactory level, and this in spite of all the facilities which have been organised and developed in recent years.

In Liverpool, the average total rate between January, 1929, and the end of 1933 was 3.22, and the average puerperal sepsis rate was 1.32. In comparison, the average for the same years for England and Wales was: total rate 4.97, and puerperal sepsis rate 2.03.

In accordance with the Ministry's instructions, careful enquiries have been made into all cases of maternal death since 1928 and, thanks to the kind and courteous assistance of doctors, midwives and others, a fair amount of information has been collected. Although the period is short and the numbers relatively small for statistical purposes, the findings are comparable with those of the Maternal Mortality Committee as published in their reports.

During the five-year period 1929-1933,

there were 457 maternal deaths in Liverpool. These have been tabulated according to the classification used by the Maternal Mortality Committee in their report on 4,655 deaths in England and Wales investigated during the period of their special enquiry, i.e., class I, deaths directly due to childbirth, and class II, deaths due to concurrent diseases. In comparing the percentages of deaths due to any one cause between those occurring in Liverpool and those under the Special Committee's review, the most marked differences in class I are under the heading of toxæmia (not eclampsia) and hæmorrhage. Deaths from non-eclamptic toxæmia in Liverpool gave a percentage of 9.28, whereas the percentage under the same cause in the Maternal Mortality Committee's cases was 6.0. The total deaths from hæmorrhage amounted to 24.6 per cent. in Liverpool against 14.3 per cent. in the Maternal Mortality Committee's cases. The marked difference in these groups may be due to the relatively small total number of cases in Liverpool available for analysis.

In class II, deaths due to concurrent diseases numbered 145. The Maternal Mortality Committee's figures are higher for cardiac disease, 24.7 per cent. against 17.93 per cent., and very slightly higher for chronic renal disease, 10.1 per cent. in comparison with Liverpool's 9.65 per cent. Deaths from lung diseases, as might be expected, are less for England and Wales (39 per cent.) than for Liverpool (54 per cent.).

An analysis of the 117 puerperal sepsis deaths in Liverpool shows that there was "normal labour" in 30.1 per cent. of the cases, forceps delivery in 25.9 per cent., other abnormalities of labour, such as adherent placenta requiring manual removal and tears of the perineum, in 27 per cent., and a percentage of 16.3 after abortion.

"Normal" cases, amounting to 30 per cent., include the "B.B.A.'s," and all those confinements in which delivery was effected by the midwife without medical assistance. It is unlikely that in such so-called "normal" cases, there was no injury to the soft tissues.

Professor Blair Bell has estimated, and other gynaecologists of standing agree with him, that some 60,000 women are disabled annually as a result of childbirth. That figure represents about 10 per cent. of the total births.

It may, therefore, be reasonably concluded that cervical tears and injuries to the vaginal

vault frequently occur for which no one looks and which, in the absence of immediate symptoms or signs, are unrecognised at the time of delivery. Add to these injuries the predisposing factors of low resistance, the risk of exposure to droplet infection from visiting neighbours and friends in a small and overcrowded room, and it is not so surprising that puerperal sepsis results. Forceps deliveries will be referred to presently. Other abnormalities include suture of the perineum and adherent placenta, chiefly. Abortions account for 7.4 per cent. of the total deaths.

Examination of the blood was not carried out in all cases, at first due to shortage of staff and, in certain instances, because many of the patients were practically moribund on admission to hospital. In the bacteriological examination of 66 cases, hæmolytic streptococci were found in 31.8 per cent.; streptococci, not specified as hæmolytic, were found in 27.2 per cent. of the remaining cases; staphylococci and gas-forming organisms were demonstrated in 7.6 per cent. of the cases, whilst one-third of the total number of blood specimens examined were negative on culture.

The records of the 117 puerperal fever deaths were examined carefully for avoidable factors. It was found that in 79 cases the standard of living was poor. Roughly, 63 per cent. of all the women who died were wives of labourers, firemen, deckhands, or men in similar occupations. The large majority of the remainder of the deaths were among the wives of policemen, bus and car drivers, conductors, artisans, clerks on poor wages, and so on. In both categories, many were unemployed. Among the professional classes were the wives of one doctor, one solicitor, one curate, one schoolmaster and two or three others.

In 69 of these cases, ill-health was present at the time of confinement, due either to some chronic complaint, for example, asthma, bronchitis, rheumatism, or to an acute catarrhal condition or septic focus. Ante-natal care was unsatisfactory or absent in 33 per cent. of these cases and, in fact, in 62 per cent. of the total deaths. In many cases the patient herself is alleged to have refused advice or treatment till it was too late to be effective.

Fifteen cases of failed forceps scarcely tell the whole tragic story of misused forceps, for many, unfortunately, do not fail absolutely and delivery is effected with appalling mutilation.

A word in defence of the general practitioner might well be said here. Apart from those who demonstrate gross ignorance in the proper use of forceps, there are others whose judgment in emergency is apt to be clouded by other circumstances, for example, when time is limited, as in surgery hours, and when actual physical and mental fatigue are present, and also when the doctor knows that his prestige is at stake in the neighbourhood in which he earns his living, if he fails to give the patient immediate relief. To send the woman to hospital, particularly when such a course is not desired by her, is to admit defeat and lack of skill and, in the opinion of the "district," to cast a reflection on the midwife who has called him in.

Errors of judgment were found in 18 per cent., and most of these were connected with the premature application of forceps, often, unfortunately, coupled with a very poor standard of aseptic technique.

"B.B.A.'s" usually arrive in particularly unprepared surroundings and the risk of uncleanliness is added to the risk of trauma associated with precipitate labour.

In five cases of Cæsarean section, one patient had been subjected to an operation for sterilisation two years previously by crushing and tying both Fallopian tubes. She is said to have had a latent infection. In the others, there were ante-partum hæmorrhage or toxic symptoms.

Emotional disturbance may be worth mentioning as predisposing to puerperal sepsis, for in 8 cases there were tragic circumstances, which, in the absence of other recognisable factors, may have induced a state of lowered resistance.

Scottish figures and corresponding data for England and Wales indicate that there is a definite, though not marked, seasonal variation in the puerperal sepsis mortality rate and that, generally speaking, there is a winter and spring excess.

The result of the enquiry in Liverpool for the five years points to the fourth quarter as having the highest number of deaths, and the first and third quarters the lowest.

There is an extremely low puerperal sepsis rate and total death-rate in certain hospitals, especially for booked cases, but the greatest caution should be exercised in comparing the death-rates of institutions. The results obtained by large hospitals, which admit all and sundry emergencies, cannot be compared

with those of smaller institutions where cases are booked and emergencies rarely admitted.

Figures obtained from the returns of the Liverpool Maternity Hospital clearly emphasise this point. There the rate for 1,232 booked cases in 1929 was 0.56, and for 1,953 booked cases in 1933 it was 0.204. In 1929 the emergencies numbered 345, with a mortality rate of 3.18 per thousand births, and in 1933, 373 emergencies gave a rate of 2.95.

The Liverpool Corporation Maternity Home admits, almost exclusively, booked cases who have attended the ante-natal clinic at the Home. The results during 14 years for 2,249 cases show no puerperal sepsis and no maternal deaths. The number of forceps deliveries and other abnormalities during the years 1924 to 1933 inclusive amounted to 319 for 1,755 cases, or 18.1 per cent. complicated midwifery.

Owing to changes in administration in the transferred hospitals their figures are not strictly comparable and have, therefore, been omitted.

Out of the total 457 cases, there were 39 cases of eclampsia. Less than half had adequate supervision during pregnancy, and even in these cases accurate information regarding albumen in the pregnancy under review and in previous pregnancies, or of existing kidney lesions, has not been obtainable. In more than half of these cases there was no response to treatment and, in the remaining cases, treatment appears to have been instituted too late to be of any value in saving the patient's life.

In a careful scrutiny of all the cases under analysis, ante-natal supervision was satisfactory in only 38 per cent. In 35.45 per cent. there was no pre-natal care at all, and in the remaining 26.5 per cent. of the cases it can only be described as inadequate.

It is interesting to find that good general health was present in so small a number of cases as 17.7 per cent., and that the standard of living was comfortable in only 4.8 per cent. of the total number of families in which maternal death occurred.

The loss of infant life amounted to 4.3 per cent. Of these 12.5 per cent. were undelivered. The percentage of unmarried mothers was only 0.65 per cent. of the total.

Provision for the care of child-bearing women in Liverpool is comprehensive, yet the organisation of the various services is not

entirely satisfactory and is undergoing revision at the present time.

There are, in the city, about 440 hospital beds for maternity patients, including 300 in the municipal hospitals and 18 in the municipal maternity home. Liverpool is adequately supplied with beds and is able to accommodate cases living outside the city who may be sent in as emergencies or for special treatment. In addition, some of the general voluntary hospitals occasionally admit cases of operative midwifery.

For those who do not wish to be confined in hospital, there are 68 registered nursing homes with 282 beds and a service of midwives, about 200 of whom are in private practice.

A few midwives are employed on the extern staff of the Liverpool Maternity Hospital, and a small number by the Queen Victoria District Nursing Association.

The practice of the private midwives is rapidly decreasing, but the numbers attended by the Liverpool Maternity Hospital district nurses do not show much fluctuation. Last year, all the midwives together attended only 5.5 per cent. of the total births.

On the other hand, hospital confinements are increasing. This is particularly marked in the case of the transferred hospitals, where the numbers have increased from 2,477 in 1929 to 4,173 in 1933.

As hospital accommodation is so ample and the ambulance service so well organised, there is never any difficulty in obtaining a bed; consequently approximately 81 per cent. of the deaths have occurred in hospitals. This fact makes it extremely difficult to compare domiciliary and institutional midwifery, especially as midwives cases have been nursed at home for varying numbers of days.

The number of cases attended by individual midwives varies greatly. One nurse who is 84 years of age attended 21 cases last year. She is opposed to clinics and other modern developments in obstetric practice, but otherwise is a capable and clean midwife. Five nurses between 70 and 80 years of age attended from 3 to 43 cases each, and 34 nurses between 60 and 70 years attended 191 cases between them. One of the midwives, aged 66 years, attended 89 cases successfully.

As an example of the results obtained by midwives, ten of the more intelligent and competent private midwives (of whom only

one is a general trained nurse) with practices varying from 100 to 150 cases each per annum, have attended in the last five years 8,604 births, with 11 cases of puerperal sepsis (some of whom recovered) and a total maternal mortality rate of 2.5. These cases include emergencies and "B.B.A.'s." Three other midwives, with practices varying from 200 to 350 cases per annum and a total of 3,742 cases between them, in the same period had 12 cases of puerperal sepsis and a maternal mortality rate of 8.2 for all cases. These three midwives have their practices in districts similar to those of the ten just mentioned, but they are women of definitely inferior mental capacity.

A large number of midwives are, with difficulty, able to make a livelihood and some have to support husbands, families and even grandchildren, and cannot, therefore, afford gloves and other desirable incidentals of equipment.

It is not surprising perhaps, especially as, strictly speaking, a "midwife service" in this country dates only from the beginning of the present century, that conditions of midwifery are not all that might be desired. On the other hand, it is surprising that so much has been accomplished by the midwives in so short a space of time.

In regard to the different wards of the city, with the exception of Exchange, Everton and Kirkdale wards, they are so mixed that it is impossible to divide them into "residential" and "working-class" for the purposes of comparing the rates of mortality.

Ante-natal clinics are under both voluntary and municipal control. As the voluntary clinics are financed by the corporation they are closely related, in administration, to the maternity and child welfare department, and a friendly co-operation obtains between the members of each staff.

There are 40 weekly sessions, including those held in voluntary and municipal hospitals. The clinics held in hospital premises are more in the nature of consultant clinics.

The medical staff at the clinics is comprised mainly of junior consultants or women practitioners with special experience in maternity work. All are on a part-time basis.

In the municipal "district" clinics, health visitors (and, in some cases, pupil midwives) attend, and at the voluntary hospital "district" clinics, trained sisters, nurses and pupil midwives assist the doctors.

An attempt is made to give talks to mothers and arrange knitting and sewing classes, but at present the staff is inadequate to develop this important side of the work to any great extent.

The attendances per session vary, as attendances tend to do at ante-natal clinics. Frequently, the numbers at the "district" clinics reach the forties, while at the hospital clinics, it is not unusual to have attendances approaching 100. Needless to say, these clinics last far beyond the customary two hours.

Last year, the new attendances, numbering 13,559, represented 74 per cent. of the total births in Liverpool. This figure was arrived at after deducting attendances made at more than one clinic by the same patient and those patients who, although attending Liverpool clinics, lived over the boundary. Unfortunately, many women make such perfunctory attendances that adequate supervision for them is not practicable.

On admission a printed slip is given to each mother explaining briefly the purposes of the clinic and referring to certain symptoms and signs on the occurrence of which she should seek medical aid at once.

A blue indicator is attached to the case card of all primigravidae, and a red indicator to the card of any patient who is found to be abnormal and to require special attention.

The midwives are encouraged to attend the clinics with their patients; if they are unable to attend, a note is sent from the doctor, if necessary, to acquaint them of the patient's condition.

Notes in duplicate form are also in use for reference to a doctor or hospital, and for the purpose of requesting advice from a consultant at a hospital clinic. On the latter, a space is left for the consultant's reply in order to minimise the clerical work.

In the case of clinic absentees, a note is sent to the midwife, if she has been engaged; if not to the medical officer of health, who arranges for a health visitor to call at the home. This is felt to be more effective than sending an official note to the patient.

Dental treatment is provided at four of the largest centres, and is organised to serve all clinics.

The services of a consultant, at the request of a general practitioner, are available, and also the provision of home nursing by Queen's nurses, the usual laboratory facilities, X-ray

examination and ultra-violet irradiation.

Drugs, medicines and treatment, except of the simplest character, are not provided, but those requiring it may have milk at special rates or free, and extra nourishment, when required, is provided in certain cases by the public assistance committee.

A voluntary society of ladies organises home helps and provides maternity bags and baby's bundles. This society is subsidised by the public health department.

Although efforts are made to secure co-operation between the various agencies and persons concerned in maternal welfare, the appreciation of the facilities for ante-natal care and advice and their importance is, as yet, sadly lacking among many of the women in the poorer parts of the city.

Dr. CHARLES E. GODDARD, O.B.E., who has been the part-time Medical Officer of Health of the Wembley district since 1895, has been appointed as whole-time Medical Officer for the enlarged area.

Dr. ETHEL MARGARET TIMON, at present employed as an Assistant Medical Officer (part-time yearly engagement) in the public health department of the London County Council, has been appointed an Assistant Medical Officer on the central medical staff of that department, at the commencing salary of £600 a year, rising by annual increments of £25 to £750 a year.

THE Ninth International Congress of Dermatology and Syphilology will be held at Budapest, under the Presidency of Professor Louis Nekam, from September 15th to 21st, 1935. Dr. A. M. H. Gray, of 69, Harley Street, London, W.1, the national secretary for this country, will be glad to receive short papers before the end of 1934, or at the latest by the end of January, 1935.

THE Twentieth International Congress on Alcoholism will be held at the Imperial Institute, South Kensington, from July 30th to August 3rd, 1934, under the Presidency of Lord Astor. The aim of the Congress is to secure a comprehensive world picture of the present position concerning alcoholism in its various ramifications in social life. Further information can be obtained from the convener, Dr. C. C. Weeks, 33, Bedford Place, London, W.C.2.

The Society.

Reports; Proceedings and Announcements.

NOTICES.

ANNUAL SUBSCRIPTIONS.

A number of members have not yet forwarded the annual subscription due on October 1st, 1933. 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.

By kind invitation of Dr. Gerald Slot, a meeting of the Group will be held at his house, 81, Addison Road, Holland Park, London, W.14, on Thursday, July 19th, 1934, at 5.15 p.m. Dr. Slot will give an address on "Absenteeism in Defective School Children." Those intending to be present are asked to notify the Group Hon. Secretary (Dr. Louisa C. Adam, 28, Leinster Square, London, W.2) in advance.

THE METROPOLITAN BRANCH.

President: Dr. James Fenton, M.O.H., Kensington.
Hon. Secretary: Dr. Vynne Borland, M.O.H., Bethnal Green.

The annual meetings of the Metropolitan Council and Branch took place at the house of the Society on June 1st, 1934.

The Branch approved the annual report submitted by the Council, and the accounts submitted by the Honorary Treasurer.

The following officers were elected for the ensuing year:—

President—Dr. H. W. Barnes.

Vice-Presidents—Drs. A. F. Cameron and J. Fenton.

Honorary Treasurer—Dr. J. Macmillan.

Honorary Secretary—Dr. V. Borland.

Honorary Secretary, Special Purposes Committee—Dr. A. G. G. Thompson.

The remaining members of the present Branch Council were re-elected *en bloc*.

Drs. Fenton, Borland and Thompson were elected as representatives of the Branch on the Council of the Society, while Drs. Barnes and Trotter were elected as representatives on the London Panel Committee.

At the conclusion of the business, Dr. C. I. B. Voge read an interesting paper on "The Rubber Shop."

THE NORTH-WESTERN BRANCH.

President: Dr. Henry Whitehead, M.O.H., Wigan.
Hon. Secretary: Dr. J. E. Spence, M.O.H., Eccles.

An ordinary meeting of this Branch was held at Monsall Hospital, Manchester, on May 11th, 1934, the President occupying the chair. Twenty-three members were present.

Dr. G. W. N. Joseph referred to the great loss the profession had sustained by the death of Dr. Meredith Young, late Medical Officer of Health for Cheshire, and the Hon. Secretary was requested to convey to Mrs. Meredith Young and her family the deep regret and profound sympathy of the members.

Dr. D. Sage Sutherland (Medical Superintendent of Monsall Hospital) read a paper on "Cross-Infection." He said that a great advance in the control of infection had been achieved by active and passive immunisation, and the efficiency of those methods could be well tested in hospitals. During the past year they had admitted 4,291 cases, the maximum number of patients in hospital being 480 in December. There had been a large number of concurrent infections, with a great risk of cross-infection. All patients admitted to the diphtheria ward were Schick and Dick tested in the receiving room so that the susceptible cases could be recognised on the following morning and immunised at once. In Dick positive cases, 5 to 10 c.c. of anti-scarlet serum was given, but cases of scarlet fever sometimes occurred, after fourteen days, as the passive immunity was short lived. For measles, convalescent adult measles serum was given and outbreaks were promptly checked. As all cases were confined to bed and nursed on bed isolation principles, secondary cases of chicken-pox did not occur. In the scarlet fever ward all Schick reactors were immunised at once with toxoid antitoxin, with the result that they were almost free from clinical diphtheria, although a few cases of K.L.B. rhinitis occurred. All patients were also

swabbed on admission, and cases of catarrh or rhinorrhoea were swabbed again later. Dr. Sutherland said that the more one saw of infectious disease the less one believed in air-borne infection. Direct contact was the cause of spread, and the more the system of nursing was perfected, the less was the chance of cross-infection. Among children, infection could be controlled by removing the first case and immunising the remainder. It was essential in hospital to have adequate isolation accommodation for all cases; the wards must not be overcrowded beyond their normal establishment, and there should be twelve feet of wall space for each bed. With the increasing use of serum it was necessary for the ambulance nurses to obtain a complete history of the cases, and to inquire particularly into the possibility of the previous administration of the horse serum. The receiving-rooms should be large and completely equipped. The advantage of stained smears from doubtful throats was emphasised as a rapid means of detecting the Klebs-Loeffler bacillus.

Dr. F. N. Marshall (Senior Medical Officer, Monsall Hospital) followed with a paper on "The Practical Methods of dealing with Serum Sensitisation." He said that it was just as easy to exaggerate as to minimise the dangers of horse serum. The risk of death was small—about 3 in 50,000 to 100,000 persons. Reaction might vary from slight or severe urticaria to acute oedema, cyanosis and death almost immediately. The risk was greatest where there was a history of allergic conditions such as asthma, migraine, urticaria, hay fever, etc. In patients who had had serum previously, the risk of death was small. Man was difficult to sensitise and also to desensitise. Toxoid antitoxin did not give rise to hypersensitiveness as T.A.M. contained 0.001 almost pure antitoxin and no globulin. Suspected cases of hypersensitiveness should be tested by intradermal injection of 1/20 c.c. serum in saline, when in sensitive cases a wheal would be produced within twenty minutes; the conjunctival test was not recommended as a corneal ulcer might result. Desensitisation was carried out by beginning with a small dose of serum intramuscularly or intravenously, and following it up by gradually increasing doses half-hourly until the full therapeutic dose had been administered. The serum was given slowly and adrenalin was kept at hand in case of collapse.

Drs. J. B. Wilkinson, C. O. Stallybrass, G. W. N. Joseph and M. C. R. Grahame took part in the subsequent discussion, to which Dr. Sage Sutherland replied.

The party was afterwards conducted round the hospital, and entertained at tea by Dr. Sage Sutherland and the Hospital Committee. The thanks of the members were conveyed to Dr. Sutherland and the Committee by the President, a former resident medical officer at the hospital.

THE YORKSHIRE BRANCH.

President: Dr. Gladys J. C. Russell, Asst. M.O.H. (M. & C.W.), Leeds.

Hon. Secretary: Dr. James Mair, M.O.H., Harrogate.

An ordinary meeting of this Branch was held at the Education Offices, Calverley Street, Leeds, on April 20th, 1934. In the absence of the President through illness, Dr. J. J. Buchan occupied the chair and was supported by twenty members.

The question of the Presidency of the Society was considered, and letters were read from (1) the North-Western Branch, nominating Dr. Veitch Clark; (2) the Southern Branch, nominating Dr. R. H. Wilshaw; and (3) the West of England Branch, nominating Dr. W. G. Savage. It was decided that the Branch would support Dr. Veitch Clark.

A letter was read from Dr. J. Greenwood Wilson (Medical Officer of Health, Cardiff) drawing attention to the debt which had been incurred by Dr. Graham Forbes in connection with the publication of his book on Diphtheria, and asking for contributions to enable Dr. Forbes to clear off the debt. It was decided that, while individual members might contribute if they thought fit, this was not a matter in which the Branch could take any action.

Dr. Magee, of the Ministry of Health, read a paper on "Nutrition and Public Health." An interesting discussion was opened by the Chairman and taken part in by Drs. Gibson, Gebbie, and Scott, and Messrs. Rabagliati and Townend. Upon the proposal of Dr. Jervis, seconded by Dr. Standring, a very hearty vote of thanks was accorded to Dr. Magee, who suitably responded.

THE WEST OF ENGLAND BRANCH.

President: Dr. A. E. Remmett Weaver, M.O.H., Weston-super-Mare.

Hon. Secretary: Dr. P. H. Stirk, formerly M.O.H., Exeter.

A meeting of this Branch was held at the works of Messrs. Ambrosia, Limited, Lapford, Devon, on May 18th, 1934.

The reading of a paper by the President on "Mental Deficiency in Somerset" was postponed, owing to the absence of Dr. Remmett Weaver through illness. The Hon. Secretary was asked to convey to the President the sincere hope of the members for his speedy recovery.

It was decided to hold the next meeting of the Branch at Plymouth, the Hon. Secretary to arrange the programme with Dr. Peirson. Friday, July 20th, was tentatively suggested as a suitable date.

The members were then conducted over the extensive works of Messrs. Ambrosia, Limited, and had every opportunity of seeing the various processes in the manufacture of the firm's products.

The party was entertained at luncheon and tea by Messrs. Ambrosia, who were heartily thanked by the Branch for arranging such an interesting visit and for their kindly hospitality.

THE HOME COUNTIES BRANCH.

President: Dr. Thomas Orr, M.O.H., Ealing.

Hon. Secretary: Dr. R. P. Garrow, M.O.H., Hornsey.

The annual meeting of this Branch was held on June 1st, 1934, at the Town Hall, Ealing, by the kind invitation of the President. Dr. Orr occupied the chair, and was supported by sixteen members. Dr. Charles Porter (President of the Society) and Drs. James Fenton and H. A. Bulman (Metropolitan Branch) were also present on the President's invitation.

The following officers of the Branch were elected for the session 1934-35:—

President—Dr. A. A. Turner.

Hon. Treasurer—Dr. K. E. Tapper.

Hon. Secretary—Dr. R. P. Garrow.

Representatives on Council of the Society—Drs. Orr, Turner and Garrow.

Representatives on Tuberculosis Group

Committee—Drs. Lorraine, Mayberry and Renwick.

Representatives on Kent Branch, British Medical Association—Drs. Brocklehurst and Herington.

A letter was read from Dr. Ernest Ward (Hon. Secretary, Joint Tuberculosis Council), forwarding copy of a resolution regarding the pasteurisation of milk supplied to school children.

After lunching with the President, the party visited an open-air school of the Derbyshire type and an infant welfare centre and school clinic in the Borough of Ealing. These interesting visits were followed by a tour of inspection of a wallpaper factory, also at Ealing, on the invitation of Messrs. Arthur Sanderson & Sons, Ltd. The members spent over two hours in the factory, which covers a floor space of 15 acres, and were shown the various stages in the manufacture, packing and despatch of wallpaper. At the conclusion of the visit the party was entertained at tea by the Directors of the firm.

On behalf of the members, Dr. Turner thanked Dr. Orr for arranging such an interesting programme and also for his hospitality. A vote of thanks to the Directors of Messrs. Sanderson for the facilities afforded of inspecting their factory was also warmly accorded on the proposition of Dr. Turner.

THE EAST MIDLAND BRANCH.

President: Dr. W. M. Ash, M.O.H., Derbyshire C.C.

Hon. Secretary: Dr. J. A. Stirling, M.O.H., Chesterfield.

A meeting of this Branch was held in the Guildhall, Nottingham, on May 17th, 1934, the President occupying the chair. Twenty-five members and two guests were present.

Short papers were submitted as follows:—(1) Cardiac Failure with reference to its Certification as a Cause of Death (Dr. W. Hunter); (2) A Quick Method of Sorting Death Returns (Dr. Barker); (3) The Question of how to deal with Refusals in a School Dental Scheme (Mr. Littlar); (4) Slum Clearance Problems (Dr. Banks); (5) An Insurance Scheme for Expectant Mothers (Dr. Stirling); and (6) The Advantages and Disadvantages of Scarlet Fever Serum (Dr. Fairer).

The lengthy discussions which followed testified to the interest aroused by the variety of subjects dealt with.

THE SOUTHERN BRANCH.

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

Hon. Secretary: Dr. A. B. Williamson, M.O.H., Portsmouth.

A meeting of this Branch was held on May 4th, 1934, at the Lord Mayor Treloar Hospital for Cripples, Alton, Hants. Owing to the absence of the Hon. Secretary, through indisposition, Dr. A. E. Druitt kindly consented to act in his stead.

Sir Henry Gauvain, after distributing plans of the Cripples' Hospital, described his proposed route for the inspection of the buildings, and especially of the new five-block building with its 1,000 feet of ward space and verandah above and similar length of cloister below. All possible methods of making the greatest use of available sunlight were clearly in evidence, and, in addition, the latest devices for cure by means of artificial light in its many forms were demonstrated. There are 360 beds, all occupied, and a long waiting list. Apart from bone and skin cases affected by tuberculous disease, there are rheumatic conditions under treatment with sanocrysin.

Following a demonstration in the photographic room, a hearty vote of thanks was accorded to Sir Henry Gauvain for arranging such an interesting visit and for entertaining the members at tea.

A further meeting of the Branch was held on June 1st, 1934, at the Bladen Dairies, Milborne St. Andrew, Blandford, Dorset.

Mr. A. Dunsmore, A.I.C., the Manager, personally conducted the members over the establishment, and, as far as the roar of machinery would allow, explained the various processes involved in the pasteurisation of milk. The dairy deals daily with 64,000 pints, distributed in as many cardboard cartons within 24 hours of the receipt of the raw material. It was explained that the original intention was to produce and distribute a perfectly good raw milk, but this scheme was found to be an uneconomic one; the next best plan—that of pasteurising the milk—was therefore adopted, and is meeting an ever-increasing demand. A remarkable feature of the establishment is a checking machine containing several distinctive charts, recording at

one and the same time the various operations of departments, so that, on any future occasion, the record may, if necessary, be consulted in the event of any variation in the product.

On the motion of the President, seconded by Dr. Wilshaw and supported by Dr. Chesney, a vote of sincere thanks was passed to the Directorate, through the Manager, for the excellent arrangements made for the meeting and for providing the members with tea.

THE MATERNITY AND CHILD WELFARE GROUP.

President: Dr. Thomas Y. Finlay, M.O. (M. & C.W.), and Asst. M.O.H., Edinburgh.

Hon. Secretary: Dr. Isobel Wright, 1, Briton Close, Sanderstead, Surrey.

The annual provincial meeting of this Group was held in Glasgow from May 24th to 26th, 1934. Thirty members and visitors attended. An excellent programme had been arranged, and the meeting opened with a reception by the Lord Provost in the City Chambers.

Papers were read by Dr. Hunter (Lightburn Fever Hospital) on "The Use of Serum in the Prevention of Measles"; Professor Hendry on "Ante-natal and Intra-natal Care and the relation of both to Maternal Mortality and Morbidity"; Dr. Stevenson on "The After-care of the Rheumatic Child"; Dr. Morris on "The Care of the Diabetic Child"; Dr. Graham on "The Digestibility of Boiled and Unboiled Milk"; and Dr. Fleming on "The Optimum Food Requirements of Infants."

Visits were paid to Shettlestone Clinic, Baird Street Reception House, the Cowcaddens Day Nursery, the Royal Hospital for Sick Children, and the Royal Maternity, Mearns Kirk, and Stobhill Hospitals.

An enjoyable informal dinner was held at the Gordon Restaurant.

The grateful thanks of the Group were conveyed to the Glasgow City Council for their hospitality; to those who had so kindly contributed papers and demonstrated cases; and to the public health staff, with special reference to the maternity and child welfare department.

BIRMINGHAM AND MIDLAND SUB-GROUP.

President: Professor Leonard Parsons, Physician, Children's Hospital, Birmingham.

Hon. Secretary: Dr. G. I. Brodie, Asst. M.O. (M. & C.W.), Birmingham.

The summer meeting of this Sub-Group was held on Saturday afternoon, June 2nd, 1934, at Severn Bank, Minsterworth, near Gloucester, the home of the Vice-Chairman (Dr. Morris Jones). Professor Parsons was in the chair.

Dr. H. Cairns Terry, of Gloucester, read a very interesting and amusing paper on "The Fetish of Fresh Air and Exercise," which provoked an animated discussion.

After the members had been entertained at tea by Dr. Morris Jones, a vote of thanks to Dr. Cairns Terry was proposed by the Chairman and seconded by Dr. Morris Jones, while the warm appreciation of the members for a most enjoyable afternoon was expressed to Dr. Morris Jones by Dr. Cassie and Dr. Hamilton Wood.

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 25th, 1934, the President occupying the chair. Nine members were present.

The Hon. Secretary and Council Representative reported:—

(a) That the position in Bradford had not yet reached a completely satisfactory conclusion.

(b) That the revised constitution of the Society had been before an extraordinary general meeting, and had been referred back to the Council for special consideration of the representation of departmental officers. After consultation with the Hon. Secretary of the Fever Hospital Medical Service Group, he had placed before the General Purposes Committee a proposal to alter Article 19 (d) of the Articles of Association so that it would read:

"Not more than nine fellows of the Association, three of whom shall be departmental officers." Discussion followed concerning the definition of a departmental officer, and the Committee accepted the following definition: "A departmental officer shall be a whole-time officer, wholly or mainly engaged in clinical work."

(c) That a reduced subscription for recently-qualified men had been agreed upon by the Council of the Society.

(d) That he had been asked concerning fees received for notification by officers of institutions. The custom varied in different localities.

The President of the Society (Dr. Charles Porter) attended and received on behalf of the Society a Presidential Badge for the Tuberculosis Group, presented by Dr. Jessel. Dr. Porter expressed the thanks of the Society to Dr. Jessel, and Dr. Peter Edwards also cordially thanked the donor on behalf of the Group.

Dr. Trayer was nominated President of the Group for the session 1934-35; Drs. Jessel and Norman Tattersall, Vice-Presidents; and Dr. Ernest Ward, Hon. Secretary and Council Representative.

The prevention of human tuberculosis of bovine origin was next considered, and the amended memorandum submitted was adopted, together with an addendum: "In the opinion of this Group, pending the eradication of tuberculosis from our dairy herds, steps should be taken to ensure the safety of the milk supplied, by pasteurisation or boiling."

The appointment of a chief clerk in one area as a lay administrative officer was mentioned, and the Council Representative was asked to bring the matter to the notice of the General Purposes Committee.

Friday, November 23rd, 1934, at 10.30 a.m., was the date and time fixed for the next meeting of the Committee, to be followed by the annual general meeting of the Group.

THE DENTAL OFFICERS' GROUP.

President: C. Doswell Wallis, Esq., L.D.S., Dental Officer (School and M. & C.W.), West Sussex C.C.

Hon. Secretary: W. Leigh Breese, Esq., L.D.S., 4, Valkyrie Road, Westcliff-on-Sea.

The final meeting of the session was held on May 11th, 1934, when the badge of office as President of the Dental Officers' Group was worn for the first time by Mr. Doswell Wallis. As one of the pioneers of the School Dentists' Society, Mr. Wallis has always shown himself to be greatly concerned in the work and progress of the school dental service, and no one could be better fitted as the first President to be thus distinguished.

Mr. K. C. B. Webster, L.D.S., read an interesting paper on "Anaesthetics in the Public Dental Service," which provoked diverse opinions on anaesthetics and administration procedures from those present.

The Literature of Preventive Medicine.

The Dermatogoses or Occupational Affections of the Skin. By R. PROSSER WHITE, M.D., C.M.ED., M.R.C.S., LOND., Late President of the Certifying Factory Surgeons' Association; Life Vice-President, Consulting Dermatologist, Royal Albert Edward Infirmary, Wigan; etc. Fourth edition, illustrated. London: H. K. Lewis and Co., Ltd., 1934. pp. 716. Price 35s. net.

In some senses it is a pathetic circumstance that Dr. Prosser White, the author of this world standard work, should have passed away immediately after he had completed it in readiness for publication. In other senses it is no unpleasant thought that in it he has provided a monument that will endure, and that will ensure that his name and his reputation as one of the most skilled of the dermatologists of his day will long be remembered.

In preparing this edition, Dr. White did not spare himself, and in what he did he increased the value and utility of his book. The work he did was always painstaking, thorough and reliable, and it will be no easy task to find a successor to him in the field he made so very much his own, and one capable of preparing the editions that are to follow this one.

Men against Women. A Study of Sexual Relations. By THEODORE BESTERMAN. London: Methuen and Co., Ltd., 1934. pp. 238. Price 6s. net.

The object of the author of this book is to provide an explanation of some of the many peculiar features that have marked the relations of men and women at all times.

The writing is well and clearly done and, as so rarely has happened with the almost numberless books on sexual subjects that have come forward for review, it gives in the reading no impression other than that it has been done in order to interest and instruct in a matter that has importance from the human point of view.

The suggestion offered with regard to the relations of man with woman is that men have a deep-lying fear of women, resulting in a profound antagonism between the sexes. This suggestion is illustrated by a series of detailed studies of the sexual lives of primitive, savage, semi-civilised, archaic, classical, Christian, and modern men and women, followed by an explanation of the facts under the headings of

Continence and Chastity, Sexual Separation and Taboo, and Marriage and Sexual Taboo.

The book is one that there is pleasure in reading, and that may be recommended.

The Influence of Heredity on Disease. By L. S. PENROSE, M.A., M.D. London: H. K. Lewis and Co., Ltd., 1934. pp. 80. Price 5s. net.

The basis of this book is an essay for which the writer was awarded the Buckston Browne Prize in November, 1933.

After dealing historically with the development of genetical concepts and discussing modern methods of research in human genetics with special reference to diseases, Dr. Penrose submits examples of genetical analysis by the methods described, examining data drawn from his own original researches. In this connection he issues a warning that in collecting pedigree studies for genetic analysis it is convenient, for modern methods of analysis, to confine the investigation to two generations; the accurate recording of such apparently irrelevant details as ages of parents and ages (and order of birth) of offspring may lead to the unexpected discovery of environmental influences. Short family histories, intensively studied, are likely to be more useful than long and spectacular pedigrees in which the value of the evidence may diminish as the length increases.

The book is a noteworthy contribution to a subject of increasing importance, and may safely be recommended for study.

A CONFERENCE of the Anti-Noise League will be held in University College, Oxford, from July 13th to 16th, 1934, under the Chairmanship of Lord Horder. Dr. William Collier is Chairman of the health and noise group, while Sir James Purves-Stewart will preside over the science and noise group. An exhibition of noise-measuring instruments, noise-abatement appliances and examples of sound-proofing and absorption, etc., will be held during the conference. The Secretary of the League may be addressed at 18, Old Cavendish Street, London, W.1.

PUBLIC HEALTH

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Editorial.

The London School Child in 1933.

"JUDGED by the ordinary standards, the results of the year's work are good." This is the conclusion set down by Sir Frederick Menzies in his annual report for 1933, as School Medical Officer for London.* No one studying the report can fail to agree or to accept the conclusion as right and just. As a matter of fact, the only direction in which there was anything like failure to produce a marked effect was in relation to dental work. Despite years of intensive educational effort to induce parents and children to accept dental treatment, 1933 still found no fewer than 40 per cent. refusing to

*Annual Report of the London County Council, 1933, Vol. III (Part II), Public Health. No. 3,054. London: P. S. King and Son, Ltd., 14, Great Smith Street, S.W.1. Price 1s. 6d.

make use of the facilities offered. That the metropolis is not alone in finding progress less marked in this part of school medical work is unfortunately the case.

Here as elsewhere, however, there are improvements and steps forward in other directions that tend to lessen the not unnatural feelings of disappointment apt to arise. The special steps that were taken, for example, to ascertain the facts, and to endeavour to ameliorate the lot of those subjected to adverse economic conditions throughout the year, yielded results that could not fail to induce feelings of relief, if not, indeed, of gratification. Actually at routine inspections the number of children reported to be below average nutrition (4.7 per cent.) was the lowest ever recorded in London. As evidence of the care given, it is

noted that 1.0 per cent. of the total inspected, as compared with 0.91 per cent. in 1932, were marked for "treatment," and more children than ever received school meals. While not desiring to indulge in undue optimism, it is something upon which congratulation may be offered to Sir Frederick Menzies that on the evidence available, the great increase in the number of ill-nourished children that might have been expected was not found, and that the school "social" services were so well able to cope with one of the most trying episodes they have as yet had to face. There is a possibility as the report points out, that the effects of the depression on the children may not be shown for some time. It is clear, however, that the immediate effects are not prominent.

The percentage of children referred for treatment, for instance, declined from 17.5 in 1932 to 16.3. As regards the effects of treatment, it is noted that of those recommended, 82.2 per cent. were regarded on re-inspection as "cured," or as having had defects removed. This is the largest proportion yet recorded. The position in regard to the communicable diseases left something to be desired, scarlet fever, for example, showing the highest prevalence experienced since 1921. The figure for diphtheria was also up, special investigations being necessary in respect of outbreaks in no fewer than 127 school departments. Progress is being made in connection with immunisation, clinics now being open in fourteen of the metropolitan boroughs. Special attention continues to be given to diphtheria carriers at special clinics at several of the London hospitals. Great as was the time devoted to routine work and satisfactory as were the results obtained, the need for special investigations and research was not overlooked, and Sir Frederick Menzies finds himself in a position to submit interesting and useful reports with regard to them.

The actual number of inspections made reached 377,167, with, in addition, 165,048 re-inspections. The facts obtained have been most carefully analysed and the details given in the report. Because of the size of the numbers the information is of wide value and interest. In relation to the actual inspections it is noteworthy that parents attended at 74.1 per cent. of the examinations as compared with 68.5 per cent. in 1932. Special enquiries in regard to cleanliness showed 96.2 per cent. of the children to be free from even traces of nits or pediculi. For these amongst other matters, the work done

under the personal hygiene scheme of the London County Council is responsible.

Particular interest attaches to the figures given in regard to the examination of "leavers." Of these there were examined boys 28,788 and girls 27,872, and in a general way it is reported that their condition was better than that of the same group examined in 1932. Another interesting enquiry was that made with the object of securing a comparison of height and weight of the children of to-day with those attending school between 1902 and 1907. From the figures given it is clear that in both boys and girls there is a distinct gain in both regards. For such improvements unquestionably the work done in connection with the teaching of hygiene and its application, and in relation to physical education under the organisers, must be given a large share of responsibility. The report on the last-named is of particular interest, as is that on open-air education and school journeys arranged and undertaken during the year.

In the realms of treatment a reference to the special provision made for rheumatic and stammering children, to an extent specialities of the London County Council, may not be out of place. Under the rheumatism scheme some 5,093 children attended the sixteen centres. Of these, 1,973 were new cases, and in all, 297 received hospital treatment or convalescence under the scheme. For the treatment of stammerers there are eight centres, and during the year 382 children attended. Of these, 115 were discharged as cured. The arrangement made provides for the attendance of each child twice weekly for periods of 50 minutes, each group being limited to nine and the instructress dealing with three groups on each half-day. An interesting table in which figures with regard to familial distribution of stammering incidence are given reveals a number of most interesting facts. Prominent amongst these is that in over 50 per cent. of cases there was at least one other stammerer in the affected individual's family, and that in a majority of these this member was an immediate relation. It is shown also that it is less a stammer that is inherited than "peculiar neuropathic tendencies which predispose" to stammering, and that not imitation but heredity is the essential factor.

Because of the care with which special investigations such as those quoted have been made and the fullness of the detail of the routine work done, this report may be counted a most

valuable contribution to the literature relating to school hygiene and the health of school children, and as such it is assured of a warm welcome.

Rainwater for Domestic Supplies.

ONE of the most noticeable features of the drought has been the slowness of its effects in the larger undertakings. Those who have had to rely for their supplies upon smaller undertakings, or upon their own efforts, have suffered most. It is these inequalities in relation to supplies and to suffering that have led to the renewal of references to the necessity for the application of the "grid" system, and to a tendency in certain quarters to question the wisdom of the Government in regarding the arrangement as unsuitable for adoption on economic and other grounds. The idea of a system of pooling of supplies, and of a scheme that would secure that every member of the nation as a community should never go short, is one that not unnaturally appeals, and that many would properly think should not be one entirely to be regarded merely from the point of view of pounds, shillings and pence. That the Ministry of Health are seriously considering it and as well are exploring all avenues, may be taken. It may be taken also that the Minister and all with him are deeply concerned to help in every way possible by suggestions and otherwise.

Evidence of this is to be found in a memorandum (183W) recently issued* in which attention is directed to the possibility of utilising rainwater for domestic supplies and guidance is offered with regard to its collection and storage. It is recognised, of course, that it is mainly in rural areas that it might be expected to provide a pure and wholesome supply. It is shown, however, that even in districts where year after year there has been trouble on account of unreliable surface supplies or shallow wells, no attempt has been made to utilise the rainwater. Its use, according to the memorandum has, in fact, been too rare. In order to indicate the possibilities in this direction, there are given figures to show just how much could be done with it. One inch of rain over an acre, it is explained, produces 22,000 gallons of water, and the quantity which can be collected from 100 square feet of surface is 52 gallons for a similar rainfall. A small house with a roof area

of 500 square feet will collect 7,800 gallons in a year with a rainfall of 30 inches. This would provide over 20 gallons a day for the house. In country places it is found that 5 gallons a day for each person can be made to suffice for household needs. A storage capacity of 1,000 gallons would therefore afford a supply for 50 days to a house inhabited by four persons, and this storage capacity should be regarded as the minimum for such a house if rainwater is to be the principal source of supply. It would generally be prudent to provide larger storage if the roof area is sufficient to replenish the store as necessary, and it is the practice at present in some areas to do so. Less storage capacity will, of course, be needed where the main supply is from surface sources or wells liable to give out in dry summers, and the rainwater is needed only as a supplementary supply. In such cases, tanks and water butts above ground to collect the water from the roofs as it falls down the pipes from the gutters are the most convenient receptacles. Galvanized iron tanks of the circular type, made up of corrugated sheets, serve the purpose particularly well, and are cheap and strong. A good cover of iron or of cement asbestos sheet should be provided, and there should be a draw-off tap placed a few inches above the bottom.

Where the rainwater is to be the principal source of supply, underground storage tanks are generally used and are to be recommended. A circular tank is the shape most commonly used, and if 6 feet in diameter and 6 feet deep, has a capacity of just over 1,000 gallons. The site of an underground tank should be selected so that it is reasonably near to the house, but as far away as possible from any foul water drains, manure heaps, and especially from any cesspit. The construction may be of good cement concrete at least 6 inches thick, plastered inside with a rendering, 1 inch thick, of one part of cement to two parts of clean sand. Brickwork, at least 9 inches thick, laid in cement mortar with a cement concrete bottom, is also satisfactory. Cement rendering throughout inside is required, and if the ground is manured in any way, it is best to place puddle clay round the outside of the brickwork, because bricks soak up drainage water from the soil. A watertight tank cannot be made without good materials and plenty of cement. The sides of the tank should be brought a little above the surface of the ground so that the top of the roof (6 inches thick) is above the ground and free from mud

*H.M. Stationery Office. Price 1d. net.

and surface water. A dipping hole about 2 feet by 1½ feet is required in the top large enough for a man to enter the tank for cleaning. This opening should be brought up at least 6 inches above the roof of the tank, and should have walls at least 6 inches thick of cement concrete. There should be a hinged cover, preferably of iron, although oak and elm covers are often used. A vent pipe with the end covered with wire gauze may be required if an airtight cover is fitted. The usual method of drawing water is by filling a bucket, but small hand pumps are sometimes fitted.

In regard to collection it is advised that every portion of roof should be provided with a gutter leading to an iron down pipe. Where an underground storage tank is provided, the down pipes should be continued below ground, either as iron or glazed stoneware pipes with cement joints, direct to the tank with a good cement joint through the wall. Agricultural pipes should not be used, and open surface gutters running to the tank are objectionable. Where rainwater storage is contemplated, lead on the roof or lead gutters should be avoided, otherwise there is a possibility of lead appearing in the water. With a new installation it is advisable to inspect all gutters, roof channels and down pipes to see that they are clean and running freely.

It is rare for any form of filter to be used with existing installations, and the claim is made that persons do not appear to suffer by the omission. A simple filter for the house, however, can be made from a clean bucket by punching small holes in the bottom, placing a layer of clean pebbles at the bottom a few inches thick, followed by a similar layer of small charcoal. At least 6 inches of clean, fine sand should be added on the top of the charcoal. The bucket is then filled with water from the tank and allowed to drip into another bucket.

Beyond cleaning out the tanks once a year and watching the gutters and down pipes for birds' nests and the like, these rainwater collecting arrangements require little attention. A coat of limewash to the inside of masonry tanks after the annual cleansing is a good method of purification.

The possibility of augmenting the provision made for individual houses by using the rainwater which falls on large roof areas should not be overlooked. With moderate expense on storage, a valuable supply for the common benefit can be obtained from the roofs of churches, chapels, schools, village halls and similar buildings.

In a circular accompanying the memorandum, the hope is expressed that rural district councils will take steps to bring the information it contains to the notice of persons to whom it may be of service. This no doubt they will do and will also consider it proper to render "what assistance they can in other ways in securing more extensive use of rainwater, where required."

* * * * *

The Maternity and Child Welfare Conference.

THE National Conference on Maternity and Child Welfare this year was held at Birmingham on July 3rd, 4th and 5th, and perhaps for this reason was honoured in having Mr. Neville Chamberlain, Chancellor of the Exchequer, as President.

In his presidential address Mr. Chamberlain referred to the fact that, although nowadays he was supposed to be more interested in the mortality of millionaires than of infants, he noted with pleasure that those who had invited him to be President of such a Conference rightly supposed that he had not forgotten the years when he was Minister of Health. Mr. Chamberlain referred briefly to the growth and development of the movement, and to the success which had followed the partnership between voluntary efforts and those of local authorities. The Local Government Act of 1929, he said, was of great value to local authorities, allowing them to devote more money to such activities as child welfare. In all the financial stringency the government had been careful that there should be no curtailment of effort in this respect. "You have only to walk through the streets of an industrial centre to realise," he said, "how far we have to go before we can be satisfied with the national physique, but we have made a beginning in the right place, with the children, and if we can ensure that the next generation will be stronger than the last we may feel that we have done a notable service to the nation and set a noteworthy example to the whole world."

The subject for debate at the opening session was "The Reduction of Neo-natal Mortality," and in the review which he submitted as opener, Dr. Leonard Parsons (Professor of Infant Hygiene and Diseases of Children, Birmingham University) discussed an investigation of a series of 163 post-mortem examinations performed at the Children's Hospital in Birmingham during the

five-year period 1929-33 upon children who died during the first month of life. This shewed, he believed, that the chief causes of death in the first half of the neo-natal period were to be sought either in ante-natal causes, such as prematurity, or in natal causes, e.g., birth injury, atelectasis, and asphyxia. In the pathological department of the hospital, evidence of sepsis had been found on many occasions in the upper respiratory tract. He was of the opinion that the greater proportion of deaths in the second half of the neo-natal period were the results of post-natal infection, particularly of the respiratory system and, to a lesser degree, of the skin.

Dr. G. F. McCleary, whose appearance was greatly welcomed, discussed the various replies which had been received in answer to the questionnaire which the National Association for the Prevention of Infant Mortality had sent out early in the year to medical officers of health. Amongst the points emphasised were the extension and improvement of ante-natal care and special provision for the rearing of premature infants. According to Dr. McCleary, the replies received afforded evidence of a volume of work of which the country might well be proud and which, with a wider application of the more recent developments and improved technique that may be observed in a number of districts, should encourage the hope that a substantial reduction in the neo-natal mortality might be secured at no distant date. This, however, according to one speaker who took part in the discussion which followed the reading of the papers, was only to be secured by pointing out that not only child-birth but expectancy should be notifiable.

"Children under the Children and Young Persons Acts, 1932 and 1933," was discussed in a notable contribution by Mr. W. J. Elliott, of the N.S.P.C.C., who urged that if the 1933 Act was to be made a success, there must be increased co-operation between health departments, social workers, probation officers and probably N.S.P.C.C. inspectors.

The second day of the Conference was devoted to a discussion of (1) "The New Approach to Social Work" and (2) "The Importance of Orthopaedic Work for the Pre-School Child." Miss Macadam (Hon. Secretary, Joint Universities Council for Social Studies) said that during the last 30 years,

Great Britain had developed a remarkable partnership of combined statutory and voluntary services. She urged the establishment of child welfare training courses in which would be found a place for the education of the part-time voluntary worker, and Miss Constance Braithwaite (Department of Social Studies, Birmingham University) agreeing with her, expressed the opinion that social workers and social agencies in different fields of activity still worked in too much isolation, and with too little knowledge of each other's activities. The lively discussion that followed was taken part in almost exclusively by the lay delegates to the Conference, who shewed a wide divergence of view, one lady councillor paying a tribute to the voluntary worker, whilst another felt that "if we were living in a sane state of society, there would be no necessity for people to interfere with the general activities of the working-class."

At the morning session of the last day of the Conference, organised by the National Baby Week Council, the question of how the solution of nutritional problems might be furthered by propaganda means was discussed, papers being contributed by Professor Mottram, Dr. Eric Pritchard, Dr. G. C. M. M'Gonigle, and Dr. G. A. Auden. Miss Mace, of the British Broadcasting Corporation, also took part in the discussion, and emphasised the fact that the B.B.C. were very anxious to receive from medical officers of health suggestions as to talks. It was a pleasure to see Sir John Robertson in the chair at this session. In reviewing his own long experience he expressed the view that one of the outstanding contributory factors in the improvement of public health had been the improved food supplies in the country, and the greater abundance of fresh fruit and vegetables in the daily diet of the people. Professor Mottram advocated the setting up of a national association for the pooling of knowledge of dietetic problems, and the establishment of chairs of dietetics in the universities.

The final session was given over to the study of "Diet after Babyhood," when stimulating papers were read by Dr. W. Wyllie and Dr. Harold Waller.

In addition to the routine sessions, the Association of Maternity and Child Welfare Centres held its Annual Council Meeting, at which Dr. J. J. Buchan opened a discussion

based on the question: Are we making the most we can of the information derived from child welfare work?

A session was also organised by the Maternity and Child Welfare Group of the Society of Medical Officers of Health, the subject for debate being "The Prevention of Tuberculosis in the Child under five years of age." The principal speakers were Dr. Dixon, Dr. D. H. Mills and Dr. J. C. Spence.

The Conference was preceded by a short clinical course which had been arranged by the Maternity and Child Welfare Group of the Society. Two meetings were held at the Birmingham Children's Hospital and at the Maternity Hospital, Loveday Street, which were well attended.

In conjunction with the Conference, visits were organised to the wide range of maternity and child welfare institutions with which Birmingham is so excellently equipped.

The delegates were generously entertained by the Lord Mayor of the City to a reception and dance, and also by the Birmingham Health Committee. A garden party was held by the kind invitation of Mrs. William Cadbury.

Much of the success of this wonderful meeting was due to the efforts of the Mayor and Corporation of Birmingham, who shewed a most generous hospitality, and to the Medical Officer of Health (Dr. H. P. Newsholme) and the staff of the public health department, who made the fullest possible provision for the comfort and convenience of the delegates.

* * * * *

Expenses of Delegates to Congresses, Etc.

WHEN the Local Government Act of 1933 was passing through Parliament, a considerable amount of anxiety was felt in certain quarters as to the effect that might be produced by the provision relating to the attendance of members and authorities at conferences in the case of meetings called by professional or technical bodies. To this anxiety the Ministry of Health appears to have been alive and in the Local Government (Conferences) Regulations, 1934, just issued* have made provision for allaying it. According to Article 2, the powers conferred by section 267 of the Local Government Act, 1933, on local

authorities other than parish councils to pay any reasonable expenses incurred by members or officers of the authority or of any committee thereof in attending a conference or meeting convened by one or more local authorities or by any association of local authorities shall extend to the following conferences or meetings:—

(i) the annual conferences of the Association of Municipal Corporations, the Urban District Councils' Association, and the Rural District Councils' Association, the periodical meeting of the Public Assistance Conference; and any meeting of the council or any committee of any of the said Associations or the Public Assistance Conference; and

(ii) any other conference or meeting convened as aforesaid to discuss any matter connected with the discharge of their functions.

The said power shall be exercised subject to the following conditions:—

(i) the expenses of a member or officer shall not be paid by the local authority unless his attendance at such meeting or conference is authorised by them;

(ii) the local authority shall not pay the expenses of more than three members in respect of their attendance at a conference or meeting referred to in article 2 (i) of these regulations; and

(iii) the local authority shall not pay the expenses of more than two members in respect of their attendance at a conference or meeting referred to in article 2 (ii) of these regulations.

A local authority other than a parish council may, in any case in which they consider it desirable to do so, incur any reasonable expense in purchasing reports of the proceedings of any conference or meeting the expenses of attending which may be defrayed under these regulations.

In a word, as the Ministry phrase it in the circular (1424)*, addressed to town councils, urban district councils and rural district councils, that accompanies the regulations: "Where a local authority wishes to send members to a conference not expressly authorised by statute, and to charge the expenses in accounts which are subject to district audit, the position will be the same as before the commencement of the

*Statutory Rules and Orders, 1934, No. 690. H.M. Stationery Office. Price 1d. net.

*H.M. Stationery Office. Price 1d. net.

Local Government Act, 1933. That is to say, it will be necessary to obtain the Minister's sanction under the proviso in sub-section (1) of section 228 of the Act of 1933, which has taken the place of the Local Authorities (Expenses) Act, 1887."

* * * * *

The Infectious Disease Regulations, 1934

SPECIAL importance attaches to the Public Health (Treatment of Infectious Disease) Regulations, 1934, recently issued* and circular 1418 which accompanies them, for the reason that they aim at clearing up a difficulty from which at some time or another every medical officer of health must have suffered. Briefly, what the regulations provide is that the London County Council, the council of every borough or urban or rural district, and every joint hospital board constituted under the Public Health Act, 1875, and having the powers of section 131 of that Act, shall have the same powers and duties in relation to the provision of hospitals or temporary places for the use of persons who are for the time being within their county, borough or district, as the case may be, and are suffering from infectious disease, as they have for the use of the inhabitants of that county, borough or district.

Amongst the reasons given by the Minister for making the regulations are that his attention has recently been drawn to certain cases in which an authority disclaimed responsibility for the treatment of persons temporarily living in their district, and sent such persons back to their homes although it was not denied that hospital treatment was required. It is pointed out that such a course is detrimental to the public health, inasmuch as it delays the provision of treatment and involves the risk of the spread of the disease. Unfortunately, however, no legal obligation rested on a local authority providing a hospital in pursuance of section 131 of the Public Health Act, 1875, to receive into that hospital a person suffering from infectious disease who is not an inhabitant of the district. Also the authority was not obliged to provide treatment for infectious disease, or to meet the cost of treatment otherwise provided, for an inhabitant of their district who is temporarily

*Statutory Rules and Orders, 1934, No. 674. H.M. Stationery Office. Price 1d. net.

outside the district. There was, in fact, no general legal provision definitely placing the responsibility for the treatment of a person, who is found to be suffering from infectious disease while outside the district of which he is an inhabitant, either on the authority of the district in which the disease is discovered or on that of the district of which he is an inhabitant.

The method of making good the deficiencies in the older legislation is that shown, and it is to be hoped that the new provision will work with the smoothness and secure the satisfactory results anticipated by those responsible for drafting it.

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Obituary.

CHARLES FRANKS, M.D., BRUX., L.S.A., D.P.H.

THE Society records with great regret the death of Dr. Charles Franks, Medical Officer of Health of the County of Durham and a former President of the Northern Branch. Following some twenty years in general practice at Jarrow, he received his first appointment under the Durham County Council, in 1917, when he became Assistant Tuberculosis Officer. Later, Dr. Franks was appointed Chief Venereal Diseases Officer for the County, and for some time after taking the Durham D.P.H., served as Deputy County Medical Officer to the late Sir Eustace Hill, whom he succeeded in 1930.

DAVID CHARLES LLOYD, M.R.C.S., L.R.C.P.

The death of Dr. D. C. Lloyd, Tuberculosis Officer for Cardiganshire under the Welsh National Memorial Association, is also announced with regret. After three years in general practice at Llanfairfechan, Dr. Lloyd specialised in tuberculosis. In 1915 he entered the service of the Memorial Association, and after various appointments became a tuberculosis physician for Cardiganshire, where he carried out much valuable work and contributed notably to the marked fall in the death-rate which occurred during the 20 years of his service. Dr. Lloyd was a Fellow of the Society of Medical Officers of Health, attached to the Welsh Branch.

DR. J. O. MURRAY has been appointed Medical Officer of Health of Rochester, in succession to Dr. S. I. Pritchett, who has retired after 32 years' service.

Control of the Common Infectious Diseases.

By H. STANLEY BANKS, M.A., M.D., CH.B., D.P.H., Medical Superintendent, Park Hospital, London County Council; E. H. R. HARRIES, M.D., D.P.H., Medical Superintendent, North-Eastern Hospital, London County Council; and WILLIAM GUNN, M.A., M.B., CH.B., D.P.H., Deputy Medical Superintendent, Infectious Disease Service, London County Council.

The last symposium of the session, which took place at an ordinary meeting of the Society held in London on May 25th, 1934, proved to be one of the most attractive of the series, the contributions of Dr. Banks (who, as President of the Fever Hospital Medical Service Group, acted as Vice-Chairman), Dr. Harries and Dr. Gunn being greatly to the liking of a very largely-attended meeting, and leading to an interesting discussion in which a number of specialists took part.

DR. H. S. BANKS.

SCARLET FEVER.

AN official pronouncement on "Some Administrative Aspects of Scarlet Fever" was published in 1927 by A. C. Parsons, as Report No. 35 of the Ministry of Health. This Report is a most useful review of English public health practice in the control and treatment of scarlet fever up to that date. Let us briefly examine its three main conclusions: (1) On the respective advantages and disadvantages of hospital and home treatment, (2) on the length of stay in hospital in relation to return cases and complications, and (3) on disinfection.

(1) In this connection the report favours a limitation of the numbers of cases of scarlet fever admitted to hospital, and would allot the beds so saved to such diseases as pneumonia, measles and influenza. This change of view is largely the result of the prevalence during recent years of a milder type of scarlet fever than that which was occurring when hospitals for infectious diseases were established. In London and in some provincial cities an attempt has been made to carry out this recommendation, particularly during the biennial epidemics of measles and at times when the pneumonic type of influenza is prevalent. The matter is, however, so intimately bound up with questions of housing, difficulties of isolation of patient and contacts at home, lack of nursing facilities and such like social and economic factors, that comparatively little reduction of the number of cases of scarlet fever admitted to hospital has been, in fact, obtained. The admission of measles in large numbers and of other

infectious diseases to the London hospitals has simply brought into more frequent use the auxiliary hospitals which were formerly occupied only at rare intervals. The truth is that a general demand now exists for a high standard in the care of all forms of sickness. This takes the form of a demand for hospital facilities, and it is hard to put back the clock.

There is every reason to suppose that if scarlet fever ceased to be adequately treated, permanent morbidity due to nephritis, otitis media and, perhaps, carditis would be substantially increased. Nephritis is not uncommon in "missed" cases admitted to hospital in the desquamating stage. Otologists tell us that "the chronic ear is mainly due to mismanagement of the acute stage."¹ Have we any hope that acute otitis media following scarlet fever will be better treated at home than in hospital? The modern tendency is to press for more and more thorough treatment of the acute stage so as to secure dry ears within a reasonable time of onset and to prevent, if possible, the crippling sequelæ of deafness and chronic ear discharge, as well as the tragedies of the intra-cranial complications of mastoiditis.

Looking at the matter purely from the clinical standpoint, I would say that if admissions are to be restricted, the time to do so is during times of high epidemic prevalence of infectious disease, when hospitals are crowded with young children. It is then that the disadvantages of fever hospitals are at their maximum, and all susceptibles admitted unavoidably run risks of contracting other infections. A rapid succession of several infectious diseases can be highly damaging to

the child of tender age. It is true that the modern tendency is to provide fever hospitals with more adequate cubicle accommodation, and with better equipment and facilities for meeting these risks. But the danger arising from the patient admitted in the incubation stage of another infectious disease will remain. At such epidemic times wherever reasonably satisfactory home treatment can be obtained, the younger or more susceptible children with scarlet fever, say, those under three to five years, should be excluded from hospital unless or until need arises for special hospital treatment.

(2) Regarding the length of stay in hospital, the report recommends a reduction to four weeks in uncomplicated cases. This is undoubtedly the modern tendency. There is, however, one respect in which the report should be brought up to date. In 1927 the majority of the reporters stated that they had no experience of any special treatment which helps to lessen either the length or the cost of a scarlet fever patient's detention in hospital. To-day, I for one would unequivocally say that I know of such treatment. It is possible to produce vastly better results, and at less cost, in the treatment of scarlet fever now than it was before 1927. By the timely and appropriate use of scarlet fever antitoxin, complications and length of stay in hospital can be reduced by a significant margin. I believe that that is a fair statement of the general views of my colleagues, and it refers to the more or less routine use of intra-muscular antitoxin. Let me quote from a recent American article² reviewing 2,300 cases of scarlet fever, viz.: "The most important factors in the management of scarlet fever are the early diagnosis of the disease and the administration of an adequate amount of scarlet fever antitoxin." If this is true, should not the normal procedure for admission to hospital be one which admits of the least delay, that is, direct telephonic communication between the medical practitioner and the hospital? Good results cannot be expected if delay occurs due to prior notification to the medical officer of health, visit by the sanitary inspector, report to the medical officer of health, etc. I have observed the effects of such delay in the provinces and can appreciate the arrangements in London, whereby cases of scarlet fever are normally received into hos-

pital about the second day of the disease. I think, however, in London the authorities go too far when they send mild cases of scarlet fever or even chicken-pox into hospital about 2.30 in the morning, as they not infrequently do.

Perhaps I may be permitted to refer to my own individual practice as regards the use of scarlatinal antitoxin in scarlet fever.³ During the last six years I have given this antitoxin intravenously (with discrimination, I trust) to upwards of 2,500 cases under my care, and have discharged them from hospital in a period averaging between two and three weeks. I have had no reason to regret this procedure. On the contrary, the results have been so gratifying that although its object at first was to meet unusually severe epidemic conditions, it has been continued as a matter of normal routine. Complications are almost negligible, except perhaps in children under five years, who show a small amount of otitis media and adenitis. Nephritis is negligible. The average length of stay in hospital was 16.6 days in the provinces and 18.9 days in London. I am convinced that an essential part of the success of this treatment is the short stay in hospital. Children who remain associated together in a scarlet fever ward for long periods in convalescence, inevitably tend to transmit to one another various forms of streptococcal infection, for full active immunity is often not developed for some weeks or months. On the other hand, when the acute stage is well past, provided nutrition has not suffered, they do well at home, even in a poor home. A fever hospital does its best work in the few weeks of the acute illness, and it fails, as a rule, when it attempts to deal with a long period of convalescence. The treatment of scarlet fever in hospital should, in my view, wherever possible, be combined with an out-patient clinic at which each patient would be examined at least once.

I used this method in the provinces for nearly five years with very satisfactory results. In London, travelling costs are so high that I have been unable to arrange for an out-patient clinic, but, in all short-stay cases a specimen of urine has been sent by the patient to the pathologist about the twenty-fourth day of disease. This scheme has worked very well. Very few abnormalities have been discovered, and these trivial. As

regards infectivity, return cases averaged about 2 per cent. in the provinces, and during the past year 3·4 per cent. in London. The latter figure may be considered high, but it must be borne in mind that a figure of 4 per cent. or so for return cases has often been recorded in London. I know only of one other instance in which this method has been applied on a large scale, and that is during last winter by Dr. W. T. Benson in Edinburgh. He states in a personal communication that last year he "dealt with 3,500 cases of scarlet fever, of which 1,250 received antitoxin intravenously, 1,250 no serum and the remainder intramuscularly. At the moment the cases have not been analysed but, broadly speaking, there can be no doubt that intravenous therapy has a very rapid therapeutic effect. The discharge of convalescent cases between the sixteenth and twenty-first day of the disease, with subsequent attendance at the out-patient clinic, worked very successfully. Many cases discharged thus early did not receive serum at all."

The short detention method combined with the out-patient clinic may be applied with discrimination to cases of scarlet fever other than those treated with intravenous antitoxin. It is, I believe, a better solution of the problem of providing some hospital accommodation for measles, whooping cough, pneumonia, or even tuberculosis, in combined institutions, than the policy of permanent restriction of scarlet fever admissions. Its greatest use is in times of high epidemic prevalence of scarlet fever, but it may suitably be adopted as a permanent policy. My experience of it leads me to believe that it is to the advantage of the patient no less than to the advantage of the institution.

(3) A word as to disinfection, and only a word, for the emphasis of this paper is on treatment. Modern thought both inside and outside of fever hospitals is, I believe, generally in favour of the abolition of terminal disinfection. The practice of current disinfection by the sterilisation of contaminated articles and frequent hand washing by attendants during the course of the illness is the more rational procedure. The report of the Ministry quotes the experience gained at Brighton and Willesden, in various cities in U.S.A., and in European countries, all of which shows that secondary cases are not

increased when terminal disinfection is abolished. Has the time not come for this expensive and ineffective procedure to be gradually dropped? The public will accept its abolition in time, just as now they are accepting the non-infectiousness of the desquamated skin after scarlet fever. I can assure you that they even swallow proposals for a two weeks' detention period with remarkable complacency.

I have no time to deal with Dick's method of control of scarlet fever by passive and active immunisation of contacts. This method does not seem to me to be a practicable proposition at the moment in this country, nor perhaps applicable where the prevailing type of scarlet fever is mild. It may have an application, however, to outbreaks in institutions.

I recapitulate my main points:—

(1) The public demand for hospital treatment of scarlet fever continues almost unabated, and is probably justified in view of the prevention of sequelæ made possible by adequate treatment.

(2) In view of the good results of treatment of the early case with antitoxin, admission to hospital should be arranged as soon as the case is diagnosed by the medical practitioner.

(3) It is in the interests of the patient that the period of detention in hospital should be materially reduced. It is quite practicable with the use of antitoxin to reduce it to about a fortnight.

(4) It is desirable that such early discharged patients should attend at an out-patient clinic or be subject to some scheme of supervision for a week or two after discharge.

(5) The time has come to recognise that terminal disinfection cannot be made effective and should be abolished.

REFERENCES.

- ¹T. Ritchie Rodger, *Proc. Roy. Soc. Med.*, 1933, xxvi, Sect. Otol.
²Hunt, L. W., *J.A.M.A.*, 1933, 101, 19, p. 1444.
³Banks, H. S., *Journ. Hyg.*, 1933, xxxiii, 2, 282.

DR. E. H. R. HARRIES.

DIPHTHERIA.

1. *Active Immunisation.*—As in the case of smallpox, there is only one method by which real control of this disease in the community is attainable, *viz.*, the active immunisation of susceptible children, and since in recent months this method has been dis-

cussed so fully in all its aspects, it is practically unnecessary to refer to it now.

We are all agreed as to the value of the method. Its extended application is simply a matter of time.

Having regard, however, to the continued high incidence and unnecessarily high fatality rate of diphtheria in the community—60,000 cases and 3,000 deaths annually, according to a recent approximate estimate of the Ministry of Health—it is to be hoped that the time which must yet elapse before active immunisation is carried out upon a scale sufficiently great to affect incidence may not be unduly protracted.

2. *Variable Prevalence and Severity of Type.*—Great variations not only in prevalence but in the severity of clinical type of diphtheria occur in different years in the same city, and in different cities in the same year. Two years or so ago the severity of diphtheria in London seemed to me to be notably less than I had been accustomed to over a long period in Birmingham.

In the interval I have observed a distinct increase in the average severity of cases of faucial diphtheria admitted to hospital.

Whether this is due to the advent or more frequent occurrence of the *gravis* and *intermediate* strains originally described by the Leeds workers can only be surmised. Unless swabbings from all patients suffering from clinical diphtheria are submitted to cultural and virulence tests, correlation between strain and clinical type cannot be fully established. It may be said, however, that within recent months, Dr. Mair has isolated either the starch fermenting (*gravis*) strain or the barred (*intermediate*) strain from a long consecutive series of cases of severely toxic type admitted to the North-Eastern Hospital. The series consists of well over a hundred cases and from all but a few, one or other of these strains has been recovered.

The fact that diphtheria is, from whatever cause, of severe type in many parts of the country makes it, of course, particularly opportune to review the current methods of control.

3. *Infectivity.*—Diphtheria is a disease of relatively low infectivity. Amongst the four common infectious diseases under discussion this afternoon it ranks from this point of view last. It is less infective than scarlet fever,

and much less infective than measles or whooping cough.

Even in the crowded conditions of the industrial classes, multiple familial clinical cases are uncommon. This may be due to the effective methods of control, and in part, doubtless, is due to them. But although the incidence of diphtheria amongst the children of industrial districts is high, the percentage of Schick negative reactors is also high, and this must also be a factor in limiting familial spread.

4. *Hospitalisation.*—The expectation that isolation in hospital would diminish the prevalence of diphtheria has, as in the case of other endemic acute infections, proved unfounded. Isolation of the great majority of recognised cases has had very little, if any, effect upon prevalence.

The reason is familiar. Endemicity is maintained not by clinically recognisable cases which form a minority of foci of infection, but by the far more numerous unrecognised sub-clinical infections and by carriers.

Nevertheless, nobody would propose that isolation hospitals should cease to admit patients suffering from diphtheria.

Although the most valuable services these institutions can render to the public are primarily curative and only secondarily preventive, they must continue to form an important part of the machinery of control.

Every case of clinical diphtheria is potentially infective; every case discharged from hospital has ceased, so far as can be ascertained, to be a potential source of infection. The return case rate is well under one per cent.

5. *The Swab in Diagnosis.*—As one of those responsible for the solution of the twin problems of physical cure and bacteriological clearance of large numbers of patients admitted to hospital with a diagnosis of diphtheria, I would ask you to consider the old and vexed question of the swab. In any discussion upon current methods of control of diphtheria the subject is unavoidable, but I suggest that an expression of opinion as to the use and abuse of the swab coming from this Society would carry great weight with the profession as a whole.

Swabbing employed as a primary or chief means of diagnosis of a common and clinically

recognisable disease, results on the one hand in the admission of many children to hospital hopelessly ill from the toxæmia of diphtheria. They are beyond the help of antitoxin in whatever dose and by whatever route. It is depressing to think of the number of children's lives which are year after year needlessly sacrificed to this fetish of the swab.

On the other hand, numerous patients, adults and children, who are harbouring harmless diphtheroids also find their way into hospital because a more or less speculative swabbing has resulted in a morphologically positive result.

A few years ago² I analysed 69 consecutive fatal cases of diphtheria admitted to hospital in a single year. Of these, 24 (34·7 per cent.) had been swabbed before admission, whereas only five (7·2 per cent.) had received antitoxin, and then in three cases out of the five only after receipt of the bacteriologist's report. Forty-six of the series (64 per cent.) were admitted to hospital from the fifth day of the disease upwards, whereas only 26 (37·6 per cent.) had been first seen by the practitioner upon the day of admission.

Turning to the other side of the picture, of a consecutive series of 706 cases, admitted in the same year as the fatal series, in which the notified diagnosis of diphtheria was revised after admission to hospital, 368, or rather over 50 per cent., had been swabbed by the practitioners before admission. In the remaining 338 cases, the notified diagnosis of diphtheria, erroneous as the event proved, had been made upon clinical grounds alone, but whereas in the swabbed series 105 (28 per cent.) showed no evidence of any pathological condition, this was only the case in 39 (11·5 per cent.) of the series notified upon clinical grounds.

It is easy, of course, to be wise after the event, and from the detached position of an observer in hospital to blame the practitioner. In some cases, it is true, it seems impossible to find a satisfactory explanation of the failure to make an earlier diagnosis, but it is necessary, in order to be fair to those who really are of the salt of the earth, to take all their difficulties and inhibitions into consideration.

The first and outstanding difficulty is inherent in the disease itself. Its insidious onset and its frequently rapid advance without localising symptoms (not *signs*) make it diffi-

cult for the mother to realise that the child is in need of medical attention until it is too late. There is considerable clinical evidence that advance may be extraordinarily rapid where the *gravis* strain is in question.

Then there are the practical difficulties of adequate examination of a child's fauces under the conditions of industrial practice, and, if swabbing be resorted to, the similar difficulties which attend that process. It is no uncommon thing to learn that a bacteriological report upon a swabbing has been returned as negative, and that this was the reason for delay in sending the child to hospital. The report was negative, not because diphtheria bacilli were not present upon the fauces, but because they were not picked up on the swab owing to the unsatisfactory conditions under which the swabbing was made.

Given an adequate view of the fauces the clinical diagnosis, or rather, perhaps, the diagnosis of clinical diphtheria, is rarely difficult. But even if the diagnosis does on occasion present difficulties to the practitioner, it is surely far preferable to send the case into hospital at the earliest moment upon suspicion. If the diagnosis of diphtheria cannot be confirmed, so much the better for the child. He will be released as soon as the Schick test and virulence tests of the strain, if any, present, show that this can be done with safety to the patient, the community and the institution. The best results can only be obtained if we receive the patients early, and we ask that they may be sent in upon clinical grounds, however equivocal these may be.

But there is a difficulty. The practitioner must "certify and declare" to the medical officer of health that so-and-so is, in his opinion, suffering from diphtheria. He may, and frequently does, hesitate to make this definite declaration; hence delay until there is clinical certainty or a positive bacteriological report. Is it possible that the form of certificate might be modified in the direction of greater latitude, and that the use of the word "suspected" might be allowed?

6. *Antitoxin*.—But why is antitoxin not injected, pending diagnosis, much more frequently than is at present the case?

The apparent reluctance of the practitioner is due, I believe, very largely to the greatly exaggerated fear of anaphylaxis or allergy. This fear was always exaggerated even in the

days of the old unconcentrated sera relatively rich in foreign protein. To-day with the almost universal use of concentrated or refined sera, which are practically protein-free, these fears have still less foundation, particularly if adrenalin is always kept at hand, as it should be, for immediate use. It is the rarest thing in hospital for anaphylactic shock to occur and, even in a potential sensitive, for allergic troubles of gravity to arise. Ordinary serum sickness is now very much less frequent than was the case when the old sera were injected. Even after massive doses by the intravenous route, serum rashes are only seen in some 16 per cent. or less of those injected.

I think it is important that the practitioner should be re-assured regarding serum troubles, because, in my view, more use might be made of passive immunisation as a temporary protective measure. Those unfortunate occurrences, for example, of post-tonsillectomy diphtheria or, more frequently, scarlet fever, can be entirely obviated if a combined prophylactic dose of diphtheria and scarlet fever antitoxins is injected at the time of operation, as is now done in some of the London tonsil and adenoid clinics. The ideal procedure is to perform preliminary Schick and Dick tests and then to inject only that prophylactic, if any, which is indicated by the tests. An efficient combined prophylactic is contained in 5 ccm. of refined serum.

7. *Carriers*.—Most diphtheria patients become bacteriologically free by the time, or before the time, they are clinically fit for discharge. The standard of freedom from infection ordinarily accepted is two consecutive negative swabs from nose and throat. The real value of terminal swabbing, as of terminal disinfection, is problematical. Two negative swabs, or six or twelve for that matter, provide no guarantee that the next may not be positive, particularly if the swabbing is done while the child is still in a *milieu* of infection. *Genuine* intermittency of the carrier state is much rarer than is commonly allowed, at any rate amongst patients in diphtheria wards. I am convinced that most cases of alleged intermittency which occur in open wards amongst diphtheria convalescents are due to contact re-infections. The genuine persistent carrier has almost always some naso-pharyngeal abnormality and, provided the organisms can

still be shown to be virulent, the sooner this abnormality upon which the carrier state depends is remedied by rational surgical measures the better. The longer the patient remains in the *milieu* of infection while an attempt is made to secure some lengthy series of negative swabbings, the longer is he likely to continue to be a carrier. He becomes re-infected. In other words, the convalescent carrier is frequently an artefact of his environment. Segregated in a cubicle or treated in the open air, his carrier condition will clear up much more rapidly. Any attempt to detect healthy carriers in the community by wholesale swabbing is clearly a hopeless proceeding, but in the investigation of an outbreak of diphtheria in a school or residential institution, swabbing plays a legitimate and inevitable part. Morphological diagnosis must, of course, be confirmed by virulence tests. There is no point in segregating carriers of non-toxic strains morphologically and culturally indistinguishable as they are from toxic strains.

But in order to obtain rapid control of outbreaks in institutions, swabbing and virulence tests must be combined with Schick tests in the way described by Okell, Eagleton and O'Brien³ ten years ago.

REFERENCES.

¹Min. of Health Memo. 170/Med.

²Report, M.O.H., City of Birmingham, 1929, p. 81.

³Lancet, 1924, i, 800.

DR. WILLIAM GUNN.

MEASLES AND WHOOPING COUGH.

In recent years, measles, at any rate, has suffered no lack of publicity either in the medical or lay press, and many sincere inquirers are wondering why such a fuss, entailing considerable outlay of public money, is made over one of the trivial diseases of childhood. The policy of school supervision of suspicious cases and contacts, and the domiciliary care of acutely ill patients, has been widely adopted, but the provision of hospital accommodation for all who are in need of it marks the chief departure from previous measures. Official medical opinion has assumed that this is the best way to combat the measles menace, but has found it difficult to present strictly comparable figures leading to formal proof of the validity of the assumption. Such statistics as are available on the

subject have, indeed, pointed to the opposite conclusion, and have left the onus of proving that the results of hospitalisation of measles are superior to those of domiciliary treatment to the hospital authority. It is not enough that they should be slightly better; to balance the financial outlay and the domestic distress that removal to hospital frequently entails, they must needs be demonstrably and appreciably better.

(The extent to which measles cases are being increasingly hospitalised in London was shown by a chart exhibited, indicating the steady increase in the numbers of measles patients admitted annually to the infectious diseases hospitals under the control of the late Metropolitan Asylums Board and of the London County Council in the years 1924 to 1934. In another chart the weekly admission-rate to the fever hospitals and the weekly number of inoculations with adult measles serum in all the Council's institutions during the 1931-32 measles epidemic were compared with the figures available in respect of the present epidemic up to the week ending May 20th, 1934, disclosing an increase of the order of approximately 20 per cent.)

In any scheme of measles control we must take into account certain basic factors, such as the high infectiousness of the disease in the early stages, the low viability of the organism, the almost total absence of immunity towards the end of the first year of life, and the important bearing on the prognosis, in a given case, of physical condition, nutrition and environment. Efforts to provide a sheltered existence, free from exposure to measles, are therefore doomed to failure in over-crowded areas, and opinion has been veering to the view that bio-prophylactic measures, especially attenuation of attack, is the ideal aim, and should be practised except in exceptional circumstances. Even in the wards of fever hospitals, where life is frequently in danger from the primary disease, attenuation may be practised with complete confidence and safety, providing that the requisite conditions are strictly adhered to. This is fortunate, as adult serum, which is always readily obtainable, is, in appropriate doses, quite as effective for attenuation as convalescent serum but, when complete protection is desired, the latter remains the more reliable agent. It is to be hoped that in the next epidemic, no child,

known to have been exposed to measles, will be denied the boon of serum therapy. Even should the demand exceed the supply at the height of an epidemic, practitioners could be provided with the necessary equipment—a large sterile syringe—to inject paternal or maternal immune blood into contacts.

A certain proportion of the population, which will probably remain high if deliberate exposure is not practised, will continue to be exposed to measles, unknown to parents or guardians, and in them attacks of normal severity, necessitating hospital treatment, may be expected. I do not propose dealing with the strictly therapeutic aspect of measles control, as I have little to add to what appeared in the section on treatment in the Medical Officer's Report on the last measles epidemic in London. During the present epidemic I have used immune serum, convalescent and adult, by the intravenous route, in the treatment of early acute cases, but the number of patients so treated hitherto is too limited to warrant a decisive opinion on the method. Probably after the fifth or sixth day of the disease no therapeutic effect is to be expected from the use of immune serum, as the patient is then virus-immune, although still in a highly susceptible state as regards invasion by secondary organisms, such as hæmolytic streptococci, pneumococci and Pfeiffer's bacilli. The pioneer work of Griffith and Glover has shown how streptococcal tonsillo-pharyngitis infections spread through the healthy populations of our public schools, chiefly in the dormitories, leaving in their train such serious complications as otitis, mastoiditis, articular rheumatism and endocarditis. They were able, by the serological method of identification of streptococci, to trace the infection from one member to another, with great accuracy. In like manner, streptococcal complications, including broncho-pneumonia, can be shown to invade a measles population in an open ward with wildfire rapidity, as the delicate mucous membranes of the patients are in a highly vulnerable state from the virus onslaught. Some of the strains introduced into the ward, luckily for the patients, are highly erythrogenic, and cases of scarlet fever appear, directing attention to the true significance of events and indicating the appropriate remedy. Usually, however, the organisms are but

feebly toxigenic, although highly invasive, and more "silent" complications, usually attributed to the primary disease, make their appearance.

Overcrowding is admittedly the commonest cause of a high incidence of streptococcal or other bacterial complications. If it is permitted, no nursing technique, however rigidly and conscientiously carried out, can prevent the transmission of infective material from patient to patient. Nemesis, swift and inevitable, overtakes the hospital authority which attempts to squeeze a few extra cases into a ward, thereby upsetting the bed spacing and ventilating arrangements of the unit: for a few days the admission rate is raised, but in a short space, sometimes in less than a week, the effects are felt, resulting in increased complications, longer stay in hospital and pronounced lowering of output.

It is idle to pretend, of course, that we can entirely prevent complications such as otitis, scarlet fever and broncho-pneumonia, inasmuch as an appreciable proportion of patients (approximately 25 to 35 per cent.) harbour hæmolytic streptococci in the throat or nose on admission, but we can and should prevent transmission of these organisms to clean cases which are still in a vulnerable state from the recent attack. In an open ward, nursed on the usual lines, it has been found difficult to maintain this; if overcrowding is permitted it is well-nigh impossible. The ideal arrangement from the nursing point of view would be the single chamber or glass cubicle method, but it has several disadvantages. Apart from the high capital outlay and the cost of running such a unit, the psychological effect of complete separation on children and on their parents may be serious, especially if the period of isolation is prolonged. The substitution of small wards of two to four beds each minimises the risk of cross-infection and largely dispels the feeling of segregation, but it is also somewhat costly to run. Such a system is impracticable for nursing measles on the magnitude of present-day epidemics in London. The best, in fact the only solution I can offer is that all patients in the early stages of measles (the first 10 to 14 days) should be nursed in open wards on strict bed-isolation lines. Uncomplicated cases are thereafter transferred to convalescent wards or direct to convalescent hospitals in

the country or at the seaside for a period of two to four weeks at least, and several months in special circumstances. Ample balcony or verandah space attached to each ward is indispensable, as pneumonia cases are improved by fresh air in striking fashion. By this régime the common complications of measles and intercurrent infections, like coryza, influenza and the acute infectious diseases with the exception of chicken-pox in the early stages, may be safely nursed in the same ward without fear of spread.

In the absence of adequate facilities for the application of bed-isolation methods, some workers are attempting to control streptococcal and diphtheritic complications in measles by the routine administration of anti-diphtheritic and anti-scarlet fever serum, and have found as a result that diphtheria and scarlet fever were banished from the wards and, moreover, the incidence of otitis, impetigo, onychia and even broncho-pneumonia were appreciably lowered. In my own practice, I prefer to restrict the injections to Schick and Dick positive reactors, as nearly one-half the average ward population give negative responses. We have observed that the incidence of pneumonia is slightly lower, and the fatality-rate appreciably lower in Dick negative reactors than in positive reactors, suggesting that the process of immunisation is associated with the development of immune bodies inimical to the invasive properties as well as to the erythrogenic toxin of the hæmolytic streptococcus. The last 13 consecutive fatal cases of measles pneumonia at the Grove Hospital occurred in patients who were Dick positive reactors on admission. In a word, the policy of conferring passive immunity on all cases is admittedly of value, and may be justified in the face of a large epidemic when extra demands are made on the accommodation, but is far from being the ideal measure and cannot be regarded as an adequate substitute for aseptic nursing.

A note on the probable sources of cross-infections may be relevant at this point. The fever hospitals have rather an unenviable reputation in the matter of cross-infection which in recent years has been largely undeserved. It has been noted for long that outbreaks of such infections as measles and chicken-pox in fever hospital wards almost invariably occur near the end of the normal in-

cubation period, suggesting that infection took place during transfer to hospital or shortly before it. Ambulances were naturally regarded with suspicion as chicken-pox, notoriously an elusive infection, was the most frequent offender. Closer investigation of each case has disclosed that infection probably took place in the waiting-rooms of practitioners, and especially in the large waiting-halls of general hospitals where parents and children forgather for hours over afternoon tea, affording every chance of close contact and interchange of infection. Were the fever hospital staffs informed of such contact, appropriate isolation measures could be adopted, but such information is rarely vouchsafed. If bed-isolation methods were practised as a routine, these infections would not be spread, with the exception of measles and chicken-pox, which, in point of fact, are relatively easy to control; the former, as we have an efficient prophylactic serum, and the latter, because the carrier state does not exist, and we can ascertain with accuracy which are immune and which require isolation.

I have used serums from patients convalescent from chicken-pox, mumps, German measles and whooping cough in the hope of affording passive immunity to contacts, but have failed to obtain consistently reliable results, even with double the doses sufficient in measles. My results have differed from those of certain published records, but it must be borne in mind that positive data are much more trustworthy than negative findings in such experiments.

The number of drugs advocated in the treatment and control of whooping-cough must be legion, and bears eloquent testimony to their inefficacy. Expectorant mixtures remain the mainstay of the physician who treats single cases. I mention them only to condemn them, as they are usually unreliable and frequently harmful in upsetting the gastric functions which are characteristically unstable in this disease. Good nursing, abundance of sunshine and fresh air, nourishing food adequate in vitamins A and D, given regularly with reference to the expected times of vomiting, are the chief points. Drugs are of secondary importance, and probably only bromides and luminal are of real value. These patients should be nursed in barrier wards, as advocated for measles cases, but a large

ward should not be employed. The appearance of a paroxysm of coughing in one patient is the signal for the majority in the ward to do likewise, provoking vomiting, and rendering individual nursing attention at the same time a physical impossibility for the staff. Not more than four or six patients should be in the same ward; certainly never more than ten.

It is probable that we keep our patients in bed in the town hospitals longer than need be. As soon as the catarrhal symptoms have subsided and the risk of pneumonia is averted, they should be transferred to the country or seaside hospitals for prolonged convalescence.

Vaccines prepared from the Bordet-Gengou bacillus have been used in the treatment of acute cases of whooping-cough, but the results recorded have been uniformly discouraging. Even when given early in the incubation period no constant attenuating effect has been observed. More recently, active immunisation measures have been tried on a large scale in America and on the Continent. Bacteriological opinion is united that polyvalent vaccines prepared from freshly-isolated strains only should be used, but is still divided as to dosage and the optimum time of administration. The most convincing results have followed large inoculations given three to four months before the expected epidemic, and possibly a shorter course later when the disease is prevalent. At the moment there is abundant suitable material in London for the experiment to be carried out on a large scale.

A final word on the administrative machinery needed to enable us to confer on the susceptible population the protection which the advance of preventive medicine has recently rendered possible and now renders imperative. We have had sufficient experience of the technical methods, our bacteriological equipment is probably ample, and there is, I believe, a real desire on the part of the community for a step forward. The active immunisation of London's susceptible population is not a Utopian dream impossible of realisation; it can readily be carried out, embracing diphtheria, scarlet fever, measles, and probably whooping-cough, if the various public health and hospital authorities combined to form an advisory committee with a preventive medicine department or bureau

under its direct control. As a nation, we do not appear to want a political dictator, but we have not yet tried a health dictatorship. The experiment might be worth while.

DISCUSSION.

Dr. J. E. McCartney (Director of Research and Pathological Services, London County Council) demonstrated simple apparatus devised at the Southern Group Laboratory of the London County Council for the collection of measles serum, and expressed his willingness to supply details of the apparatus and notes regarding collection and transit of blood if enquiries were addressed to him at the Park Hospital, Hither Green, London, S.E.13. He referred to the opportunity of obtaining supplies of blood from adult measles cases which were known only to medical officers of health, and also urged that it was desirable to collect convalescent measles serum at the present time, after an epidemic, in order that it might be available for the next outbreak.

Dr. J. J. Buchan (Medical Officer of Health, Bradford) said that infectious disease was a most disturbing element to the population, and if the restrictions imposed with the object of reducing infectivity could, with the aid of serum and an out-patient department, be limited to a comparatively short period, a great deal of benefit would accrue to the community at large.

Dr. T. B. Layton, D.S.O. (Otolologist, Fever Hospitals, London County Council) dealt with the possibility of diphtheria as a complication of tonsillectomy. It had been pointed out that the severity of diphtheria had varied in different places and at different times, and he wondered if the risk of diphtheria in tonsillectomy had changed during recent years. His own experience had been that diphtheria was never a complication of tonsillectomy, and that of the three infectious fevers, measles was the serious one, supposing it developed after tonsillectomy. For that reason he did not operate on children for tonsils during a measles epidemic unless he was sure they had had the disease. From an otological point of view he supported the short stay in hospital providing an out-patient department was available, but held that observation should be kept on scarlet fever patients for more than two or three weeks.

Dr. A. R. Southwood (Chairman, Central Board of Health, Adelaide; Head of the Department of Public Health of South Australia) said that the problems arising in this country in connection with infectious diseases were just those encountered in Australia. The out-patient clinic for scarlet fever patients he considered a very desirable proposal. With active immunisation against certain diseases the present generation might claim that it was having a hard time, but children of future generations would probably feel they were having a much harder time.

Dr. Alexander Joe, D.S.C. (Medical Superintendent, North-Western Hospital, London County Council) expressed doubt that measles serum could be obtained in sufficiently large quantities to make any effect on the general population, and suggested that adequate supplies of convalescent or adult serum would not be

obtained unless some sort of reward was offered. No one had put in a word for whole blood, by means of which a general practitioner could protect the members of a family.

Dr. J. B. Howell (Medical Officer of Health, Hammersmith) considered that a large proportion of scarlet fever cases could remain at home. Many parents, however, looked upon the hospital as the proper place for children suffering from that disease. With regard to diphtheria and the question of swabs, some 50 out of 80 notifying practitioners in Hammersmith had attended at the town hall at his invitation, and Dr. Rolleston of the Western Hospital had discussed the subject with them.

Dr. R. A. O'Brien, C.B.E. (Director, Wellcome Physiological Research Laboratories) suggested the appointment in an area of a diphtheria specialist, who would be at the disposal of the practitioner to advise in diagnosis and have all the apparatus for serum, etc. If such a system were put into operation the figures quoted by Dr. Harries would be reduced.

Dr. J. Graham Forbes (Principal Assistant Medical Officer, London County Council) emphasised the fact that diphtheria continued to be as great a menace as ever, and quoted figures showing an increase in both incidence and mortality throughout the country. In the methods now being employed in diphtheria immunisation with either concentrated formol toxoid or toxoid antitoxin floccules there seemed further evidence of approach to the ideal form of prophylactic of rapid immunising power. Though the Schick test was practicable and desirable among a limited community within easy control for following-up, there were good grounds for elimination of the test before and after inoculation in the case of a large population, to allow of the prospect of some attempt at bringing about a mass protection of the community, without which no real decline in diphtheria incidence could be expected. In that effort every encouragement should be given to gaining the help and confidence of the general practitioner.

Dr. J. Nairn Dobbie (Divisional Medical Officer, London County Council) proposed, and **Dr. F. A. Belam** (Medical Officer of Health, Guildford) seconded, a vote of thanks to the opening speakers, and the **President (Dr. Charles Porter)**, who warmly thanked Dr. Banks, Dr. Harries, Dr. Gunn and Dr. McCartney on behalf of the Society for their extremely valuable contributions, and **Dr. Goodall** also spoke.

Dr. Banks, replying to questions by Dr. Belam regarding complications of scarlet fever after the normal period of detention, stressed the difference between scarlet fever untreated and the disease treated by antitoxin. He disagreed with the view that antitoxin had no effect upon complications: most experience was entirely to the contrary.

Dr. Harries and **Dr. Gunn** also briefly replied. The latter explained that a quarter of the measles cases in London were treated in hospital on the recommendation of the notifying practitioner through the local medical officer of health. Maternal blood was held not to be quite so efficient as serum, of which four times the present stock was needed. Work in that direction had so far been done in the ordinary routine, but special arrangements might be necessary in future.

Ut Ita Dicam.

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

The Bristol Health Congress.

From the figures given by one of the many speakers at the Congress dinner of the Royal Sanitary Institute, the meeting at Bristol was one of the most successful ever held. So far as numbers are concerned it was, in fact, second only to the jubilee meeting in London, which, naturally enough, created a record. It was not only numerically that Bristol was a success. The level of attainment reached in general and in a variety of particular directions was so high as to justify the claim also. That there were many connected with the Society associated with or concerned in the success makes contemplation of that success all the more pleasant. Outstanding as an association, of course, is the fact that the Chairman of the Council of the Royal Sanitary Institute on the occasion of the Congress was Dr. G. F. Buchan, a Past-President and Treasurer of the Society, and there were at least two members of Council occupying presidential chairs at the Congress—the President (Dr. Charles Porter) and Professor W. W. Jameson—and at least three others—Dr. Orr, Dr. Fenton and Dr. Wood—acting as recording secretaries.

The Part of the Society.

The sections with which the Society was most intimately concerned were, suitably enough, Preventive Medicine and the Conference of Medical Officers of Health, and on one occasion these two united to hold a joint meeting. The subject discussed there, the President of the Society occupying the chair, was "The Problem of the Mental Defective," bright and interesting papers being contributed by Professor Berry, of Stoke Park Colony, Bristol, and Dr. Herd, of Manchester. These stimulated a most noteworthy discussion which revealed a definite anxiety for information upon the problem and as to how best it might be dealt with. The suggestions offered ranged from euthanasia to sterilisation and special institutions, but came back in the end to a need for further study of the problem with a view to a more complete elucidation. In the case of the discussion at the Preventive Medicine Section on "Nutri-

tion and the Public Health," though all the contributions might be counted interesting, only one of them can properly be described as bright. Largely this is the fault of the subject; though it is the case also that experts on nutrition are apt to take it a little too seriously, and to be so concerned to impress the seriousness of it upon the people and so convinced also of the density of the ignorance of everybody on the subject, and why some are and some things—pleasant ones usually—are not nutritious, that the talks incline to be lengthy. Professor Nixon, of Bristol, because he regarded nutrition from an angle other than the usual rather gloomy one, and had the public health in mind when he spoke rather than the physiologists and their divergent views on calories, vitamins and what not, had the meeting with him throughout and laid the foundations of a discussion that was remarkably full and interesting.

Discussions on Hill Tops.

Full and interesting discussions, indeed, appeared to be fairly common at the Congress. Having regard to the heat, and the fact that all the meetings were held on the tops of hills, this was curious. At the Maternity and Child Welfare Section, Dame Janet, (Campbell still, in spite of her altered state), as usual attracted large numbers to talk of the mind of the child and other matters, such as nursery schools, day nurseries and puerperal insanity. The sanitary inspectors who put up a programme in which practical matters were considered, such as what to do about vermin, and the housing problem, it need hardly be mentioned had packed meetings. Less packed were the meetings of the veterinary hygienists, the food hygienists, the health visitors, the engineers and surveyors, and those interested in engineering, architecture and town planning, and national health insurance. All, however, scored what seemed to be bigger attendances than are generally seen and, when the subjects were of the practical type affecting matters connected with the environment and every-day life of the people, with which health authorities and officers and persons with a health conscience have concern, were the scene of interesting and animated discussion.

The Minister's Meeting.

A feature of the Bristol meeting was the omission of the so-called lecture to the Congress and the popular lecture, and the replacement of these by a "general meeting." Being the first of such meetings it was appropriate that it should be addressed by the Minister of Health. A huge gathering, it accorded an enthusiastic welcome to Sir Hilton Young and listened with real interest to as fine an address as he has given on housing, a subject he has much at heart. The description given of the proposals for dealing more expeditiously with slum clearance and the problem of overcrowding was statesmanlike and practical. There is a very general desire that there shall be a "general meeting" at each congress hereafter, and that it may become always an occasion for the making of some communication by the Minister of Health to health authorities and workers and through them to the public generally.

Sir Arthur Robinson Performs a Ceremony.

In addition to the Minister himself, the Congress was honoured by a visit from Sir Arthur Robinson of the Ministry. This befell because, fortunately, there was an opening ceremony to be performed at the Ham Green Isolation Hospital and Sanatorium of the Bristol City Council during the week of the meetings, and the Lord Mayor and Corporation had the happy thought to make of it a Congress event. Sir Arthur Robinson, who had had much to do with the buildings in the early stages, had accepted the invitation to perform the opening ceremony. A very attractive event it proved to be, with the weather favourable to an open-air function and a fine address clearly heard by an interested and attentive gathering numbering several hundreds.

The Opening Meeting, Functions and Hospitalities.

Another largely attended meeting of members generally was that in the Great Hall of the University when Dr. Stanley Badock, Pro-Chancellor and Treasurer of the University, was installed as President of the Congress by Dr. G. F. Buchan, in the absence of Lord Cozens-Hardy, who presided at the

1933 Congress in Blackpool. Dr. Badock's presidential address proved most acceptable and served as a fitting send-off to a fine and successful Congress. At this meeting there were the usual contributions from overseas and other delegates. So far as the former were concerned the Congress was particularly fortunate in having so many and so distinguished visitors from the dominions, colonies and foreign countries. Several of these were, of course, old friends but there were many also who were present for the first time, and who showed themselves to be greatly and most favourably impressed by the perfection of the arrangements, the excellence of the discussions, the hospitality and the warmth of the welcome offered by Bristol, the brilliance of the functions, and so on. Of the hospitality it is permissible to speak as magnificent, the Lord Mayor (Councillor F. C. Luke, J.P.) being always prominent in dispensing it at his reception and elsewhere. Because it was a little out of the ordinary, special reference may be made to the "Garden Reception" held at the University Hall of Residence on the Tuesday evening. Remembrance of this is likely to remain for long with even the most hardened of congress attenders, and with others long after the memory of such things as the opening lunch and the congress dinner and its myriad lengthy speeches has, happily, faded.

THE London School of Hygiene and Tropical Medicine (University of London), incorporating the Ross Institute, held a reception on June 29th, attended by over 600 guests, who, in the absence of Sir Austen Chamberlain, were received by Sir Herbert Read, Sir Charles McLeod, and Professor W. W. Jameson, the Dean of the School. During the evening a tablet containing a medallion of Manson by Dr. Paul Richer, the gift of Lady Manson and family, and a bust of Sir Ronald Ross, presented by the sculptor, Lady Welby, were unveiled by Lord Athlone, Chancellor of the University of London. After the ceremony the guests had an opportunity of seeing exhibits and demonstrations of the work done by the various departments of the School.

The Goitre Problem.

By J. L. NEWMAN, M.D. (CANTAB.), D.P.H., Assistant Medical Officer, Public Health Department, London County Council; formerly Assistant Medical Officer of Health, Southampton.

The goitre problem has greater importance in some areas than in others; the subject, however, is of sufficient general interest to justify the belief that this paper will be no less appreciated by readers than it was by those who heard it when it was read at a meeting of the Southern Branch.

"WHAT was scattered in many volumes or observed at several times by eye-witnesses with no cursory pains I laid together, to save the reader a far longer travail of wandering through so many desert authors: who yet with some delight drew me after them. . . ." This, the poet Milton's excuse for writing a history of Muscovy, must be my justification for talking about goitre. And as to my choice of subject, you may be wondering why we, who live in a district where goitre is comparatively rare, should concern ourselves about it when there are so many more pressing problems for us. In the first place, of course, science knows no local boundaries: but even if it did, I think we still have abundant cause for studying this problem. In the first place, a large number of simple sporadic goitres are removed annually only for their pressure effects. Then again, secondary toxic goitre is, as its name implies, the outcome of a previous non-toxic goitre. Thirdly, though I cannot give you the actual figures, I think that I am right in saying that it is extremely unusual for a malignant growth to arise in a previously healthy thyroid gland: a rare disease if you like, but none the less worthy of attention for that. And, finally, to tread on rather less firm ground, there is the question of the psychological effect of simple goitre, an aspect of the question that was brought to my notice recently in reading a book called *Temperament and Delinquency*. The author of this book, Grimberg, noticed during the War that those soldiers who broke down psychologically under the strain of war-time conditions were particularly apt to show enlargement of the thyroid gland, and he noted the same fact when he was investigating delinquent girls in America afterwards. He summarises his views in the following sentence: "Delinquency is not inborn but is a product of environmental factors upon a faulty consti-

tution," and this faulty constitution he believes to be a lack of balance of the endocrine glands, among which the thyroid plays the predominant part.

Having decided to study simple goitre, our next act is naturally to look the subject up in the text-books, and there we shall find seven salient facts—which I expect we all still have neatly pigeon-holed in our minds, where they have been ever since we first went up for our finals. These seven facts are as follows:—Goitre may be endemic or sporadic; there are three histological types, the parenchymatous, the colloid and the nodular; and there are two schools of thought on their causation, the iodine deficiency school and the contaminated water school. These facts, as they are usually presented, do not seem to have much connection with one another; and it was not till I left the highways of the text-books and wandered through the byways of monographs and original papers, that they sorted themselves out into the homogeneous pattern that it is my aim to present to you now.

The three types I have mentioned are the basic forms, and though they have been subdivided and sub-classified I do not think we need worry much about subsidiary forms, since they seem to me merely to obscure the important issue: in fact, when I find a type of goitre described as *struma nodosa microfollicularis non-proliferans* I begin to think it is about time the goitre business was rationalised.

But this is no academic question of morbid anatomy. It is of fundamental importance, for we have to decide whether we are dealing with three different diseases, two, or one. In other words, have we to look for one cause of goitre or for more than one?

I believe that we have to look for one; that the three forms I have mentioned are stages in the evolution of one pathological process. This is not specifically stated in this way in

most of the text-books, and though Joll, in his book on *Diseases of the Thyroid*, does say that one develops from the other, he does not go so far as to trace this evolution from beginning to end. First of all, what is the history of the thyroid in health? The characteristics vary a good deal owing to the many factors that may influence the gland, but in the main, cellular activity is the characteristic of childhood, and then, with the changes of puberty, colloid storage makes its appearance.

But we are not justified in applying to the pathological condition of goitre the sequence of events seen in the healthy gland, unless we can show that a similar sequence is met with in other pathological conditions. And if the evidence I shall offer in support of this is not very striking, I must plead in extenuation a sort of paternal feeling for it.

A few years ago I was examining the thyroids of mentally defective children, with a view to finding if there were any changes associated with the amentias, and to do this I had to take into consideration also the question of the diseases from which the children had died. At first I looked to see, as previous workers had done, if there were a specific response to a specific disease. It soon became obvious that this was not so, and then it occurred to me, in view of the thyroid's association with metabolism, that the influencing factor might be the duration and intensity of the final disease. So I took three groups. The first was made up of those who had died suddenly, and, in round numbers, 50 per cent. showed cellular activity and 40 per cent. colloid storage (the others showed neither). The second group consisted of those who had died of an intense illness of a fortnight's duration or thereabout. Cellular activity had now increased and was the chief feature in 70 per cent. The third group was made up of those who had died after much more prolonged fever. Here I expected to find a further extension of the same process, but what actually happened was that now colloid storage was evident in 70 per cent. and cellular activity in only 40 per cent. (10 per cent. showing both). Exactly the same sequence, you will note, was present in this series of glands in disease as was present in the healthy and the goitrous glands. So I think we may now reasonably say that parenchy-

matous activity followed by colloid storage is a true sequence in goitre.

And now as to the nodular goitre. It has been shown that in the healthy gland, activity is not universal. While most of the gland is quiescent, certain areas are active, to subside in time when their work is taken on by other areas. This cessation is accompanied by a process of involution which, in the thyroid as in other tissues, is characterised by fibrosis. Where activity is accentuated as in goitre, this fibrosis is more marked and we have areas of active thyroid tissue more or less surrounded by zones of it. The result is then very like that found in other secretory tissues when involution has taken place, such as is seen in the "chronic mastitis" of the menopause. Another piece of evidence that the so-called adenomata of the thyroid are not true neoplasms is this: in endemic areas the nodules appear almost universally before the age of twenty, and I do not think that such a general appearance of true neoplasms can be paralleled in any other organ. This is not to say, of course, that true adenomata are not found. They are, in the thyroid as in any other secretory tissue. But there is this difference: that in true adenomatosis the nodules do not penetrate the whole organ, but one or two isolated tumours are found in an otherwise healthy gland.

There is, no doubt, a good deal of evidence against the views I have put forward, but in the present state of our knowledge it seems best, as it is also simplest, to propound this theory, that the parenchymatous goitre, if it does not resolve, is followed by the colloid goitre; that this, too, may resolve but that if it does not, it is in its turn followed by the nodular goitre; and that this nodular goitre is not a change to a neoplastic type of disease but is simply an extension of the goitrous process affected by the development of an involution fibrosis.

What now is the fundamental cause of goitre? First of all there is the iodine deficiency theory, and though you are no doubt familiar with the theory, let me briefly remind you of the work on which it is based. Gaylord kept trout in a series of tanks, the water from each of which flowed into the one below, and he noted that while the fish in the top tank were free of goitre, the disease appeared in the lower tanks, and its incidence increased progressively as the tanks became

further from the source of the water. When iodine was added to the water the development of goitre was prevented. Now there are two remarkable features about Gaylord's work. The first is that when he came to put two and two together he did not quite make four; for he asserted that iodine deficiency was the cause of goitre, although he had himself tested the preventive value of certain other substances and had shown that traces of corrosive sublimate were also effective. The other remarkable feature was that this misinterpretation did not in the least detract from the practical value of his work for, as we all know, the iodine prophylaxis of goitre is one of the most potent weapons in the whole of preventive medicine. How potent it is is shown by the following instance. In the Pemberton Valley of British Columbia in 1917, the pigs were all born hairless, 85 per cent. of the colts died, the eggs would not hatch, and the children were all goitrous. So bad was the situation that it was proposed to abandon the district. But instead they appealed to an American pathologist, who instituted the use of iodine. And in five years time, when a second survey of the district was carried out, it was found that these troubles had been completely eradicated.

But the path of iodine prophylaxis has not been entirely smooth. In some countries where there is no vaccination to argue about, they join issue on the iodine question instead. Does iodine do any harm, and in what dosage should it be used? In the United States they use 1 in 5,000 (of salt); in New Zealand 1 in 250,000, and in neither case does the use of iodised salt seem to do any harm, while both are effective prophylactics. Indeed, in the case of experimental animals it has been found that normal rats and pigs actually are the better for the use of iodised salt in that they grow faster. And in Switzerland, where they have gone carefully into the question of what harm might be done, they say that there has been no increase in the incidence of toxic goitres, and that where toxicity has developed in a person taking iodine, the iodine has always been administered in a concentrated form and not as iodised salt. Iodine in this form does not, as a rule, entirely eliminate goitre; but it is a safe and on the whole an exceedingly effective prophylactic.

The water contamination theory is usually associated with the name of McCarrison,

though he was not actually the first to record the facts on which it is based, as witness this quotation from Dr. Thomas Watson's lectures on Physic, delivered to the students of the Middlesex and King's College Hospitals in the forties: "Bronchocoele or goitre is a common disorder at Edmonton (Canada) . . . The disorder attacks only those who drink from the water of the Saskatchewan river. It is, indeed, in its worst state, confined almost entirely to the half-bred women and children who reside constantly at the fort, and make use of the river water, drawn, in winter, through a hole in the ice. . . . The natives who confine themselves to snow water in the winter, and drink of the small rivulets which flow through the plains in the summer, are exempt from attacks of this disease." Is it not remarkable that though the facts were thus clearly stated to successive generations of medical students, the world had to wait almost seventy-five years for the observations to be repeated and the deductions to be drawn?

There is no need for me to recapitulate the story of McCarrison's observations. Suffice it merely to say that he showed clearly that contamination of water supply was a deciding factor in the genesis of goitre, though the water might contain quite enough iodine for ordinary requirements.

The practical application of this theory has not been conspicuous, presumably because in the districts where goitre prophylaxis is important, water purification is already adequate for all other purposes and the use of iodine is much cheaper and equally effective. But it is not for that reason without its uses. First, it has further stressed the need for real thoroughness in the preparation of drinking water. Secondly, it has drawn attention to insanitation in general as a cause of goitre. But the theory has a most important bearing on experimental pathology since it has been shown that captive rats, on which most of the work has been done, are very prone to develop goitre as a result of insanitation alone. Hence many of the older observations must now be accepted with great reserve since it was not appreciated that the animals' cages must be kept scrupulously clean and consequently the effects which were attributed to various factors may have been due solely to food contamination.

And now we must leave the question of goitrous districts and animals, and study the

state of the thyroid among unaffected children. So-called "goitre surveys" have been undertaken in many parts of the world—perhaps they should more properly be called "thyroid surveys"—notably in the United States of America and New Zealand. The results of all these surveys are very similar, and it has been shown that thyroid enlargement is very much more common than might have been suspected. In Cincinnati, for instance, 53 per cent. of schoolgirls had enlargement, and in New Zealand 11 per cent. of boys and 13 per cent. of girls showed enough enlargement to produce an obvious distortion of the contours of the neck, and this outside areas of endemic goitre.

These observations showed that the distinction between a "physiological" enlargement and goitre is a purely arbitrary one, and consequently that the cause of one may reasonably be expected to be the cause of the other. And furthermore, this cause, whatever it is, must be of almost universal, if not universal, application. Hence it was natural that the effect of diet on the thyroid should be investigated, and though various isolated observations on this question have been reported from time to time for many years, the credit for the first really thorough research must be given to McCarrison, who last year published the results of his work in a most important paper called *The Life-line of the Thyroid*.

McCarrison now states that it is possible to alter the size of the thyroid at will by diet alone. And he has found that certain substances tend to produce goitre while others tend to prevent it. The goitre-producing factors are of three classes: relative excess of some factors, deficiency of others, and finally "positive goitrogenic" foods.

First, the relative excess group. Too much lime readily produces goitre, due apparently to an upset in calcium-phosphorus ratio, since it may be prevented by giving sodium phosphate. Another relative excess is that of fats. If the animal is fed on a diet deficient in fats, the addition of butter prevents the onset of goitre; if the diet already contains enough fat, the addition of butter will precipitate its development.

The deficiencies are those connected with the vitamins. Lack of vitamin A produced an increase in the size of the thyroid in 34 per cent. of the experimental animals, and the lack of it was felt more if other vitamins were

wanting too. Absence of the vitamin B complex did not seem to have a specific goitre-producing effect, but scurvy is associated with development of goitre.

The specific goitre-producing agents are really very remarkable, and one of the most peculiar is cabbage, for its potency not only varies with the place where it was grown (and this is independent of its iodine content) but even with the season of the year. Marine, who had already done a good deal of work on cabbage goitre, maintains that cyanides are the ultimate factor involved (an idea which McCarrison finds unacceptable), and it has been claimed that not only enlargement of the thyroid but even exophthalmos can be produced by the injection of cyanides. This latter finding is so revolutionary that I think we should be wise to treat it with some reserve until it has been satisfactorily confirmed. It does not matter how the cabbage is cooked, and the addition of salt enhances its goitrogenic action. Remembering the foreigners' gibe that "the English only know three vegetables and two of them are cabbage" we might, perhaps, expect cabbage to occupy a prominent place in the development of our own neighbours' goitres. The other positive goitre-producing agents of importance are certain cereals, maize and wheat producing enlargement of the thyroid in the absence of greens and fat.

The goitre-preventing substances may be summarised as follows:—

Iodine protects against excess of lime, cabbage, and the effects of insanitation.

Vitamin A protects against the latter, too, B against the goitre that develops in animals fed on "ground nut" (a noxious agent that I did not mention because it is of no importance in our own work) and C, of course, against scurvy goitre.

Oatmeal protects against cabbage goitre, as does also manganese chloride.

And again, sodium phosphate protects against excess of lime.

Milk keeps the thyroid comparatively free of enlargement. The more defective the diet the more marked is the corrective value of milk. I always feel the thyroids of the school children I examine, and one of the questions I have enquired into has been the size of the gland in those who have milk lunches at school. I have not prepared any figures on the subject but I should say that though I

have not met frank goitre among the milk-drinkers, there is not much to choose between those who do and those who do not get milk, in the matter of minor degrees of palpability.

So you see how the two popular theories of the cause of goitre can be reconciled. Both lack of iodine and contamination of food and drink may precipitate the development of goitre, but neither is the fundamental cause, since neither will act if the diet is correctly balanced, always provided, of course, that the noxious influence is not overwhelmingly strong.

Not the least interesting aspect of this work of McCarrison's is his suggestion of how the first two of my seven fundamental facts—namely, that goitre may be endemic or sporadic—may be brought into the composite scheme for the whole subject. Take a hypothetical area where the water is very hard, where the inhabitants eat a great deal of cabbage, and where, say for religious reasons, they do not use butter or milk. Take another, where conditions are similar but dairy produce is popular. In the first, goitre may well assume endemic proportions with its ultimate concomitants of cretinism and deaf-mutism, while in the latter, goitre will only be sporadic.

To sum up this question of goitre. The simple goitres (with the exception of certain rare forms) are a single disease which passes through three stages of development, at first parenchymatous, then laying down colloid, and finally becoming nodular. The funda-

mental cause that produces enlargement of the thyroid is dietetic, and where the diet is defective or unbalanced, goitre is likely to arise, being endemic or sporadic according to the local concentration of goitre-producing or goitre-preventing factors.

Before leaving this question of goitre, I should like to add a few words regarding iodine, since it has usually hitherto been assigned the position of importance.

As a prophylactic, iodine is both safe and effective, provided it is used in one of the forms that has proved to be suitable—such as iodised table salt.

In treatment it may be beneficial or harmful. Histologically the effect of iodine is to produce colloid storage. It follows, therefore, that it will do most good in the parenchymatous types, namely, the goitre of puberty, the acute goitre (such as is met with in those who come to live in endemic areas), and in primary toxic goitre. It will be of doubtful value in the established colloid goitre. In the nodular types it so rarely does any good, and so often does harm, that its use is contra-indicated.

Whatever form of iodine is used—and Lugol's solution or the French tincture are the most popular because in them the iodine is held in suspension by potassium iodide—the utmost caution should be observed, a careful observation of the patient's weight and pulse-rate being maintained. There is no greater therapeutic tragedy than the conversion of a simple into a toxic goitre.

AN AMERICAN LETTER.

Our Correspondent speaks of the Annual Meeting of the American Medical Association—Poliomyelitis in California—the Measles Epidemic in the United States—the Political Side of Medicine—and Birth Control.

Poliomyelitis.

The annual meeting of the American Medical Association has just taken place in Cleveland, Ohio. While full reports are not yet available, there does not seem to have been anything startling announced. It is true that the lay papers are apparently more interested in the medico-political side than in medicine itself, though they do grab at anything sensational in the way of alleged medical discoveries. From the medical standpoint there are two outstanding features in this country.

The first is the outbreak of poliomyelitis in California, which is centred in Los Angeles County and Los Angeles City. Nearly 82 per cent. of the cases have been in children from 1 to 14 years inclusive. Only two cases have occurred in those over 34 years of age, and none in persons aged 55 and over. The death-rate has been extremely low, only 0.7 per cent. In the 1930 epidemic in Los Angeles the rate was 6.7 per cent. It is reported in the daily papers that an attempt is being made in Los Angeles to check the

disease by the injection of parental or adult serum, and a similar plan is being considered for San Francisco. Poliomyelitis is so irregular in its distribution, both as to cities as well as in a community, that this measure does not seem entirely rational. Certainly it has not the scientific basis of the injection of convalescent serum in measles. There are very few reports on the matter, but those are favourable, though the work seems to be lacking in control.

1934 a Measles Year.

From January 1st to June 9th there have been 602,990 cases of measles. The epidemic reached its peak during April, and is now decidedly on the decline. Unfortunately, many more cases than have been reported to the authorities have occurred, since there is a feeling that measles is a trivial disease not requiring the services of a doctor, and therefore not reported.

Socialised Medicine.

In what may be called the political side of medicine there is a good deal stirring. Those who were largely responsible for the report on the cost of medical care are still pegging at the subject and trying to carry it farther. They seem to be advocating and working for socialised medicine. The House of Delegates of the American Medical Association has thoroughly condemned this idea, and, while they recognise that the practice of medicine as it now stands is far from being perfect, believe that it is the best that can be achieved at present, and infinitely superior to any of the methods proposed by laymen who are working for a change. It is perfectly true that many people do not receive proper medical care, but this can hardly be laid at the door of the doctors, who do an enormous amount of charity work and who have been themselves very hard hit during the depression by the non-payment of bills. There seems to be little question that the enormous amount of charity given by "Foundations" has also been responsible for cutting down the work of those in general practice. In fact, we have been described as suffering from the "curse of philanthropy." Another point which is often left out of consideration is the enormous number of medical cults, running all the way from pure quackery or superstition up to a

third religion, a third quackery and a third superstition, and all of them notorious for ignorance and bigotry. In New York City alone there are more than 40 such cults.

Birth Control.

The question of birth control again came before the American Medical Association, as it has done for several years past. The idea was not accepted, though a resolution was introduced for the appointment of a committee to study the question and compile dependable facts for future guidance. In this country the biologists stand almost as a unit for the teaching of birth control, or at least for the modification of the laws which prevent its being taught. One great trouble is the attitude of some of the churches, notably the Roman Catholic and the Jewish. Many hold that, in view of our lack of knowledge, there seems to be no good reason for offending a large part of our religious world by endorsing birth control. Apparently a still larger number are held back because they do not feel that we know enough about it. One of your countrymen aptly said: "We do not know enough to nip unpromising buds." Something of the same idea seems to apply in the case of birth control.

Medical Assistance for Legislators.

Strange as it may seem, there has been developed a practice in Washington which can only be described as petty graft. A resolution was introduced and passed by the American Medical Association protesting against what is said to be a common practice in that city. Cabinet members, senators and representatives and their families are said to be among those who accept free medical treatment at the expense of the taxpayers of the United States. These people go to government hospitals and clinics, and there is even a physician employed at the Capitol. Certainly there seems no excuse for such a custom. It has been suggested that an alienist might well be employed to look after our law-making bodies. There is many a true word spoken in jest, and one remembers the old story of the chaplain in the Capitol who was asked if he prayed for the law-makers. He said no; he looked them over, and then prayed for the country.

MAZYCK P. RAVENEL, M.D.

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.

At the annual meeting of this Branch, held on June 30th, 1934, 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, Jas. Grant, J. Guy, R. Hamilton, G. V. T. McMichael, A. McWhan, B. R. Nisbet, J. Hume Patterson, H. Rae, J. Ritchie, T. Lauder Thomson, G. Pratt Yule, and Nora I. Wattie.

Representative on Council of the Society.—Dr. A. S. M. Macgregor.

The Honorary Secretary intimated that during the year two meetings of the Branch and six meetings of the Council were held. Frequent meetings of special sub-committees appointed by the Council relative to various matters also took place, and the past session was an exceedingly busy one. The usual activities of the Branch had to be curtailed owing to the pressure of work laid on the Council.

During the year Dr. Peters, of Glasgow, addressed the Branch on "The Evaluation of the Anti-Tuberculosis Scheme"; and Dr. Benson, of Edinburgh, introduced a discussion on "Immunisation with special reference to Diphtheria and Scarlet Fever." Both of these meetings were well attended, and the papers provoked considerable discussion.

During the year the Council, on behalf of the Branch, submitted memoranda to the Departmental Committee on Housing, the Departmental Committee on Food Law, and the Departmental Committee on Public Health Services. In each case representatives appeared before the Committee to support their written evidence, and it is satisfactory to note

that the views expressed received favourable consideration in the final reports of the Departmental Committee on Housing and Departmental Committee on Food Law. The Council's evidence before the Departmental Committee on Public Health Services has so far been confined to the environmental services, and the Council of the Branch is still engaged in the preparation of evidence for the medical and allied services, which will probably be submitted in the autumn.

During the year representatives had a meeting with officials of the Department of Health with reference to the problem of the chronic enteric carrier. This meeting proved very helpful, and it is anticipated that further progress will be made during next session.

The Honorary Treasurer reported that the amount to the credit of the Branch at the beginning of the year was £19 17s. 3½d., and that the Branch grant for the current session was £12 (96 members at 2s. 6d. each). The expenditure during the year was £9 8s. 10d. There still remained outstanding the expenses of the representative to the Queen's Institute and General Nursing Council, the details of which had not been submitted owing to illness. The balance in hand was £22 15s. 2½d.

THE EAST MIDLAND BRANCH.

President: Dr. W. M. Ash, M.O.H., Derbyshire C.C.

Hon. Secretary: Dr. J. A. Stirling, M.O.H., Chesterfield.

A meeting of this Branch was held in the Guildhall, Nottingham, on June 14th, 1934, the President occupying the chair. Twenty members were present.

The following short papers were given: (1) Failure of Breast-Feeding in the First Month (Dr. Pooler); (2) Left-handedness in School Children (Dr. Tibbits); (3) Scheme for Sub-probationers in Hospitals (Dr. Lilico); (4) The Holland (Lincs.) Scheme of Diphtheria Immunisation (Dr. England); (5) Disinfestation by HCN (Dr. Ferguson); and (6) Is a House and Shop a Dwelling-House within the meaning of the 1930 Housing Act?—Result of Appeal (Dr. Barker).

THE YORKSHIRE BRANCH.

President: Dr. Gladys J. C. Russell, Asst. M.O.H., (M. & C.W.), Leeds.

Hon. Secretary: Dr. James Mair, M.O.H., Harrogate.

An ordinary meeting of this Branch was held at the Education Offices, Calverley Street, Leeds, on May 31st, 1934. In the absence of the President, Dr. G. C. F. Roe occupied the chair, and was supported by twelve members.

It was reported that the resolutions relating to (1) Dr. G. F. Buchan's retirement from the Chairmanship of the General Purposes Committee, and (2) the Society's journal, which were passed by the Branch at their meeting held on February 23rd, had not been brought before the Council of the Society, and the Hon. Secretary was instructed to write to the Executive Secretary asking why this had not been done.

The Branch then proceeded to elect the officers for the session 1934-35, with the following results:—

President.—Dr. J. A. Scott.

Vice-Presidents.—Drs. G. Russell (*ex-officio*) and T. N. V. Potts.

Honorary Secretary and Treasurer.—Dr. J. Mair.

Nine Members of Council.—Drs. J. J. Buchan, T. Gibson, W. B. Hill, J. J. Jervis, G. H. Pearce, L. Pickering-Pick, G. C. F. Roe, R. L. Thornley and E. A. Underwood.

Four Representatives on the Yorkshire Branch of the British Medical Association.—Drs. W. B. Hill, J. J. Jervis, J. Mair and G. H. Pearce.

Representative of the Veterinary Group (Non-official).—Mr. W. T. MacGregor (nominated by the Group).

Representative of the Dental Group (Non-official).—Miss Rachel Sclare (nominated by the Group).

Dr. Roe referred to the loss that the public health service, and the Yorkshire Branch in particular, had sustained through the sudden death of Dr. A. W. Frew, Assistant Medical Officer of Health, West Riding County Council. The Hon. Secretary was directed to write to Mrs. Frew expressing the sympathy of the Branch in the great loss she had sustained.

Dr. Roe reported that the President (Dr. Gladys Russell) had recently lost her father, and the Hon. Secretary was directed to con-

vey to Dr. Russell the sincere sympathy of the Branch.

Dr. C. Metcalfe Brown (Medical Officer of Health, Dewsbury), in a paper on "Disinfestation," dealt almost exclusively with disinfestation in relation to bed-bugs in buildings and furniture. He felt that the infestation of new council houses was a matter of grave concern, and that efficient methods of disinfestation of houses and furniture were essential if expensive housing schemes were to be saved from the stigma of the slums. He discussed the question of whether all furniture removed from slum clearance areas should be disinfested or whether only furniture removed from houses known to be infested should be dealt with, and was of the opinion that all furniture should be disinfested. As regards the method of disinfestation, Dr. Brown advocated for houses which were only slightly infested the liberal application of boiling water, or one of the liquid insecticides recommended by the Ministry. Those methods were, however, relatively useless in cases of extensive infestation, and for these he advocated fumigation, and was inclined to favour sulphur. For the disinfestation of furniture he considered that, while reasonably good results could be obtained by soap, hot water and energy, combined with steam disinfestation of bedding, fumigation was the most effective method, and he favoured the use of hydrogen cyanide, chiefly because sulphur could not be trusted to kill all the eggs, while hydrogen cyanide killed some eggs, and it was claimed that it killed all eggs under normal conditions. Dr. Brown was not prepared to accept the claim that all eggs would be killed normally, and described some interesting tests which he had applied. Those tests had been accepted by the fumigating contractors, and while the results were somewhat anomalous, they appeared to show that cyanide did not kill all bugs under the test conditions.

Dr. Scott thought that Dr. Brown's tests were rather severe, and referred to Dr. Killick Millard's bug trap. He also drew attention to infestation of a clean house by second-hand furniture.

Dr. J. Gibson held that the tests were very fair, and was of opinion that no single application of any method would free a house from bugs; it must be repeated again and again.

Mr. Hornby, who was present when Dr. Brown's tests were carried out, considered the conditions hardly normal. The van used for the purpose was not air-tight; there was a strong wind and the temperature was low. He thought the results would have been better if the van had been gas-tight and the interior at a moderate temperature. He did not think that soap and water alone would get rid of bugs, but had found thorough creosoting efficacious.

Dr. J. J. Buchan said there was no royal road to disinfection. He did not think one application of hydrogen cyanide could free houses.

Dr. Jervis said that his council were erecting a large disinfection station to be run with hydrogen cyanide. Furniture was disinfected in all-metal gas-tight containers, electrically heated. The contents were submitted for four hours to a concentration of 2 to 3 per cent. of cyanide, and the gas was evacuated by a fan for two hours. Beds and bedding were disinfected by steam. The estimated cost of disinfection per house was 30s.

Dr. Brown replied briefly to the points raised, and was cordially thanked by the Chairman for his paper.

THE MIDLAND BRANCH.

President: Dr. G. N. Anderson, Deputy S.M.O. Staffs C.C.

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

The annual meeting of this Branch was held at the County Council Buildings, Stafford, on June 21st, 1934, the President occupying the chair. Nineteen members were present. Apologies for absence were received from 51 members. A letter was read from Dr. Charles Porter (President of the Society), regretting his inability to attend, and sending his good wishes for a successful and interesting meeting.

The following officers and members of Council were elected for the session 1934-35:

President.—Dr. J. A. M. Clark, Medical Officer of Health, Walsall.

President-elect.—Dr. P. G. Horsburgh, Medical Officer of Health, Nuneaton.

Vice-Presidents.—Sir John Robertson, and Drs. E. H. Snell, D'Arcy Ellis, Wyndham Parker, and G. N. Anderson.

Elected Members of Council.—Drs. G. A. Auden, P. S. Blaker, Ethel Cassie, 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 Council of the Society.—Drs. H. Gibbons Ward and R. H. H. Jolly.

At the conclusion of the meeting, members and their friends paid a visit to the Lotus Boot and Shoe Works, and were shown the various processes involved in the manufacture of ladies' footwear.

After tea, Mr. H. J. Bostock, a Director of the firm, welcomed the visitors, and referred to certain details of factory equipment which had to receive special attention when leather goods were being manufactured. He also humorously commented on the modern fashion in ladies' shoes, and suggested that the orthopaedic surgeon must be indebted to the up-to-date shoe designer for many of his patients.

The President and Dr. Clark warmly thanked Mr. Bostock for his kindness in arranging for the Branch to visit the Lotus Works, and also for his hospitality.

A cordial vote of thanks to the President for a most successful annual meeting, proposed by the Hon. Secretary and supported by Dr. Horsburgh, was unanimously accorded.

THE NORTH-WESTERN BRANCH.

President: Dr. Henry Whitehead, M.O.H., Wigan.

Hon. Secretary: Dr. J. E. Spence, M.O.H., Eccles.

The annual meeting of the Branch was held in the Town Hall, Wigan, on June 8th, 1934, the President occupying the chair. Twenty-one members and four guests were present.

The members of the Branch were cordially welcomed to Wigan by His Worship the Mayor (Mr. Councillor James Horne, J.P.) and the Chairman of the Health Committee (Mr. Councillor Ramsden).

The President referred to the honour conferred on Dr. R. Veitch Clark by the Council of the Society in recommending him for election as President for the session 1934-1935, and the Hon. Secretary was asked to convey to Dr. Veitch Clark the congratulations and good wishes of the Branch.

The Hon. Treasurer's accounts, which had been audited, were submitted and adopted, and the Hon. Secretary's report was also received and adopted.

On the proposition of Dr. C. O. Stallybrass, seconded by Dr. F. T. H. Wood, it was resolved that Dr. Henry Herd (School Medical Officer, Manchester) be elected President of the Branch for the session 1934-1935, and Dr. Herd thanked the members for the honour which they had conferred on him.

The following officers were elected for the ensuing session:—

Vice-President.—Dr. H. Whitehead.

Hon. Treasurer.—Dr. G. W. N. Joseph.

Hon. Secretary.—Dr. J. E. Spence.

Council Representatives.—Drs. H. Herd, G. W. N. Joseph, F. T. H. Wood, O.B.E.

Committee.—Drs. G. Lissant Cox, R. M. Galloway, G. Hamilton Hogben, E. K. Macdonald, Jean Mackintosh, C. O. Stallybrass, G. H. Trayer, F. Hall.

The President made reference to the long and honourable association of Dr. T. W. Naylor Barlow, O.B.E., who has recently retired from the public health service, with the Branch and the Society. Dr. Barlow had on two occasions been President of the Branch (in 1905 and 1932-33); for six years, from 1908 to 1914, he had been Hon. Secretary; for one year Hon. Treasurer; and during most of the time he had been a member of the Branch he was an active member of the Committee. Dr. Barlow was also President of the Society in 1923-24; Hon. Secretary for a period, and has been an active member of the Council for 30 years. His views and opinions have always been valuable and received with respect, and the members are deeply indebted to him for his many valuable services to the Society. The President asked Dr. Barlow to accept from the members of the Branch a camera and binoculars as a small token of regard and esteem, and expressed the hope that he would have many years of health and happiness and enjoy his rest from active service. In accepting the gifts Dr. Barlow expressed his thanks for the unexpected presentation, and was glad to receive it as a spontaneous expression of the many friendships he had made among the members of the Branch. He said that retirement was double sided; there was the pleasure in anticipating leisure to enjoy recreation and hobbies, but it marked a late milestone in the road of life and

was a reminder of lost youth. It was not the gifts but the spirit which had prompted the presentation which was most agreeable to him. He had been very happy in his long association with the Branch, and was glad that he had not engendered animosity but, on the contrary, had carried away the esteem of his friends and colleagues.

The members, together with the Mayor of Wigan and members of the Corporation, were then conveyed to Haigh Hall on the invitation of the Right Honourable the Earl of Crawford and Balcarres, K.T., P.C., F.R.S., D.C.L., who had arranged an exhibition of seventeenth century works and pamphlets relating to the Plague and Fire of London, and also of some early and valuable folios of Shakespeare. The members were afterwards entertained at tea, and on the proposition of the President, seconded by His Worship the Mayor of Wigan, a vote of thanks to the Earl of Crawford and Balcarres for his hospitality was unanimously carried, to which his Lordship briefly responded.

THE SOUTHERN BRANCH.

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

Hon. Secretary: Dr. A. B. Williamson, M.O.H., Portsmouth.

The annual meeting of this Branch was held at The Clinic, 1, East Park Terrace, Southampton, on July 6th, 1934. There was a good attendance of members and associates. In the absence of the President, Dr. R. H. Wilshaw was voted to the chair.

Sympathetic reference was made to the prolonged indisposition of the President (Dr. H. D. Kelf) which had prevented him from attending several of the meetings, and it was unanimously agreed to re-elect him as President for the ensuing session.

The other officers for session 1934-35 were elected as follows:—

Hon. Treasurer.—Dr. H. Leslie Cronk (Hampshire C.C.).

Hon. Secretary.—Dr. A. B. Williamson (Portsmouth).

Representative on Council of Society.—Dr. R. H. Wilshaw (Worthing).

Executive Committee.—Drs. W. J. Hart, H. C. Maurice Williams and T. E. Roberts.

The members then motored to the new Southampton docks, where they boarded the C.P.S. "Empress of Britain." After tea in the lounge, Dr. T. A. Seekings (Deputy Medical Officer of Health, Southampton) gave a most interesting address on "**The Work of a Port Medical Officer**," which was full of sound practical hints, culled from long experience in the port medical service. The recent Port Sanitary Regulations, 1933, were also fully explained. A discussion followed in which Drs. R. H. Wilshaw, H. Leslie Cronk, A. B. Williamson and J. Lockhart Livingston took part.

A hearty vote of thanks was accorded to Dr. Maurice Williams for arranging the meeting, and to the Directors of the Canadian Pacific Steamships, Ltd., for their kindness in offering facilities for inspection. Accompanied by the ship's medical officer, the party afterwards made a tour of the liner.

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 Llandough Hospital, Cardiff, on June 1st, 1934. Dr. Holmes occupied the chair, and 13 members and one visitor were present.

Mr. Quentin Davies, L.D.S., (School Dental Officer, Glamorgan County Council), read a paper on "**The Intractable Child**," in which he dealt fully with the question of child psychology in relation to school dental work, and traced how early environmental factors might later influence the reactions of the young patient to the dental clinic. A classification of children was made according to their response in the dental room, and further treatment was suggested for the different types of children encountered. A hearty vote of thanks, proposed by Dr. McSweeney, was accorded to Mr. Davies for his interesting paper, which it is hoped will be published in PUBLIC HEALTH.

A resolution was passed requesting the Honorary Secretary to communicate with the Council of the Welsh Branch asking them to

consider the advisability of holding meetings of the Branch at times and places more convenient to the majority of the members of the Sub-Group.

The election of officers for the session 1934-35 was deferred until another meeting.

Dr. D. A. Williams (Senior Resident Medical Officer) conducted the members over the Llandough Hospital, and the tour proved very interesting. The members of the Sub-Group expressed their thanks to Dr. Greenwood Wilson (Medical Officer of Health, Cardiff) and to the members of the staff at the Llandough Hospital for their generous hospitality.

THE FEVER HOSPITAL MEDICAL SERVICE GROUP.

President: Dr. H. Stanley Banks, Med. Supt. Park Hospital, London County Council.

Hon. Secretary: Dr. Alexander Joe, D.S.C., North-Western Hospital, London County Council.

The annual general meeting of this Group was held at the house of the Society on June 29th, 1934.

The President, office bearers and members of Council for the session 1934-35 were announced as follows:—

President.—Dr. H. Stanley Banks.

Vice-Presidents.—Drs. E. W. Goodall, Sage Sutherland, E. H. R. Harries and F. H. Thomson.

Hon. Secretary.—Dr. A. Joe.

Members.—Drs. Topping, Cubley, Gunn, Armstrong, Anderson, Leete and McGarrity.

Assistant Medical Officers.—Drs. Swyer, Thompson and Blake.

Scottish Representative.—Dr. Reid (Motherwell).

Representative Medical Officer of Health in charge of Fever Hospital.—Dr. R. J. Maule Horne.

A paper on "**Malignant Diphtheria, with observations on Cardiovascular Failure and Methods of Treatment**" was read by Professor Ulrich Friedemann, of the National Institute for Medical Research. This must be ranked as one of the most remarkable papers ever put before the Group, and Dr. Friedemann was cordially thanked for placing his erudition and experience at the disposal of the members.

At a meeting of the Council of the Group held previously it was agreed that the proposal of Dr. Ernest Ward to alter Article 19 (d) of the proposed Articles of Association of the Society should receive the full approval of the Group.

THE COUNTY DISTRICT GROUP.

President: Dr. F. C. Linton, M.D.H., Tunbridge Wells.

Hon. Secretary: Dr. C. E. E. Herington, M.O.H. Erith.

The annual meeting of this Group was held at Bristol, on July 12th, 1934, the President occupying the chair. Twenty-six members were present.

The following officers were elected for the session 1934-35:—

President.—Dr. K. E. Tapper, O.B.E.

Vice-President.—Dr. A. F. Adamson.

Hon. Secretary.—Dr. Caryl Thomas.

Representative on Council of the Society.—Dr. Caryl Thomas.

THE JOINT TUBERCULOSIS COUNCIL.

A meeting of the Joint Tuberculosis Council was held at the house of the Society of Medical Officers of Health on May 26th, 1934, Dr. S. Vere Pearson occupying the chair. Nineteen members were present. The Chairman expressed regret that Dr. Lissant Cox was unable to be present owing to a temporary indisposition.

The following committees were elected:—

Pneumothorax.—Drs. R. R. Trail (Convener), S. Vere Pearson, G. Jessel, W. Brand, D. P. Sutherland, Jas. Watt, C. O. Hawthorne, D. A. Powell and Peter Edwards.

Employment.—Drs. J. B. McDougall (Convener), D. P. Sutherland, Jane Walker, G. Jessel, Peter Edwards and C. O. Hawthorne.

Entertainment.—The Officers of the Society and Dr. G. R. Heaf.

Publicity.—Drs. G. Lissant Cox (Convener), Jane Walker, Ernest Ward, G. Jessel, C. O. Hawthorne, L. S. T. Burrell and S. Vere Pearson.

The prevention of human tuberculosis of bovine origin was considered, and after discussion a committee—consisting of Professor

Representative on Metropolitan Branch Council.—Dr. C. Herington.

Executive Committee.—Drs. Brocklehurst, Buchan (G. F.), Dupont, Herington, Linton, Macdonald (J.), Nash, and Stirling (J. A.).

The following were elected as Hon. Secretaries of the Sub-Groups:—

East Midland.—Dr. Barker.

Midland.—Dr. Horsburgh.

Northern.—Dr. M'Gonigle.

North Western.—Dr. Marsden.

Welsh.—Dr. Prichard.

West of England.—Dr. Weaver.

Yorkshire.—Referred to Branch.

Eastern.—Referred to Branch.

Dr. H. L. Barker (Medical Officer of Health, Ilkeston), in opening a discussion on two cases of appeal to the county and higher courts under the Housing Act, 1930, gave details of the properties concerned and the steps followed by his authority.

Drs. Horsburgh, Geffen, Wilson, Corfield, Dupont, Gibbons Ward, Symons and Brocklehurst contributed to the discussion, and Dr. Barker, who was warmly thanked for his paper, replied to the points raised.

W. W. Jameson (Convener), Drs. Jas. Watt, C. O. Hawthorne, W. H. Tytler, Lissant Cox, Jane Walker, Esther Carling, Neville Cox and D. P. Sutherland—was appointed "to study and report upon the milk supply in reference to the promotion of health and the prevention of disease, especially tuberculosis." The Committee was allowed power to add to their number as seemed desirable to them.

On behalf of the Pneumothorax Committee, Dr. Trail reported that the Medical Research Council had made a grant up to £200. The final memorandum would be submitted to the Medical Research Council, who would be entitled to publish it if they so desired. The action of the committee was approved.

The Council decided to appoint a committee—consisting of Dr. Ernest Ward (Convener), with Drs. F. W. Goodbody, D. P. Sutherland, J. C. Gilchrist, G. T. Hebert, G. Jessel, W. Burton Wood and L. S. T. Burrell—"to consider and report on the examination of contacts, and the discovery of early or latent tuberculosis, especially among adolescents." This committee also was empowered to add to their number.

The Literature of Preventive Medicine.

A Short History of the Epidemic Infectious Diseases. By E. W. GOODALL, O.B.E., M.D.
London: John Bale, Sons and Danielsson, Ltd., 1934. pp. 113. Price 3s. 6d. net.

Dr. Goodall has made many interesting and valuable contributions to the literature of infectious diseases. It may be questioned, however, if he has done anything better than bring together in the form of this delightful little volume, the histories of the several acute, infectious, epidemic diseases, and of certain of the subjects connected with them, which he has ferreted out from amongst the many papers and books in which they have been concealed.

It is unnecessary to say that the book is well written. Equally, there is no need, having regard to the title and the subjects dealt with, to add that the book is a fascinating one to read.

The Last of the Taboos. By ISABEL EMSLIE HUTTON, M.D., Hon. Physician, British Hospital for Functional Mental and Nervous Disorders, etc. London: William Heinemann (Medical Books) Ltd., 1934. pp. 204. Price 6s. net.

The sub-title of this volume, "Mental Disorders in Modern Life," is introduced to show that it is these disorders that are regarded as the last of the taboos. The main objects of Dr. Hutton appear to be to claim more kindly thought for those who are suffering from mental disorders, and to try to bring comfort and some degree of sympathy to the relations and connections of persons so suffering by assuring them that much, if not all, of the worry over possible stigmas is unnecessary.

The book is one that may be commended to others than members of the medical profession. By members of the public health service, because so much of its atmosphere is preventive, it may with advantage be read, as it may also by others, including lawyers, clergymen, etc., for whom it is claimed to have been particularly intended.

The contents of the volume have been carefully and appropriately chosen so as to make the situation clear for such readers. A simple outline of the various maladies included in the term "insanity," together with their prevention and treatment, is given, and there is a chapter on mental deficiency in which it is shown wherein this congenital or inborn malady differs from mental illness. There are also

interesting and helpful notes upon sterilisation and the more important legal points concerning the mental patient that make it plain that there is room for improvement in the existing laws. The last chapter, headed "The Future," which contains a number of suggestions preventive in character, is one to be read and pondered.

In the Annual Reports.

HOUSING OR DIET?—As a medical officer of health I have dealt with better housing, cheap and varied food supplies and employment, as a higher standard of living is far more important to the public health than all the other health measures combined, and if I had to put these essentials to a higher standard of living in their order of importance I should certainly put a full and varied diet in the first place.—*Dr. Duncan Forbes, Brighton.*

IMMUNISATION v. HOSPITALISATION.—The approximate cost of treating one case of diphtheria in Wakefield, for the period during which active immunisation has been proceeding, was £11. For this sum 46 persons could have been immunised. A total of £6,469 was spent on treatment of cases of the disease during the same period—a sum sufficient to immunise more than twice the total child population of the city; or, viewed from the point of view of the total population, an expenditure which, if continued at the same rate, would make possible the protection of every person in the city (approximately 60,000 population) in about three years.—*Dr. Thomas Gibson, Wakefield.*

OPTIMISM?—The physician of the future should be able to steer the population free from most of the diseases from which we suffer, and restore to health those in whom indiscretions or misfortunes have upset the physiological balance. Of the cure of disease which has progressed to permanent alteration of structure we have no great hopes, though surgery, by the removal of diseased or disorganised structures, will always be able to extend the lives of the somewhat damaged remains. The acute diseases, the infections, will probably yield to improved physiological management, and the neuroses and psychological maladjustments will in great part disappear when man recognises the method of their causation, and the public mind is re-orientated to see disease in its true light. Whether we shall do anything with eugenics to improve the stock and eliminate those defects which are mainly hereditary remains to be seen. Most certainly we shall do little whilst we remain at cross purposes. But this may pass if our chief centres of learning cease degenerating into technical schools and return to the teaching of metaphysics, so that our leaders in politics, sociology, religion and humanity will be taught to think and to jettison the gross materialism which renders their efforts barren and contemptible.—*Dr. Dunstan Brewer, Swindon.*

PUBLIC HEALTH

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Editorial.

The Ministry of Health Report, 1933-34.

AS in former years the subjects dealt with in the Annual Report of the Ministry of Health* fall under the main heads of Public Health, Housing and Town Planning, Local Government and Local Finance, Poor Law, National Health Insurance and Contributory Pensions, with, in addition, a separate section devoted to a consideration of the work of the Welsh Board of Health. Between this report and its predecessors, of recent years at any rate, there is this difference, that although the period 1933-34 is fully reviewed, a great deal of space is devoted also to a survey of the public health scheme as a whole, and a description of the lines

* Cmd. 4664. H.M. Stationery Office. Price 6s. net.

of its development and the factors and influences that have determined its form and formation. Largely it was inevitable that there should have been given at or about this time some special survey of the public health services of the country. The Local Government Act, though it has not been in operation many years, has been operative a sufficiently long time to allow the main re-organisation for which it provided to be established, though perhaps not very fully tried. Moreover, the surveys of local health services carried out under the Act have been numerous enough to give a general idea of how matters stand in the more important areas in the country. In the whole of the report there is probably nothing more interesting and useful than this "Survey of Surveys" and the historical note that precedes it. In this there is outlined the development of the services generally, prior

to the Local Government Act, 1929; the position at the time of its passing in relation more particularly to infectious disease, tuberculosis and maternity and child welfare; the effect of the Act in the direction of co-ordination of various services and functions, poor law and public health; the circumstances affecting the development of medical services; the institutional provision for the sick by county borough councils and county councils; and so on—all set out in a form certain to be appreciated and that, if it could be brought into their hands, would be found eminently readable and probably in many respects surprising by the individuals for whom chiefly all the developments, co-ordinations and what not have been devised and carried out. In the survey there may be noted particularly the references made to the work done in relation to food control. The paragraphs devoted to the medical officer of health are not without importance, containing a number of statements that these officers will, and possibly other persons may, be ready to endorse. The evidences of progress made are very numerous in this section of the report, not only along established lines, with regard to infectious disease, tuberculosis and so on, but in relation to new activities—public assistance, medical services and welfare of the blind, for example.

In other sections there are proofs of progress, not only over periods of years but in the year properly under review. In relation to housing, for instance, the advances made have been astounding, more especially in the past twelve months, though what has been done since the armistice constitutes a record truly remarkable. That these housing works have been responsible for some of the changes in the infectious disease and tuberculosis situation, as regards both prevalence and mortality, is not improbable. That there have been such changes following the improvements in housing afford grounds for belief and hope that even greater advances will follow from the slum clearances and betterments in housing conditions made in 1933-34, and that are to occur as the five-year plan unfolds. As showing the rate at which this process is taking place, it is necessary to mention only that in 1933-34, 1,718 clearance areas with a population of 135,012 persons were declared, and that of 780 clearance orders submitted to the Minister of Health for confirmation, 491, involving the displacement of 45,830 persons, were confirmed. Of houses of a rateable value not exceeding £78 (£105 in Greater London) completed in England and

Wales, there were 266,622. The total number built without State assistance was 209,836, of which 207,869 were erected by private enterprise. In regard to private enterprise in relation to housing provision, the view taken appears to be highly optimistic, statistics available giving "reason to believe that the Government's reliance upon private enterprise as the main source of the future supply of working-class houses was not misplaced."

Generally, indeed, throughout at any rate the Public Health and Housing sections of the report, there are grounds for optimism. Even in the sections dealing with finance, and the administration of national health insurance and contributory pensions, there are grounds for satisfaction also. If the sums of money expended are colossal, and there is less evidence than there is in regard to public health of a return, it must be accepted that, since they must have meant food and housing and possibly happiness and consequently health to large numbers of persons, they were not badly invested. For the report as a whole it may be claimed that it is a record not only of hard work but of great achievement also. That there is in it credit for the Minister of Health and all engaged in the health service of the nation is a claim that justly may be made.

* * * * *

Health in the Factory in 1933.

POSSIBLY it is because accidents are so very much in the public mind at the moment, that both on the air and in the press the comments made had reference chiefly to what the Chief Inspector of Factories and Workshops had to say with regard to this matter in his report for 1933. As a fact, the position so far as regards industrial accidents year by year is one calling for serious consideration, and though reasons exist to account for the increase in 1933 (from 106,164 to 113,260 in the case of total numbers reported, and fatalities from 602 to 688), the Chief Inspector finds himself driven to make special reference to the anxiety he feels. Particularly he is concerned because so many of the accidents that occur are avoidable: because the "contempt for transmission machinery . . . which is responsible for a wholly unnecessary toll of death and disablement is almost incredible"; and because the chief hindrance to the avoidance of accidents in the main is a contempt for the factors constituting danger, a want of appreciation of the risk on the part of

those exposed to it, combined with indifference on the part of a small fraction of employers. To some extent the increase in 1933 was due to the fact that individuals who had been unemployed for a period, on their return to work were less skilful in the use of tools and machinery. At the same time, however, uneasiness on the part of the authorities at the continued high figure is understandable, having regard to the variety of the preventive measures adopted, and the encouragement given to any scheme for educating the industrial public with regard to risks and their avoidance. That the conclusion reached should be that there is nothing for it but to persevere with education is not to be wondered at, and generous recognition is given to the National "Safety First" Association and the Industrial Welfare Society for the assistance rendered in this connection.

In the report a happier note is struck in regard to industrial diseases and their prevention, though the task of dealing with them is recognised to be a very difficult one. The chapter in which these conditions are discussed under the head of Health, contributed by Dr. John C. Bridge, C.B.E., the Senior Medical Inspector, is as usual, from the point of view of persons charged with the care of the public health, one of the most attractive and interesting. So far as general health was concerned, 1933 presented no particular feature, climatic or other, which could be held to have influenced the health of workers in any way. In the report for 1932, Dr. Bridge had certain general remarks to make upon the effects of industrial work, and this year he introduces a note by Dr. Sybil Horner on the effect of such employment on women. The question of women's work being very much to the fore on account of the economic situation, the time for making and publishing a review of the sort provided by Dr. Horner has been well chosen. What she has to say is extremely interesting and is certain to be widely quoted. The number of women and girls engaged in industrial occupation is round about two millions, and from her observations the general conclusions at which she arrives are that though there are benefits to them as a result of the stimulating effects of the discipline and interests attendant on factory life and the high standard of living that is the wage-earner's, there is an adverse side, though it seems to be shown mainly as an early attainment and rapid loss of physical attraction. It is claimed, however, that these beneficial and adverse effects

balance one another, and the nett result is good and getting better. Comparing men and women as regards the reaction to repetition processes, Dr. Horner finds that the latter are less likely to find them monotonous and boring, mainly because they are more adaptable than members of the opposite sex and can more readily maintain a nice balance between attention and detachment.

In the space he is able to give to a discussion of the industrial diseases, Dr. Bridge devotes most attention to new forms of poisoning occasioned by the use of chemicals, many of them complex in character, of the effects of which on the human subject little is known. Diseases of the lung due to the inhalation of inorganic dusts, and, in particular, silicosis and asbestosis, come in for special mention also. In regard to the latter, reference is made to investigations entrusted to Professor Carl Prausnitz by the Medical Research Council's Committee on Industrial Pulmonary Disease into "cotton card-room workers' asthma," in the production of which a substance resembling histamine, present in cotton dust, may play a part. In the case of sand-blasters, it is shown that there is a possibility of a great move in the direction of prevention of silicosis and silicosis with tuberculosis as the result of the substitution of steel grit for sand and siliceous material as an abrasive. Certain substances, particularly french chalk and glass silk, against which charges had been brought that they might be responsible for lung fibrosis or injury to the throat and skin, were, it is interesting to learn, proved during the year much less guilty than had been suggested. In the case of glass silk this is of some importance, since the manufacture and use of the material is comparatively recent in this country.

The references to the newer forms of chemical poisonings are to be found mainly under the head of "Fumes and Gases." Here the occurrence of cases of illness and death amongst persons working on an experimental plant for treating cellulose acetate silk yarn with diethylene dioxide ("Dioxan") in an artificial silk factory is reported. Dr. Henry, who investigated the outbreak, describes the distressing series of symptoms from continued inhalation of this substance, death being preceded by acute hæmorrhagic nephritis and ultimately suppression of urine, uræmia and coma. The work, it may be noted, has been stopped and will not be re-commenced until all means to ensure safety

of the working conditions are adopted. Arising out of this incident, and having regard to the increasing use of new organic compounds as solvents and the absence of clear relation between toxicity and chemical constitution, it is noted that the Imperial Chemical Industries have now taken steps to have all such substances submitted to a physiological test before they are placed on the market. Amongst important references in the report are those to epitheliomatous ulceration and cancer. The situation so far as these are concerned, though described as "menacing," is not to be regarded as entirely discouraging, there being very distinct possibilities in certain cases and industries that preventive measures may be devised and operated. The number of cases of dermatitis voluntarily reported during the year, it is noted, was higher than in any previous year. In discussing this distressing and disabling condition, Dr. Bridge urges the necessity of the regular inspection of workers' hands by a careful observer. The advantages secured are that the necessary precautions are more likely to be observed by the individuals at risk, and the early signs of skin irritation can be detected and relieved before the resistance of the skin breaks down. Amongst the notifiable conditions, apart from epitheliomatous ulceration, the only one that returned a higher figure than in 1932 was anthrax, which gave 21 as against 16. The increase, it is shown, was amongst persons handling hides and skins, articles notoriously difficult to disinfect.

The final note in Dr. Bridge's chapter has reference to certifying surgeons and their work. In this, mention is made of the fact that Dr. Toulmin of Preston "pays tribute to the ready assistance he has received from colleagues in the public health department on doubtful cases coming before him for certificates of fitness." Further in regard to co-operation, it is mentioned also that continued consideration is being given to "practicable means of linking up school medical inspections and the examinations by the certifying surgeon with the work of the juvenile advisory or employment committees." The advantages of these various forms of co-operation, to young people particularly, are so obvious, that it may be hoped that a satisfactory method of bringing them about may soon be established. In opening, the report of the Chief Inspector was described as both attractive and interesting. That these epithets are properly applied to it generally and to the chapter on Health particularly will be agreed, and they are repeated.

The Standardisation of Hospital Equipment.

"THERE are too many varieties of the same article in use, differing in non-essentials only, the prices paid covering a correspondingly wide range . . . and, except in a few instances, there is but little evidence of really 'expert' buying: very few attempts are made to give technical specifications of the required articles, and, in the absence of such details, accurate checking of deliveries is impossible." These are the criticisms offered by the Committee on Hospital Equipment, which was set up by the Public Health Congress, under the chairmanship of Professor Jameson, to explore the possibilities in this country of standardisation of hospital equipment. Mainly it was the arrangements in the voluntary hospitals that were investigated. In addition, however, information was obtained from various government departments and county and municipal authorities. A survey of the available literature on standardisation and central purchasing in other countries, especially Germany and the United States of America, was carried out, and it was as a result of all this work, to which much time and labour were given, that the findings set out above were reached. The fact that by local authorities in this country, the larger ones particularly, some attempt is made to secure the advantages of co-operation, group buying and so on, is noted. It is shown, however, that there is very great need for organised work on a large scale if the undoubted advantages associated with the procedure are to be secured. The report describes very fully what these advantages are and the methods that might be adopted to that end. The conclusions reached by the Committee were:

1. Some 30 per cent. of the total maintenance costs of hospitals is incurred in respect of goods which can readily be standardised without affecting the efficient working of the institutions or interfering in any way with the requirements of the professional staffs.

2. Amongst other advantages, standardisation results in:—

(a) considerable economies, due to reduction in the number of types and consequent lowering of manufacturing costs;

(b) improvement of design, rendering the articles more generally suitable for the purpose for which they are required;

(c) greater ease and efficiency in the examination of deliveries.

3. The full benefits of standardisation can only be secured under a system of bulk purchase which provides for expert buying, the uniform testing of supplies and a constant review of markets and developments.

The recommendation of the Committee to the Public Health Congress was that the report should be submitted to the Minister of Health, with the suggestion that it be distributed amongst local authorities and other bodies concerned, and that he should be urged, in the interests of economy, to take such other steps as may be necessary to promote co-operation between these authorities in the purchase of hospital supplies. Accepting this suggestion, the Minister has caused copies of the report to be sent to all local authorities, and with it a circular (1410) directing special attention to the report on the ground that it contains information that may be of value. At the same time, the very real importance attached to standardisation by the Minister is revealed, the hope being expressed that very shortly a report on the subject by the Committee on Standardisation and Simplification of Requirements of Local Authorities, set up by the Associations of Local Authorities, will be issued and that local authorities will give attention to the suggestions it contains.

Housing.

HAVING regard to its excellence and the fact that it cannot fail to prove both helpful and stimulating to local authorities and possibly also their officers, special attention may be directed to a Summary of the principal provisions of the Housing Acts and Public Health Acts in relation to the maintenance of dwelling-houses in a reasonably fit condition,* which the Minister of Health has recently caused to be prepared in the hope that the bringing together of scattered provisions might be a convenience.

In a circular (1425) accompanying the summary, recognition is expressed of the value of the work done under those provisions by the local authorities. At the same time, however, the importance of prompt and continuous action by such authorities under the powers they possess is again emphasised. The maintenance of houses in a proper state of repair is of necessity an ever-continuing task, and a relaxation of effort by the local authority will result in large numbers of persons in the town or district living

in unsatisfactory housing conditions, and may result in the creation of conditions which can only be remedied by more stringent measures.

The summary is particularly opportune and is of real value, not only because it is informative as to powers, but because it must act as a reminder in regard to duties. The summary should be in the hands of every member of every local authority.

The Bacteriological Examination of Water Supplies.

IN public health bacteriology of recent years in this country there has been insufficient uniformity in the technique employed by different workers in the examination of water supplies, and, in consequence, neither the actual data obtained nor their hygienic interpretations have been comparable. Report No. 71 in the Ministry of Health series on Public Health and Medical Subjects* takes this matter up and seeks (1) to provide a description of technique the adoption of which will ensure sufficient uniformity in the practice of bacteriological examination of water to permit of comparison of the results obtained in different laboratories; (2) to explain to sanitary inspectors and others the precautions necessary in obtaining and transmitting samples to the laboratory; and (3) to assist in assessing the results of bacteriological examination in terms of hygienic quality.

Discussing the report, Sir George Newman makes it clear that it is not to be regarded as a rigid specification the non-observance of which would invalidate the conclusions drawn from an examination of a sample of water. Neither is the technique described to be regarded as a new contribution to the science of bacteriological analysis of water.

From the practical point of view of the health department, Appendix A on sampling is particularly valuable. Note may be made also of the fact that special attention is drawn to the importance of correlating exact topographical conditions with bacteriological findings, and to the fallacy of drawing final conclusions from a single bacteriological examination of any water. Correlating, as it does, tests of which many modifications are at present current, and suggesting standards for a routine in water examinations, the claim

* H.M. Stationery Office, 1934. Price 2d. net.

* H.M. Stationery Office, 1934. Price 9d. net.

made for the report that it will contribute to a greater degree of unanimity of opinion on the hygienic quality of any of our diverse water supplies will be conceded very readily.

* * * * *

Prevention of Tuberculosis of Bovine Origin.

DR. D. H. MILLS (Tuberculosis Officer, Stoke-on-Trent), taking part in the discussion on "The Prevention of Tuberculosis in the Child under five years of age," at the National Conference on Maternity and Child Welfare at Birmingham, submitted a contribution on the question of tuberculous infections of bovine origin, and brought out a number of points deserving of note.

In his view the solution of the tuberculosis problem in young children depends largely on the distribution of a safe and tubercle-free milk. One had only to examine the English mortality figures to disprove the statement that bovine infection in children ran a benign course with an ultimately favourable prognosis. In the pre-school child its invasiveness equals that of the human type and is equally fatal. No words could condemn too strongly the theory that tuberculous milk in moderate doses appears to play an important rôle in immunising the child against infection by the human type of the disease. Infected milk and its derivatives, butter, cream, and cheese, constitute the main source of danger. About 40 per cent. of milking-cows in this country are infected with tuberculosis; a fair average percentage of tubercle-infected milk for the whole country appears to be between 7 and 9 per cent. The bacillus has been reported alive and virulent in butter after periods of three weeks and five months, and in cheese after 200 days. Dried milks are safe and tubercle-free, but non-pasteurised condensed milk can convey the organism. Although from the method of entry the abdominal organ bear the brunt of disease in childhood, and the infant's bowel is apparently very pervious to the organism, no organ of the body is exempt; in the age-group 0 to 5 years the glandular system, specially the cervical, is the site of predilection. Dr. Mills pointed out the paramount importance of the part played by the maternity and child welfare services in the ante- and post-natal welfare of the mother. He urged that everything should be done to help her to breast-feed her baby (except where she herself was tubercular) by careful attention to hygiene, suitable diet,

and the creation of a healthy frame of mind with as much freedom from worry as possible. Educational measures are still the mainspring of our attack on this disease, hence the importance of carefully supervising and considering the work of health visitors, particularly regarding the hygiene and environment of the home and the household milk supply. A permanent traffic way from welfare centre to tuberculosis dispensary would play a great part in the eradication of infantile tuberculosis of bovine origin. The production of a safe and tubercle-free milk was discussed. Pasteurisation, as a commercial proposition, prolongs the keeping qualities of the milk, but increases the possibility of the sale of stale milk; does nothing to eliminate the tuberculous cow, and tends to retard rather than to encourage the production of clean milk. In the home, pasteurisation was easy: the utensils used, with the exception of the thermometer, were the ordinary domestic ones. Alternatively, milk could be boiled. Cod liver oil, fresh fruit and vegetable juices could be added to the diet. The ideal to be aimed at is the production of milk guaranteed to be free at its source from the tubercle bacillus. There is one possible fallacy in the tuberculin-testing of cattle; during the negative energy stage the test would be negative, and a clinical veterinary examination would invariably reveal gross tubercular disease in such an animal. Dr. Mills urged the routine adoption of the intradermal tuberculin test for infants, and the direction of concentrated effort to the positive reactors. In this connection he quoted Sir Robert Philip: "Such determination is the first essential step towards effective detuberculation of the individual and ultimately of the community." In conclusion, Dr. Mills urged that every nursery, every home, every school, should be run on the physiological principles which form the basis of sanatorium life.

* * * * *

Obituary.

CECIL WILLIAM HUTT, M.A., M.D., B.CH.,
M.R.C.P., D.P.H.

THE Society records with great regret the death, on August 20th, at his home at Kew, of Dr. C. W. Hutt, Medical Officer of Health of the Metropolitan Borough of Holborn. Dr. Hutt was educated at St. Paul's School, at Trinity College, Cambridge, and at St. Bartholomew's Hospital, and during the course of his studies gained numerous distinctions. Before

commencing his long period of service at Holborn, he had held appointments as Deputy Medical Officer of Health and Senior School Doctor for Brighton, and as Medical Officer of Health and School Medical Officer for the Borough of Richmond and the County Borough of Dudley. Dr. Hutt was Lecturer in Public Health at Charing Cross Hospital; a Fellow of the Society of Medical Officers of Health and Royal Society of Tropical Medicine and Hygiene and a member of the Executive Committee of the Royal Institute of Public Health. He was formerly an examiner for the D.P.H. of the English Conjoint Board. Dr. Hutt was the author of several well-known text-books, among them "Hygiene for Health Visitors, School Nurses and Social Workers"; "International Hygiene"; and (with Sir William Hamer) "Manual of Hygiene."

At the funeral service, held at St. Luke's Church, Kew Gardens, on August 23rd, the Society was represented by the President (Dr. Charles Porter). Among other of Dr. Hutt's colleagues in the public health service who were present were Dr. Andrew J. Shinnie (Westminster), Dr. G. Clark Trotter (Islington), Dr. John Macmillan (Woolwich), Dr. A. Ferguson (Stepney), Dr. E. H. T. Nash (Heston and Isleworth), Dr. Charles Sanders (formerly of West Ham), Dr. H. A. Bulman (St. Marylebone), and Dr. Duncan Forbes (Brighton). In addition to wreaths sent by the Mayor, Aldermen, Councillors and staff of the Holborn Borough Council, there were floral tributes from professional societies and organisations with which Dr. Hutt had been associated, including the Metropolitan Branch of the Society of Medical Officers of Health, the Council of the Royal Institute of Public Health, and the National Baby Week Council. The interment took place at Richmond Cemetery.

Dr. Hutt, who was 54 years of age, leaves a widow and three children, to whom the sympathy of the Society is extended in their great loss.

FREDERICK DITTMAR, M.D. GLAS., D.P.H. CAMB.

The death of Dr. Frederick Dittmar, who retired early in the present year from the post of Medical Inspector in the Department of Health for Scotland, is also recorded with regret. Born in Edinburgh, Dr. Dittmar studied at the Universities of Glasgow and Vienna. He graduated M.A. at Glasgow University in 1889, and M.B., C.M. in 1893, taking the M.D. (with commendation) in 1896.

For some time he was Medical Officer of Health of Scarborough, and later became Assistant Medical Officer of Health for Glasgow. He served successively in the Local Government Board, the Scottish Board of Health, and the Department of Health for Scotland. Dr. Dittmar took the Cambridge D.P.H. in 1901, and in 1914 he joined the Royal College of Physicians of Edinburgh as a Member, becoming a Fellow in 1918. In 1922, in association with Dr. Gerald Leighton, he investigated the epidemic of food poisoning at Lock Maree, in which, for the first time in Scotland, the *B. botulinus* was identified as the cause.

Dr. Dittmar, who was the author of numerous works on public health subjects, was a Fellow of the Society of Medical Officers of Health. He leaves a widow and three daughters.

THE salary of Dr. James Robertson as Medical Officer of Health of Darwen has been increased by £50 per annum.

THE Committee of the International Health Office, Paris, decided in 1929 that it could best give effect to a number of provisions in the International Sanitary Convention, 1926, by arranging for the preparation of a *Quarantine Annual*. The first edition, comprising some 650 pages and containing information from 40 countries, was accordingly prepared and was published in 1930. It was very well received, and there has been a steady demand for it. The second edition (its title has been changed to *International Quarantine Directory*), is a much larger volume, of over 1,000 pages, which contains information from 100 countries, comprising practically every seaport in the world of any importance, on port sanitary dues, costs of fumigation, quarantine anchorages, boarding stations, arrangements for medical treatment and on many other matters concerning the equipment and organisation of the public health services of the various ports. Port sanitary authorities, shipping companies, port medical officers, ships' surgeons and others interested in port and quarantine administration will find this book of considerable value in connection with their official duties. Copies of the new edition in English (price one guinea, post free), may be obtained from Dr. M. T. Morgan, Ministry of Health, Whitehall, London, S.W.1.

The Dysgenic Effect of the Social Services.

By J. A. SCOTT, M.D., D.P.H., Medical Officer of Health and School Medical Officer, Barnsley.

"The substance of this paper, originally planned to be given in January (but not read until March, at a meeting of the Yorkshire Branch), has necessarily been affected by the publication of the Report of the Departmental Committee on Sterilisation, but has not been substantially modified. Indeed, its sub-title, which might have been "A Plea for Sterilisation," can now, following the official advocacy of the procedure by the Committee, almost become "A Confession of Ignorance." These are the words of the author of this contribution. Whether or not his description is fair, the reader will decide for himself: that the paper is interesting and attractive he is certain to conclude in any case.

BY the social services I mean the personal health services: maternity and child welfare, school medical and tuberculosis, together with public assistance, which is closely related locally and part of the same department centrally. They are, of course, essential elements in a civilised community and are so well established, and have contributed so immeasurably to human well-being and happiness, that they can afford to withstand a little criticism.

Probably very few welfare centres have not on their registers and attending regularly for advice on feeding and hygiene—and possibly for free food—at least one mental defective. In seven years I have never encountered less than one a year—mongols, feeble-minded and even imbecile children. The pathetic belief of some of the mothers, as the child fails to sit up, stand, walk and talk at the proper time, that the doctor will be able to "do something" is distressing. Probably most medical officers in similar circumstances have wished, not only that they could stop the birth of these infants, but that there existed some appropriate and legal form of euthanasia. These mothers and infants have, of course, as much right to the benefits of the welfare centre as anyone else, and on humanitarian grounds alone no one would

wish to interfere with these rights. Whilst these cases illustrate, they form no part of my criticism of, the dysgenic effects of the social services.

The criticism is based in brief on a differential birth-rate, most births occurring in the lowest, and, therefore, least intelligent, sections of the community, from which most mental defectives originate, and a great fall in the death-rate and infant mortality rate, which has benefited most those sections where the birth-rate is highest and where most mental defectives tend to appear.

The social services under review are largely responsible for that drop and, therefore, for the survival of more mental defectives.

There can be no question of the differential birth-rate. The late Dr. Stevenson, of the Registrar-General's Department, devoted a paper¹ to the subject, in which he analysed, from the census figures of 1911, the fertility in different social classes. Classes I to V are in descending order of social status, class I including the upper and middle classes, and class V unskilled labour. Classes VI, VII and VIII consist of textile workers, miners and agricultural labourers. The number of children born per 100 families is shown in the accompanying table:

	Class							
	I	II	III	IV	V	VI	VII	VIII
Children born. Crude Rates ..	190	241	279	287	337	238	358	327
Children surviving. Crude Rates ..	168	205	232	237	268	191	282	284

Darwin further shows² that the birth-rate in professional classes is barely, if at all, sufficient to maintain their numbers, which involves constant recruitment from other sections of the community. This may or may not have dysgenic effects, but it does illustrate the differential birth-rate.

Dr. Heron³ investigated the subject in the London area and proves that "there is a very close relationship between undesirable social status and a high birth-rate."

It is further interesting to note Dr. Stevenson's opinion that 100 years ago all classes showed approximately the same fertility rate.

The lower birth-rate in the upper and middle classes to-day has in all probability nothing to do with a decrease in fertility. Later age at marriage, owing to the prolonged period of secondary and university or technical education and relatively low earning powers in the early years of the working life, high taxation, a strong sense of parental responsibility which sees that no more children are brought into the world than can be provided for, and the enlarging sphere of work and influence opening to women, have probably all played their part in the use of birth control methods.

Discussion on the merits or demerits of birth control is at this period of academic interest only. The fact exists, and the demand for information from the more intelligent sections of the working-class is so strong that the government has been compelled to sanction clinics for the teaching of the subject, even though hedged with careful and rigid safeguards as to user.

This demand from the sound working-classes will only intensify the effect of the differential birth-rate, and will lead to a still greater preponderance of births amongst the "social problem" section of the community, estimated by the Wood Committee on Mental Deficiency to comprise approximately the lowest 10 per cent. in the social scale of most communities. This group comprises "a much larger proportion of insane persons, epileptics, paupers, criminals, unemployables, habitual slum-dwellers, prostitutes, inebriates and other social inefficients than would a group of families not containing mental defectives."⁴ The mental defectives in the country number 300,000.

I have suggested that a consideration of

differential birth-rates indicates also that this group is unduly fertile. The Report of the Departmental Committee on Sterilisation treats this question cautiously (para. 29), and, whilst stating that the widespread belief in the fertility of defectives is not substantiated by their enquiry or the statistics they have collected, add that there is evidence from Nottingham, Liverpool and London that the families from which defectives come are larger than the average families in the same locality. An analysis of 300 families, each containing a mentally defective child, in my own area, in 44 of which a parent is also defective, reveals 1,227 living children, of whom 391 are defective, and more than 250 deceased children (figure incomplete). The average size of the living family, including the father and mother, is therefore six. Taking the town as a whole (a mining town with a high birth-rate), on the 1931 census figures the average size of families is about four and a half. A further analysis of the families with a mentally defective child shows that in only 102 of the 300 were there three pregnancies or less. At the other end, there is one case of 20 pregnancies (13 of the children died, one of the remaining seven is feeble-minded, one dull and backward, and two others—married and away from home—unable to read), one of 18, one of 17 and a further 70 of eight or more. The 391 defective children include 48 labelled at present as dull or backward, 276 feeble-minded, 49 imbeciles and 18 idiots. In these 300 families it was further possible to obtain a history of mental deficiency in 93 relatives.

In considering the dysgenic effect of the differential birth-rate, it is necessary to keep in mind the effects of assortive mating—the tendency of like to mate with like—which is equally well substantiated. The Wood Committee found no distinctive social characteristics about the incidence of low-grade defects: imbeciles and idiots seemed to be equally distributed in good and poor homes and in all social strata. The higher grades of mental defect, on the other hand, exhibited over all the areas investigated a tendency to show local foci which, on investigation, proved to be family foci.

Thus the town schools which contained the largest proportion of feeble-minded children were generally situated in the slum

areas, the villages with the largest number of adult defectives contained correspondingly large numbers of feeble-minded children, and marriage relationships were common. These facts caused the Committee to speculate on the relationship of mental defect to slums, as well as to stress its importance, from the resultant pauperism, physical inefficiency and incapacity for social adaptation, as one of the major social problems facing a civilised community.⁵ The physical inefficiency includes undersized stature, sub-normal nutrition, rickets and anaemia, eye diseases and skin diseases, which are many times more frequent among mentally defective children than among the general school population.

Dr. Lewis also instances an area in a mid-land town where, following demolition, the slum type of family had been moved to a new estate:

"The better type of resident complained very much of some of the families that had moved to the district from the slum areas; of the filthy condition of their homes, of the lack of care and, in some cases, of the reckless destruction of the new property; of their drunkenness, quarrelling and noise at late hours; and of the uncontrolled children who were often an annoyance to the neighbours. It is no mere coincidence that many of the families complained of were those whose homes we had visited to enquire about some mentally defective member; and in these homes we found conditions that were distinctly reminiscent of the slum. Although the houses had large rooms, there was the same disorder, dirt and characteristic odour of the small overcrowded slum homes. There had apparently been very little improvement; and it was of no little interest to note that, although this new residential district had not been in existence ten years, these families tended to cluster together, with the result that there were already small nuclei of slums here and there in the new district. So many complaints were made of these families, and of the deterioration of the property they occupied, that the municipal authority had decided to appoint a home visitor who would exercise some measure of supervision over the homes and give advice to the mothers."⁶

The Departmental Committee on Sterilisation also point out in their Report (p. 21):

"High-grade mental defect occurs proportionately more frequently in the lowest social stratum than in the rest of the population. In this stratum there appears to be an unduly high incidence of mental defect, insanity, intellectual dullness, epilepsy, as well as tuberculosis and other physical defects. Cause and effect of the conditions found in the social problem group are debatable, but it is possible that selective mating may, to a large extent, account for this concentration of physical defects and mental defects and disorders. There is evidence that in the poorest dis-

tricts neighbour marries neighbour and like marries like."

This tendency to assortive mating is also discussed by Lidbetter,⁷ who states that, in families where insanity occurs, inter-marriage is frequent, usually before the onset of insanity and often without the parties being aware that there is insanity on either side. The same worker also quotes⁸ a family with collateral connections in seven generations from 1770 to 1923. Of the 262 individuals shown in it, 136 have been maintained for long or short periods out of public funds, and while the group is of the mildly incompetent type with very little sickness, it contains nine insane, two mentally defective, nine tuberculous, six epileptic and one blind.

The "familial concentration" of mental defect is a proof that mental disorder is to a great degree an inherited condition, and furnished the Departmental Committee on Sterilisation with one of their strongest reasons for recommending its voluntary adoption. They further stress the fact that sterilisation is in no sense a substitute for the institutional care of certain cases. On the other hand, they point out (page 27) that "we have evidence that a considerable number of patients who have suffered from recurrent attacks of mental disorder necessitating detention in mental hospitals produce children during their periods of discharge from care," so that institutional care *per se* does not appear to be an altogether effective alternative to sterilisation.

The effect of this assortive mating will be to limit to some extent the dispersal of mental defect through the community. Despite this, both the Wood Committee and the Committee on Sterilisation record their impression that the incidence of mental defect is increasing.

This increase may be due, at any rate in part, to the lower death-rate and lower infantile mortality rate, in the production of which the social and health services have played a not unimportant part. Sir George Newman has repeatedly pointed out that the infant mortality rates of the last few years represent, when compared with the average annual infant mortality rate between 1901 and 1910, an annual saving of 40,000 infant lives. There seems little doubt that the assistance, domiciliary and institutional, available

in skill, in kind and in cash from the health and public assistance services must have resulted in the preservation of the lives of many feeble-minded persons through infancy and youth to and through child-bearing age.

This view is probably correct despite the ascertained high mortality rate in the families of defectives. Thus, the Committee on Sterilisation ascertained that 3,733 cases with a defective parent produced 8,841 children, of whom 2,001, or 22.5 per cent., had died. The incomplete, but not parallel, figure in my own area is 251 deaths amongst 1,478 children in 300 families containing mental defectives amongst the children.

A passage from Sir George Newman's Annual Report for 1929 (pages 71-72) on the "Health of the School Child" is significant in this connection:

"There is a new factor at work which is profoundly affecting the physical constitution of this generation of school children. The enormous reduction in the infant mortality rate is saving some 40,000 lives every year which would not have been saved a generation ago. The infant mortality rate of 1891-1900 was 153 per 1,000, as compared with the rate for 1920-29 which was approximately 74 per 1,000. Meanwhile, the birth-rate has fallen from 25.5 in 1920 to 16.3 in 1929. These figures are of profound interest and importance. Here we can only touch upon two of the numerous deductions which might legitimately be drawn from them. First, it is obvious that it is not the birth-rate only but the enormous advance of preventive medicine and enlightened motherhood which is sustaining our population; and secondly, we are now saving the lives of tens of thousands of infants who, under former conditions, would not have survived. When we remember also that for many years the birth-rate has been declining more rapidly among the better physical stocks of the population than among the less physically fit, we cannot fail to recognise that the present generation of school children may be relatively lacking in physical stamina and powers of resistance. In other words, the maintenance of the population in this way and from its present sources is, with all its advantages, one of the factors which, for the present, is tending to modify the physical and mental character of the people. This temporary change (and provided it remains transitory) is not, as is sometimes suggested, necessarily bad in itself, nor a sound reason for not saving infant life. It is part of the cost of saving it, though it makes new demands upon us. In theory we could get a strong physical race by allowing the feeble specimens to die or be sterilised, and breeding from the best stocks. But it is only a theory, for who is to determine which children shall die, and who is to select the best stocks? What we have to do is to save every life we can; nurture it, strengthen it, and educate it in the finest of all the arts—the art of living. A nation survives, first by its physical life being well born, for heredity is more than environment; secondly, by its

citizens being saved from premature death; and lastly, by the subsequent improvement of its physical life by nurture and by social conditions favourable to virility."

The physical and mental character of the people is being modified, says the Chief Medical Officer. The reassurance he gives on the present harmlessness of the process appears to have detracted attention from the significance of the fact. The statement has not received the attention it deserves, and we appear to be taking no steps either to keep the change temporary or to examine its extent. A brief consideration of the public assistance services reveals the same dysgenic tendency.

I must here emphasise the point that I am in no way concerned with or discussing the hundreds of thousands of effective citizens who, owing to economic stress, have been forced, following the exhaustion of unemployment benefits, to seek this form of state support for continued existence. Lidbetter and others have repeatedly called attention to the existence of a section of the community who depend in the main upon public support from the poor law authorities. The size and extent of this group has been masked of recent years not only by a colossal shortage of work but by the inevitable and resultant relaxation in 1921 of the regulations which prohibited the granting of outdoor relief to the able-bodied unemployed, except in emergency. Even prior to 1921 the war demand for any and every kind of worker had half emptied the prisons and workhouses of their chronic citizens. The fact that it is possible to be brought up, to marry and to raise a family at somewhere above the starvation level entirely at the cost of the public purse has, therefore, tended to be overlooked.

Lull, in *Organic Evolution*, describes a species of slave-making ant (polyergus) which has grown so dependent on its captives "that it can neither dig nor care for its young, or even keep itself from starvation in an abundantly stored nest, without the aid of its slaves."

The political use of such an analogy would be obvious, but may it not be applied also to the lowest section of the community—the habitual poor law class? Are they making the community and the community purse their slaves, and is the fact merely over-

shadowed because the nest is not at the moment abundantly stored with work?

Does the state of affairs with which I have dealt actually obtain? A case has, at least, I submit, been made out for examination, and it is plainly the concern of the public health service, whose duties are tripartite, namely, the cure of disease, the prevention of disease and the promotion of positive health, to see that that examination does, in fact, take place. The public is at present completely uninstructed, but there can be no doubting its active and practical interest in anything which may be of fundamental importance to the future welfare of the country.

Nor is the medical profession in a much happier position as regards real knowledge than the public. All we can at present assess and estimate are tendencies to degeneration or the reverse. The public health organisation of the country is older than that of compulsory elementary education, and yet in the matter of organised investigation and planning we have allowed the educationists, for whose raw material we are responsible, to outstrip us. The Hadow Committee was appointed in 1924, and until recently it systematically and meticulously examined many fundamental educational problems. It incidentally applied the three-track system to elementary schools—A, B and C classes for bright, average and dull children of the same age. Is there a biological equivalent to the educationists' three grades, and have we the measuring rod to assess them? The war examination of recruits suggests that there are, at any rate, three or more physical grades. From November, 1917, to November, 1918, out of every nine men examined, three were fit and healthy, two were upon an infirm plane of health and strength, three were incapable of undergoing more than a moderate degree of physical exertion and could almost be described as physical wrecks, and the remaining man was a chronic invalid. This assessment was based on the examination of 2,500,000 recruits. Is there a correlation between these physical and educational grades? Experience with school children in receipt of free meals because of malnutrition (who give me the impression of being, on the whole, below average mentality) suggests such a correlation but throws no light on the problem of cause and effect—poor heredity or poor

environment, or poor environment *because of* poor heredity.

A standing committee to investigate human biological standards and such matters as the increase or decrease of the social problem group and mental deficiency would have before it years of work, but would enlist the co-operation of every public health and public assistance authority in the country. Health visitors visit nearly every house in the country—in my own area 97 per cent. of the births are visited—and a tactful health visitor can secure a surprising amount of information about the families and be a potent instrument for securing the raw material of research. The schools give unrivalled opportunities for biological investigation; despite this, however, the educationist, the psychiatrist, the psychologist, the neurologist, and the public health worker continue their work largely in watertight compartments. The lack of organised research is due mainly, if not entirely, to the lack of a common directive and co-ordinating hand.

A more authoritative recommendation for further sociological research has, of course, been made by the Departmental Committee on Sterilisation. In the meantime it recommends the adoption of voluntary sterilisation not only for the mentally defective but for those believed to be likely to transmit mental disorder or defect. The recommendation has yet to be made law and has then to be implemented. Does it go far enough in a country with universal adult suffrage, and where the least effective and responsible elements may be increasing relatively at the quickest rate? The case for compulsion, if necessary, has an analogy in the emergency of war, when the community claims from time immemorial from its fittest citizens not only service but life itself. If future national fitness demands from certain citizens the surrender, not of life, nor of the exercise of any physical function save the ability to propagate, the community has the right, even the duty, to make the claim.

Germany has already decided the principle, and the first few of 1,700 eugenic courts, which will determine how many of the 400,000 mental defectives in that country are to be sterilised, are now functioning. The identity of persons affected by the orders of these courts is kept secret; the chairman is

assisted by a legal and a medical expert, and in Berlin alone 20,000 candidates will provide the court with work for 26 years. With true German thoroughness, an educational play, "The Current of Heredity," is being produced in Berlin to popularise the idea of sterilisation. Prices are low, and 75,000 secondary and higher school pupils have already been taken in groups to see it.⁹

Germany is also encouraging, by propaganda and bounty, larger families from the normal citizen, and healthy bachelors are urged in various ways to amend their civil state. The immediate effect of these measures is obviously eugenic, but the remote effect in a work-starved and nationally-minded world may be potentially dysgenic—war.

Some such campaign to raise a tottering birth-rate may soon be needed in this country and would, of course, tend to neutralise the effect of the differential birth-rate.

Scientific and humanitarian activities have changed the natural history of man in so far as birth and death are concerned almost beyond recognition: the London bills of mortality show that not much more than two hundred years ago, 600 out of every 1,000 children born died before the age of five. There can be no question of reversing the policy which has led to present-day results, and the corollary of measures to prevent the birth of undesirable citizens must be faced.

THE estate of the late Dr. Meredith Young, Medical Officer of Health for Cheshire, has been valued for probate at £5,905 gross (net personalty £5,729).

MAJOR SIR ISIDORE SALMON, C.B.E., J.P., D.L., M.P., has been appointed Chairman of the Inter-Departmental Committee on Prices of Building Materials, following the resignation of Sir Samuel Roberts, Bt., M.P.

DR. GEORGE MACDONALD has been appointed Medical Officer of Health of Battersea, in succession to Dr. G. Quin Lennane. Dr. Macdonald has been Tuberculosis Officer in the Borough for 15 years, and in 1930 was appointed Deputy to Dr. Lennane. His commencing salary will be £1,200 per annum.

SUMMARY.

- (1) The differential birth-rate is leading to a relative increase of the population from the least intelligent and least responsible members of the community.
- (2) The public health services, by their effect on the death-rate and infant mortality rate, are keeping alive more of the "social problem" group to the child-bearing age.
- (3) The public assistance service is assisting in the same process.
- (4) The increase in the number of mental defectives bears out these conclusions.
- (5) Further examination of these problems is needed both to ascertain their extent and to suggest a remedy.

REFERENCES.

- ¹Stevenson. Fertility of Social Classes. Royal Statistical Society. May, 1920, p. 140.
- ²Darwin. The Need for Eugenic Reform. (Murray, 1926). p. 323.
- ³Relation of Fertility in Man to Social Status. (Dulau, 1906.)
- ⁴Report of the Mental Deficiency Committee, Part III, p. 80.
- ⁵Report of the Mental Deficiency Committee, Part II, p. 82, *et. seq.*
- ⁶Report of the Mental Deficiency Committee, Part IV, p. 75.
- ⁷Lidbetter, E. J. Heredity and the Social Problem Group. (Arnold, 1933.) p. 19.
- ⁸Lidbetter, E. J. The Social Problem Group. (Galton Lecture, 1932.)
- ⁹Daily Telegraph, March 7th, 1934.

THE Board of Control (Caxton House West, Tothill Street, S.W.1) has issued a revised list of medical practitioners in England and Wales who have been approved by the Board for the purpose of making recommendations under sections 1 (3) and 5 (3) of the Mental Treatment Act, 1930. The names are given first in alphabetical order with full addresses, and are then regrouped geographically.

THE Health and Cleanliness Council has recently issued a new and revised edition of the brochure containing suggestions for local health and cleanliness campaigns. In the manner of its production this booklet well upholds the high standard of excellence set by the Council for its publications generally, and those interested are invited to make application for free copies to the Secretary at 5, Tavistock Square, London, W.C.1.

Ut Ita Dicam.

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

Legge's "Industrial Maladies."

There is discussed elsewhere in this issue the report of the Chief Inspector of Factories and Workshops for the year 1933. It is not inappropriate, therefore, that in this place reference should be made to a work from the pen of one for whom it may be claimed that he was one of the makers of modern industrial medicine and hygiene. Sir Thomas Legge, the worker in question, unfortunately died before his book "Industrial Maladies"* was ready for the press. Anticipating that the end might come before the preparation was complete, he asked that Dr. Henry of the Home Office might be invited to act as editor. As a result there is provided in the volume a statement that has all the authority and dependability ordinarily to be expected from individuals accustomed to fulfil the demands for absolute accuracy imposed upon observers engaged in official work in this country. Almost it is not too much to claim for the volume that it is, if not the only, at least among the foremost of the few English publications treating of industrial maladies in general. That it will be widely read both here and abroad is certain. If the views expressed on the various subjects discussed, which include notification of and compensation for industrial diseases and chapters on special conditions such as lead and arsenic poisoning, and poisoning by fumes and gases, are not frequently quoted, it will be very surprising. Where all the matter is so excellent it is difficult to particularise. Inevitably, however, reference must be made to the chapter on industrial lead-poisoning, in which is embodied much of the teaching to which for many years students in Manchester and London have been used to listen. If for no other reason that in it the knowledge of Sir Thomas Legge on this subject is given permanence, the book is a notable one and will be widely welcomed.

Ostertag and Young.

Another notable book recently issued, deserving of discussion here, is the English edition of Ostertag's "Textbook of Meat Inspection,"† translated by Dr. Marshall and edited by

* London: Humphrey Milford, Oxford University Press. Price 12s. 6d. net.

† London: Bailliere, Tindall & Cox. Price 45s.

Colonel Dunlop Young. In the matter of meat inspection these are two names to conjure with—Ostertag and Young. In the public health service, or that section of it that has or has had to do with the protection of the food supply, there are none to whom the name of Ostertag is unknown: none who in the past have not found it necessary and helpful to consult the predecessor of this present volume, the old "Handbook of Meat Inspection." No public health department library was complete without it, and the individual health officer who possessed a copy of his own might almost claim to be an expert on the subject of meat inspection! Of Colonel Dunlop Young it may be stated that he was one of the pioneer veterinary officers specialising in meat inspection. During the years of his service with the Corporation of the City of London he enjoyed—still, indeed, enjoys—a reputation that, if not world-wide, extended to the Antipodes and throughout the Americas. As a fact, it was almost inevitable that Dunlop Young should have been chosen for the task of editing Ostertag's volume on meat inspection. Amongst veterinary officers engaged in food inspection no one has so exclusively devoted himself to the study of food animals as he. Between them, Ostertag, Young and Marshall have produced and placed at the disposal of all in the public health service concerned in the safeguarding of the food supply of the people, a complete survey in minutest detail of the whole field of meat inspection. Practically no aspect of the subject is omitted, and though it might be suggested that the tendency is almost too much in the direction of making meat inspection ultra scientific, and to regard it from the point of view of the veterinary pathologist and bacteriologist, this is not a fault. Scientific as the volume is, it is outstandingly practical also, and no one—medical officer of health, veterinarian, or meat and sanitary inspector—in search of information upon even the most obscure and rare of conditions likely to be encountered in the course of his duties could possibly go empty away. Apart from the chapters on cattle diseases, there are full and most intensely useful and informative sections on abattoirs and methods of slaughter, meat preservation and the adulteration of meat. Most useful also are the appendices in which

are to be found copies of Acts of Parliament and regulations dealing with the subject of meat inspection in this country, as well as of regulations relating to the same matter operative in other countries. The book is beautifully produced and most profusely and usefully illustrated. Of the work done by Colonel Dunlop Young as editor, and by Dr. Marshall as translator, it is impossible to speak too highly.

Dr. James Fenton, M.R.C.P.

In the list of those privileged to be admitted to the Membership of the Royal College of Physicians of London, it was a great pleasure to read the name of Dr. James Fenton, Medical Officer of Health of Kensington. The roll of members of the public health service to be thus honoured grows steadily longer, and of those to be added to that roll none is more deserving than Dr. Fenton. This both on account of the work he has done locally in Kensington generally and specially in relation, for example, to rheumatic fever, and because of his activities in the wider field of preventive medicine and on behalf of public health and public health officers. In the Society he has filled a number of important positions. At the moment he is Honorary Editor of PUBLIC HEALTH and Chairman of the General Purposes Committee. In the Metropolitan Branch he has held office as President, and was for many years Honorary Secretary. He is well known as a teacher, a writer, and an examiner both for the Diploma in Public Health and for various certificates of the Royal Sanitary Institute. In this last-named body he is a member of the Council and has occupied the chair of a number of committees. Congratulations no doubt will be offered officially to Dr. Fenton, but it is not out of place that they should be tendered here also, and that the belief should be expressed that he will prove a useful and, as time goes on, an increasingly distinguished Member of the College.

"Highly Paid Officials."

On the subject of the Membership the liberty is taken of expressing doubt as to whether or not there is throughout the profession, and in the public health service particularly, proper recognition of the value and meaning of admission to the ranks of those entitled to describe themselves as Members of the Royal College of Physicians or, more briefly, M.R.C.P. This question arises because of the appearance recently of a notice advertising a vacancy in the

post of resident medical officer in a municipal hospital, and inviting M.D.'s or M.R.C.P.'s, and none other, to make application. Noticeable in the advertisement was the description of the M.R.C.P. as a "degree," and the amount of the remuneration—£300 per annum (no less) plus certain emoluments. What this advertisement appears to suggest is that, so far as prestige is concerned, the Membership is undergoing change, and that it is coming to be regarded more as a standard of ordinary medical qualification than of rank in the profession. Mainly one of the larger county councils is responsible for this and there is a feeling that it is in imitation of this body that smaller and less important authorities are now prescribing the "degree" and, what is even more objectionable, assessing its value. How little either the M.D. or the M.R.C.P. is esteemed the salary offered suggests; though there is this to be noted, that little value in these days attaches to any medical, surgical or public health qualification, since in another advertisement a person holding the ordinary medical qualifications with, in addition, a special qualification in surgery and the Diploma in Public Health, is required to do most things about a municipal hospital and a public health department, and all for a salary rising eventually to something under £600 per annum with emoluments.

DR. W. E. ROPER SAUNDERS, a Divisional Medical Officer of the London County Council, has recently obtained the Diploma in Public Administration of London University. Dr. Saunders, who is believed to be the third member of the public health service to secure the Diploma, was formerly Medical Officer of Health and School Medical Officer for Rowley Regis.

THE Chartered Society of Massage and Medical Gymnastics has recently issued a new edition of its Register of Members, containing the names, addresses and qualifications of masseuses and masseurs in the United Kingdom, the overseas dominions and certain foreign countries. The names are given alphabetically and also under localities. Consisting of nearly 400 pages, this useful reference book is published at 4s., and copies may be obtained from the Society at Tavistock House North, Tavistock Square, London, W.C.1.

Raw Milk and Sound Teeth.

By EVELYN SPRAWSON, M.C., D.Sc., M.R.C.S., L.R.C.P., L.D.S., Director of Dental Studies, The London Hospital.

Dr. Sprawson is an advocate of "raw" milk, and in the following paper, which was read at a joint meeting of the Yorkshire Branch and the Dental Officers' Group, held at Wakefield, on December 1st, 1933, he discusses the effects of the use of milk in this condition in relation to the production of caries.

I PROPOSE to speak of raw milk, first, as the physiological secretion of a normal animal, meaning by that, milk cleanly produced by healthy milkers from healthy animals. I have at no time advocated that any other variety of milk should be taken raw, and by raw milk I mean milk which has never been heated to more than a few degrees above body temperature. I shall also refer to infected milk.

There is, I take it, no possible doubt that caries is produced primarily by decalcification of the enamel, caused almost always by the fermentation of refined carbohydrate in a state of stasis on or around the teeth, and the inference drawn from earlier work is that all human enamels do not start equal in composition and/or susceptibility to caries. With regard to the rest of the body, it is obviously true that we do not all start equal, either mentally or physically or in many other respects; and regarding the teeth as part of the body, it is, in my opinion, certainly true of them, both from the histological point of view and because, as the dental members will, I think, confirm, some children are very much more prone to caries than others, even when they have similar diet and environment.

These facts, taken in conjunction with Miller's work, force on one the conclusion that freedom from and immunity to caries are different states. Of necessity also immunity to caries may vary in degree, as other immunities likewise do.

To return to milk: about a year ago I was invited to send in a memorandum on means to improve the milk supply and for the prevention of disease in cattle. Among others, some of one's recommendations were that ultimately milk should be retailed in three grades only, *viz.*, *Tuberculin tested*, to be produced only under conditions such as apply to the present highest grades; *Pasteurised*, to be produced from tuberculin-tested animals only; and *Sterilised*: that all milk-producing herds

should be more frequently and regularly inspected, both as to the health of the milkers and animals, and the cleanliness of production: that the use of the double intradermal test should be universal: that whole-time veterinary officers, skilled in this type of work, were a *sine qua non* if any degree of success was to be attained: that that grade of milk known as Grade A should be abolished as potentially unsafe; and that the sale of raw milk for food other than from tuberculin-tested animals should be a penal offence.

The study of the effects of raw milk on children is of particular interest, because at the age of five years, when the whole of the deciduous dentition has been in use for three years, about 90 per cent. of the children in this country have caries; one may well say then, that the secret of the cause and prevention of dental caries is almost entirely locked up in those first five years, and that if it can be prevented up to that age, the problem is largely solved. Besides, if nature provides milk as the sole diet after birth for the forming and eruption of at least eight teeth (as in civilised communities who breast feed for only nine months), one feels that one cannot be far wrong in continuing it, but with cow's milk, as part of the diet for the same reason.

Briefly my own findings were that of the first 98 children seen, who had been started and systematically continued on a daily ration of raw milk since before the eruption of the first permanent molars, none had any caries in teeth subsequently erupted, though in each group several years had elapsed; indeed, 40 of these who started it at the average age of four-and-a-half months, and were aged four years when examined, had no caries at all, in spite of their diet, which included much refined starch and sugary carbohydrate.* No

*So far as I know, no tooth can withstand the regular administration of even small doses of the readily fermentable monosaccharide glucose, especially when given in an acid medium such as orange juice.

children under two years old were tabulated. Controls done at later ages showed results of a similar nature, though not quite so good when it was not started till eight years. About 33 similar cases among the private practices of other dental surgeons are confirmatory. To quote one dentist enthusiast¹ "There is nothing like raw, pure milk. . . . I have a young family—seven. We take on an average 56 pints of milk per week, and none of my children has caries." Here one must remember that children may be brought up on two sorts of raw milk, *viz.*, human and bovine (including goats), so I propose to keep the evidence concerning each of these separate.

Regarding physiological (maternal) raw milk feeding, so far as I know, no race which suckles its young for two-and-a-half to three years has been recorded as having any incidence of caries in the deciduous teeth, however dirty with sticky adherent carbohydrate these teeth may be, as with African natives; and those primitive races, noted 60 years ago by John Mummery as having the smallest known incidences of caries among the human species, one now finds to have suckled their children to six and ten years or more; indeed, they have less caries in some cases than Sir Frank Colyer has found among other and feral primates. The work of E. H. Man² on the teeth of the Andaman Islanders shows that they also may be so grouped, as their babies were never weaned as long as they could be suckled, and there was an almost universal practice among the women of suckling each other's babies. But all these, as they take to the foods of civilisation and coincidentally lessen the suckling period, show much the same incidences of caries as we do.

With regard to cow's milk, those who have commented on what I originally recorded³ have written:—

1. That it showed "copious evidence, almost amounting to proof, that raw milk taken by children and growing boys and girls, acts as a preventive of dental caries."⁴

2. That "the merit of including raw milk in the diet of young children for the prevention or arrest of dental caries has been demonstrated."⁵

3. That "daily administration of raw milk appears to prevent the occurrence of dental caries."⁶

Since then I have brought forward evidence

of the vivid contrasts of the incidences of caries⁷ on Pitcairn Island, where it is rampant, and on Tristan da Cunha, where it is practically non-existent. The inhabitants of each have almost identical diets, even to the extent of the carbohydrates of civilisation: indeed, Tristan has had up to two tons of sugar, and three-and-a-half tons of flour annually since 1923, and still has no caries. At Pitcairn, however, the only milk available after weaning is tinned milk, and a luxury at that, whereas Tristan uses raw milk as one of its staple foods from weaning and throughout life.

Since publishing the above and an epitome of the evidence as to how raw milk affects the body as a whole,⁸ Weston Price, in a series of articles⁹ published in America this year, has recorded the incidences of caries in a number of groups of European children, somewhat isolated and living largely on fresh milk, and his work is confirmatory of my own findings. He quotes groups as follows:—

In Switzerland (Loetschental Valley) in children aged 7 to 16 years, 1.16 per cent. teeth were carious. Their diet throughout life consists of whole rye bread, butter, cheese, milk (cows' and goats'), meat once a week, no fruit, and a very limited amount of green food for summer use only. From this valley, he records, are built some of the finest physiques in all Europe, adding as proof, that "many of the famous Swiss Guards of the Vatican at Rome, who are the admiration of the world and the pride of Switzerland, have been selected from this valley." There is no tuberculosis there, though tubercle is the most serious disease of Switzerland.

In the Anniviers Valley he records a very remarkable comparison in two villages named Ayer and Vissoie. In Ayer, where the people are still on their milk and simple foods, 2.3 per cent. teeth were carious, but in Vissoie, just opened up to trade by a new roadway, they trade their dairy products for the foods of civilisation, and already show 20.2 per cent. teeth carious. He adds: "One could probably walk the distance from Ayer to Vissoie in an hour."

He records that skulls from the Rhone Valley and practically throughout all Switzerland, showed relatively perfect teeth, but since the inhabitants have been provided with adequate railway transport they have traded their dairy products, so that now "practically every child had tooth decay, and the majority . . . in an aggravated form."

St. Moritz and Herisau, both far more civilised, he records as having passed from being communities of homespun to communities of white collars, silk hats, the most elegant of feminine attire and strikingly modern diets, and that caries commonly occurs in 100 per cent. children. He records one St. Moritz class of 16 boys having 168 carious cavities, and continues: "In studying the diets of the children in St. Moritz and Herisau, in every case those with the lower number of cavities per person were using milk more

or less liberally . . . only 11 per cent. were using milk in their diets, whereas 100 per cent. of the children in the other districts that provided immunity were using milk." And again, of St. Moritz: "The only children found who did not have tooth decay proved to be the children who were eating the natural food of whole rye bread and plenty of milk." He notes also: "There were no mouth breathers among those who had this immunity."

Personally, I think the incidence of caries in these Swiss cantonments might even be lessened, as, in spite of their physique, their diets, especially in childhood, seem deficient in some respects: and the addition of eggs, which are in themselves a complete food for many forms of developing and growing helpless vertebrates, can but be regarded as an invaluable adjunct to the small child's dietary. There seems also to be a deficiency of vegetables. It is often stated that milk does not contain anything like enough vitamin C for the proper development of the individual, but the diet and physique of the inhabitants of such places as the Loetschental Valley seem to belie this statement.

Concerning egg-yolk, E. V. McCollum¹⁰ is reported as quoting Dr. and Mrs. R. Gordon Agnew, apparently to the same effect, on observations made among Chinese and Tibetans. These investigators include milk and eggs as important factors in a caries-preventing diet, and it is of interest that some of the groups I reported on in my original paper were given raw egg yolk before or about weaning time, and, as their deciduous dentition completed, raw egg salad, and though all my groups were dentally good whether they had egg or not, there can be no doubt as to its desirability and nutritional value, particularly in view of the additional organic iron content of egg yolk, as iron is somewhat deficient in cows' milk, and its deficiency has been shown, by Helen Mackay¹¹ and others, frequently to give rise to a nutritional anæmia in London babies; this deficiency is usually observed from the seventh month onward.

A full sufficiency of vitamins, calcium, phosphorous and iron, etc., is thereby attained. Indeed, raw milk and eggs are two of nature's fundamental sources of complete nourishment.

Now all I have quoted is clinical evidence, and it all points to the perfection of body and tooth building which is apparently attained by the means indicated, and I would recall that the children I originally reported on were

mainly sick children on admission, and, apart from raw milk, lived on the foods of civilisation, and so provide far stronger evidence than they otherwise would. Moreover, the results are either physiological or of a physiological nature, because if we believe in the process of evolution, it is only natural that the milk of one mammal should be of nutritional value to the helpless young of another mammal even if not of identical composition.

The question now arises: whether such procedure of bringing up children on raw milk can be made available in this country. The answer usually given is that at present there is not enough tuberculin tested milk available in this country for one per cent. of the population, and this is possibly true, but even so, a keeper of a tuberculin tested herd¹² at Kilmarnock informs me that "it is a tragic fact that there are 2,000 gallons of tuberculin tested milk in Glasgow alone every day which cannot find a preferential market," and that "there are between 30 and 40 farms in Ayrshire which are regularly tuberculin tested, but which owing to . . . the extremely limited market for the highest grades of milk do not find it worth while to take out a licence." This milk is sold, therefore, as ordinary milk and is additional to that already mentioned. And again, Mr. Justice Lort-Williams records¹³ the case of a midland farmer, who was unable to find a sale, preferential or otherwise, for his tuberculin tested milk, so that "for several weeks it was fed to pigs and calves: in the end he decided to retail it at 2½d. a pint—less than the market price of ordinary milk," and that was after one of the big dairy companies had refused it. Apparently, therefore, there is no reason why we should remain in this state.

The facts concerning present-day thought are briefly as follows: When pasteurisation first came in it was found that nearly all the bovine tuberculosis organisms in milk, and others pathogenic to man, were destroyed by this means, and, as bovine tuberculosis formed a part of the "white scourge" of this country, one naturally and rightly went "all out" for pasteurisation, *but*, and this is important, *only as a temporary measure until clean tubercle-free milk was available*, and this is invariably given as the reason, not only by yourselves, but also by veterinarians and government publications. Those views were put before the milk dealers, and they, in order

to increase the sale of their goods, began to pasteurise milk, and learned incidentally two most valuable facts, for not only would you then recommend their goods, but the goods themselves would keep much longer; in fact, the information comes to me from present and ex-milk distributors that it is not uncommon for the bottle of pasteurised milk delivered on one's doorstep to be seven days' old, and, quoting Professor Hewlett:¹⁴ "The chief objections urged against pasteurised milk are that such heated milk induces scurvy rickets in infants. . . and, if the treated milk be kept, the residuum of putrefactive, etc., bacteria multiplies enormously without obvious change in the milk, and 'returned' milk can then be utilised again and again." Owing to improved keeping qualities he suggests—with almost certain truth—that pasteurisation will tend to less care in the clean production of milk. Indeed, Dr. G. C. Dockeray of Dublin recently published¹⁵ an instance of "pasteurised" milk, which on sale contained 149,000,000 dead organisms and 29,000,000 living organisms per c.cm. Taking into account that it had been the food supply of these organisms, and contained their by-products, and even so might be heated "again and again," one wonders what its nutritive value (if any), at the time of sale really was. Under the present laws I do not think you can adequately define pasteurised milk. Again, as a writer in the *Milk Trade Gazette* queries:¹⁶ "When is the government going to bring out an order stopping retailers of milk from buying 'dried milk powder,' adding water, and selling same as fresh milk. This is being done by some of the large retailers quite openly."

Since pasteurisation first came in, however, many milk producers with thoughts beyond commercial gain have, to their honour be it said, striven to give us clean milk, cleanly produced by healthy milkers from tuberculin tested animals.

Additional confirmatory evidence that "pasteurisation of milk reduces its nutrient value" has also recently been produced by the researches of Kitchen and McFarland¹⁷ on rats in Ohio, and by those of Wilson and Cowell¹⁸ of the London School of Hygiene and Tropical Medicine on mice: "the average weight of young mice at weaning was definitely greater when reared by does on raw milk" and, "for the development of mice

during their first four weeks of life, raw milk appeared to possess certain advantages over pasteurised milk." Professor J. C. Drummond,¹⁸ working on young rats (*i.e.*, not from birth), though he states that "no evidence had been obtained to suggest that pasteurisation adversely affected the nutritive value of milk for rats," admits that those fed on raw milk were heavier than those not so fed, which seems rather contradictory. And veterinarians generally are agreed that the calf fed on raw milk is an infinitely superior animal to that fed on pasteurised milk or otherwise, as is so frequently done, and this is confirmed by the three Rowett Institute and two Auchincruive calf experiments. Adequate feeding of the prospective mother, whether human or bovine, is very important: indeed, only a few weeks ago a case of infantile rickets¹⁹ was recorded in an entirely breast-fed baby; the mother's diet was found to have been woefully deficient in many necessities for both her and her child's welfare.

Another important matter is soil deficiencies. These occur in parts of Africa, New Zealand and other places, often when the soil consists largely of volcanic scoria, and when they occur give rise to animal deficiency diseases well-known among veterinarians. It is only logical to conclude that edible animal and plant products of such soils may pass on such deficiencies, usually of a mineral character, to such human beings as consume them, and this may, indeed, be an important factor in the high incidence of caries which occurs, for instance, in New Zealand, as Dr. Hewat has recently shown.¹⁹

Almost paradoxically, our Maori predecessors in New Zealand had the lowest known incidence of caries of the whole human race, but conditions were then very different; they fed largely on fish, fruits, roots, sea and land birds and their eggs, and suckled their babies for six years, which certainly seems a more adequate diet than that which their European successors use, as fish, sea birds and their eggs are independent of soil deficiencies, and so make a good ante-natal as well as post-natal diet.

Education among the majority of the public is a slow process, but even so we were recently told²⁰ that in the last five years the demand for tuberculin tested milk in Ulster had multiplied by no less than thirty.

In the herds of such producers of tuber-

culin tested milk as I have seen, the cleanliness of production is a ritual, with the milkers capped, gowned, masked and presumably healthy.

The wholesale price of grade A (tuberculin tested) milk was fixed by the certified and grade A (tuberculin tested) Milk Producers Association at only 4d. a gallon more than that of ordinary milk; that should not be an insuperable barrier to its purchase, as people will always pay a little more for a better article, especially when they know that it so intimately concerns the physical welfare of their children. My brother in Somerset can purchase "certified" milk at 3d. per pint; it is retailed in Brighton and Hove at 4½d. per pint; I have to pay 7d. per pint, which is more than double what I pay for pasteurised milk (these are summer prices)—why this difference? It almost seems as if some in the industry had taken the reins of what milk is to be used by the public out of your hands, and though they cannot very well refuse to sell high grade tuberculin tested milks, they seem to try to strangle its use by the prohibitive price they put on it in their attempts to push the longer keeping pasteurised milk.

Every medical officer of health who has discussed this matter with me, and they are many, has invariably expressed the opinion that he has no doubt that raw milk is nutritionally superior to the pasteurised article.

There is another side to this question of tubercle-infected milk. In discussing this question with distinguished medical officers of health, bacteriologists and physicians who have made a lifelong study of tuberculosis in man, many have emphasised the importance of the protection given by small doses of the bovine organism against the more lethal human type; indeed, the late Dr. Clive Riviere²¹ went so far as to deprecate the giving of tubercle-free milk to children for this very reason; and in Jersey, where bovine tubercle both in man and animals is non-existent, Colonel Janvrin Marett²² records the higher incidence of acute cases of human type in early life owing, as he suggests, to the loss of the protective action of the bovine organism. It is not within my province to comment on this, but the opinions of distinguished clinical experts cannot be ignored. Pathologists, here and in America, tell us that at *post-mortem*, over 98 per cent. of us show that we have had a tubercular lesion somewhere,

which means that we all get infected with the human or bovine organism sometime; but apparently the age of the individual, the type of infection and the massiveness of dose are all-important points governing whether the infection becomes active or not, and are still in process of research; and the inoculation of children with attenuated cultures, in order to raise their resistance, has too recently been the subject of human error in Germany to encourage its further trial here.

It is often stated that the tubercular bone and joint lesions of children are almost entirely bovine in origin, but concerning the more recent research by Griffith and himself, Munro states:²³ "My own figures in bone and joint lesions are that 56 per cent. in children under five years, and 78 per cent. in children five to 15 years, are human type infections; and Dr. Griffith's figures are 66 per cent. human type in children under five years, and 76 per cent. in the age-group five to 15 years. In other lesions we find similar figures. Tuberculous meningitis in children gives 70 per cent. human type viruses."

In a paper entitled "Tuberculous Infection in Milk" issued only to-day by the Medical Research Council²⁴ are published the incidences of the occurrence of living bovine tubercle organisms in holder-pasteurised and tuberculin tested milks respectively; in 1,243 holder pasteurised samples, 2.8 per cent. contained living tubercle, and in 714 tuberculin tested samples only 0.14 per cent., or in other words, living bovine tubercle organisms occur 20 times in holder pasteurised milk to once in tuberculin tested milk.

Concerning undulant fever, Douglas,²⁵ after stating that though the *Br. abortus* occurs in 5.7 per cent. "single" milks and 8.8 per cent. "mixed" milks in Manchester, goes on to say: "Why therefore should the disease be so uncommon? It must be accepted that the majority of strains of *Br. abortus* of cattle have very little power of infecting man. It is otherwise with strains isolated from pigs, and probably also with strains from sheep." He also states: "other animals may be infected naturally with *Br. abortus*; for instance, sheep, pigs, horses and occasionally dogs." Another authoritative publication issued by the Medical Research Council²⁶ states: "In the British Isles infectious abortion is common, but undulant fever of bovine origin has as yet only been suggested in a few reported

cases," adding that there seems to be considerable variation in the disease-producing power of the various strains distributed throughout the world. The report continues: "Records of cases show that a high proportion have occurred in people who have had an opportunity of direct inoculation from the handling of infected animals or materials." Another authority states:²⁷ "In cattle. . . its infectivity to man appears to be slight." It is known that infection may gain entry from any abraded skin surface, and though the organism has been found in mosquitoes it is not proven that it has been spread in that manner; indeed, I believe it is not actually known how the disease is usually spread among cattle, unless it is by their drinking water. According to Wilson²⁸ certain varieties of cheese also contain the organism. Bevan²⁸ also has stated that "the comparatively few cases in the British Isles seemed to argue a considerable degree of immunity or tolerance in the general population." As the *Br. abortus* is found in the urine of infected animals, it seems obvious, when one considers the known paths of infection, that it must also be present in the blood, and so create a further possible source of infection by the inadvertent eating or handling of the flesh of such animals when used as food, especially when not sufficiently cooked. At present, therefore, it is a rare disease in man in this country, especially in children, and though somewhat prolonged is not usually serious, though it is a very serious one for the veterinarian and farmer; but they are fully alive to this, and it is often found that the tuberculin tested herd consists of animals which have passed the *Br. abortus* agglutination test also.

Concerning milk-borne streptococcal infections (scarlet fever and streptococcal sore throat), there was in March, 1931²⁹ a discussion held at the Royal Society of Medicine on this matter. Epitomising the opinions and findings of the seven experts who took part in it:

Streptococci are extremely common in milk.

Their presence, even in large numbers, is no evidence that the milk is harmful.

There is no evidence that the streptococcus mastitis, the bovine species, has ever been proved pathogenic to man.

There is strong evidence, so much so that it was the opinion held by those taking part in the discussion, that the streptococcal infections in milk which have been harmful to

man have been due to infections passed from man to the cow, and that the cow merely acts as a carrier.

The absence (except Hove), of streptococcal outbreaks in England since 1911 was probably due to a lower incidence of human infection.

The whole discussion only emphasised that the health and freedom from infection of the milker is as important as that of the cow.

With reference to vitamins, we know that C and B1 are affected by heat, and concerning D, which is believed to be unaffected by heat, Kay³⁰ writes: "It has been found very recently at Shinfield that vitamin D of milk is chemically different from that in cod liver oil or in irradiated ergosterol"—and, indeed, I suggest in my original paper³ that "there may be different properties or strains of what are at present thought to be identical accessory food factors, and that some may have selective powers for building certain tissues."

There is another point which concerns the body, and so also the teeth, of which it is difficult to assess accurately its importance or frequency. Recently, Chalmers Watson³¹ recorded a case of twins aged five years, who had been brought up under entirely the same conditions; one was a normal healthy child and the other suffered from "very pronounced florid rickets." Similar cases were also recorded by McCall³² and William Mackenzie.³³ Rickets, of course, may interfere profoundly with the proper development of the teeth. Others besides myself have met with such sporadic rickets in the breeding of the larger Australian parrakeets, gallinaceous birds and some mammals, and it has interested me quite as much from this point of view as from the human point, and I can only conceive that it is due to a congenital asthenia or faulty metabolism which makes such young too weak to take or assimilate their food to the extent they ought to, as one has always noticed that it is the greedy young (or those which take their food well), which ultimately produce the finest specimens. Knowing that the digestive capabilities of children vary widely, this seems to imply that some are capable of getting much more value from their diets than are others, and may explain the immunity to caries occasionally found quite apart from raw milk feeding, or freedom from caries brought about by the use of unrefined foods.

One other point: I do not think the cow

is given a fair chance. Usually, I read that¹⁶ calves are maternally fed for two months or less, whereas I am informed by the Royal College of Veterinary Surgeons that nine or ten months is the physiological time, which is still kept to in the case of animals bred for show purposes. The calf then is fed with pasteurised milk, and the two Auchincruive and three Rowett Institute experiments all show that they do not do so well under these circumstances (just like many hand-fed children); they are often housed in unclean and ill-ventilated sheds, enough by itself to make them more susceptible to any infection which is about, and their feeding is often not at all what it should be; ultimately, these animals are expected to provide a large yield of milk which in itself must be a great drain on their physical resources, and all this can but tend to lower their resistance to infection.

To my mind the cow is becoming too artificial and too civilised an animal, and too much is expected of it; it should be an animal, as it originally was, which can be kept throughout life in the open air save under exceptional conditions, but having shelter from rain.*

An almost exact comparison exists in the increasing mortality noted among such pedigree stock as is used in egg-laying trials; apparently such efforts both in cows and fowls to "get ahead of nature" have for the moment, if not permanently, got beyond the animal's capacity if it is to remain healthy and resistant.

In conclusion, it is usual, I know, to precede one's remarks on an investigation of this character by giving the historical outline of earlier investigation of a similar nature, but I must confess that I have not found any literature connecting good teeth with the use of milk, except one reference dated 1689 B.C., and this occurs in Genesis xlix. 12, wherein Jacob, shortly before his end, in blessing his sons, foretells the well-being and strength of

his son Judah, and uses the words: "his teeth shall be white with milk." Wealth in those days consisted of herds, but even so, dental caries is hardly compatible with a whiteness deemed worthy of such special mention.

REFERENCES.

- ¹*Oral Topics*, p. 731, 1933.
- ²Originally appeared in *Journal of the Anthropological Institute of Great Britain and Ireland*, 1885; reprinted by the Institute in 1932.
- ³"Preliminary Investigation of the Influence of Raw Milk on Teeth and Lymphoid Tissue." *Proc. Roy. Soc. Med.*, vol. xxv, March, 1932.
- ⁴*The Dental Surgeon*, editorial, July, 1932.
- ⁵Bulletin 5. The Hannah Dairy Research Institute, p. 71, 1933. J. D. Stirling and J. H. Blackwood.
- ⁶"The Food Value of Milk in Children in Association with Dental Caries." Alastair C. Frazer, *Brit. Dent. Journ.*, April, 1933, p. 401.
- ⁷"Raw Milk and Dental Caries: A Comparison of the Teeth and Diets of Two Isolated Island Communities." *Brit. Med. Journ.*, Sept., 1932, p. 516.
- ⁸"The Influence of Raw Milk on Teeth and Growths." *The Scottish Journal of Agriculture*, xvi, 23-31, 1933.
- ⁹*The Dental Digest*, March-August, 1933.
- ¹⁰"A Milestone in Dental Progress." *Oral Topics*, p. 608, 1933.
- ¹¹Mackay, H. M. M. Medical Research Council, Special Report Series, No. 157.
- ¹²Private Letter from Lord Rowallan, Rowallan, Kilmarnock.
- ¹³Mr. Justice Lort-Williams. *The Times*, Jan. 30th, 1933.
- ¹⁴"A Manual of Bacteriology." R. Tanner Hewlett. Eighth edition, p. 590, 1926.
- ¹⁵"Milk Supply of Dublin." Dr. G. C. Dockeray, *Brit. Med. Journ.*, Feb., 1933, p. 337.
- ¹⁶Davies, J. "Pasteurised Milk." *The Milk Trade Gazette*, May 13th, 1933, p. 10.
- ¹⁷Kitchin, P. C. and McFarland, R. D. "Does the Use of Pasteurised Milk cause Variation from Normal in the Crystal Structure of Enamel formed during the Period of Use of such Milk." Abstract in Scientific Proceedings, International Association for Dental Research, p. 187, 1933.
- ¹⁸Symposium on "Bread and Milk" at British Medical Association House on Nov. 23rd and 24th, 1933; epitomised in *Brit. Med. Journ.*, Dec., 1933, p. 1080.
- ¹⁹Hewat, R. E. "Dental Caries." An Investigation in Search of Determining Factors in its Manifestation. *New Zealand Dental Journal*, 1932, xxviii, 3-21; 45-59 (Sept. and Nov., 1932).
- ²⁰"More Graded Milk for Ulster." *Brit. Med. Journ.*, March, 1933, p. 533.
- ²¹Annotation in the *Lancet*, April, 1933, p. 706.
- ²²"Absence of Tuberculosis of Cattle in Jersey." *Brit. Med. Journ.*, Jan., 1933, pp. 120-121.
- ²³"Mutation of Tubercle Bacilli," and further references there given. *Brit. Med. Journ.*, Aug., 1933, pp. 264-265.

*Since this paragraph was written an account of the open-air or bail, system of cow-keeping has been published by the Agricultural Economics Research Institute of Oxford University, entitled, "Open-Air Dairying." From this it appears that though the yield is lower, the movable bail is economic in many ways, so that the monetary return to the farmer is greater; graded milk of the first quality can be produced without the expense attendant on its production in the cowshed; the open-air herd is relatively free from tubercle, and the lower yielding cows are less subject to udder troubles.

- ²⁴"Tuberculous Infection in Milk." Department of Health for Scotland (Medical Research Council), Special Report Series, No. 189. Dec., 1933.
- ²⁵"Milk-Borne Diseases." Capt. S. R. Douglas. *Brit. Med. Journ.*, July, 1932, p. 199.
- ²⁶"A System of Bacteriology in Relation to Medicine." Medical Research Council, pp. 408-410, 1930.
- ²⁷Taylor's Practice of Medicine. Fourteenth edition, p. 155.
- ²⁸*Brit. Med. Journ.*, March, 1933, pp. 414-415.
- ²⁹"Discussion on Milk-Borne Streptococcus Epidemics." *Proc. Roy. Soc. Med.*, vol. xxiv, Oct., 1931, pp. 1703-1712.
- ³⁰Kay, H. D. "How Science can Help to Improve the Nation's Food Supply—Milk and Dairy Products." *Chemistry and Industry*, vol. lii, pp. 624-630, 1933. (Quoting from the paper by S. K. Kon and R. G. Booth in *The Biochemical Journal*, vol. xxvii, No. 4, pp. 1302-1309, 1933.)
- ³¹*Brit. Med. Journ.*, April, 1932, pp. 769-770.
- ³²*Brit. Med. Journ.*, May, 1932, p. 862.
- ³³*Brit. Med. Journ.*, May, 1932, p. 912.
- ³⁴*Lancet*, Sept. 9th, 1933.

AN AMERICAN LETTER.

Our Correspondent speaks of the Socialisation of Medicine, and makes further references to the Outbreak of Poliomyelitis.

Organised Medicine and Medical Care.

Last year we had the report of the Committee on the Cost of Medical Care, a study which was financed by some of our Foundations, and now, according to the Journal of the American Medical Association, the Milbank Fund, the Twentieth Century Fund and the Rosenwald Fund are making it their major function to put over a system of social medicine in this country. On the day before the meeting of the American Medical Association in Cleveland, the Board of Regents of the American College of Surgeons had a special meeting and made a pronouncement which is at variance with what we believe to be the attitude of the great majority of medical men in this country. The Board of Trustees and the Judicial Committee of the American Medical Association have requested of the College of Surgeons an explanation and justification of their attitude. Just how this will be accepted remains to be seen. The lay press has entered into the discussion, and the propagandists who oppose the present policies of organised medicine have made rather wide use of the declaration of the American College of Surgeons. The medical profession does not hold that it is perfect nor that there can be no changes for the better. It does hold that the profession stands for certain broad principles which are fundamental and necessary to preserve the high class of medical care now given to the American public.

The Two Sides of the Question.

In the *Literary Digest*, one of our most widely read journals, the discussion has been

taken up. On the one hand, Edgar Sydenstricker, formerly with our Public Health Service, but now connected with the Milbank Memorial Foundation, argues for the adoption of a method of health insurance, holding that to do so is "plain common-sense." The usual arguments of the poor* returns to the average private practitioner, and the cost of \$3,700,000,000 annually to the American people, with the failure to provide for many, are brought forward. The proposition is that \$30 to \$35 per year per head would provide adequate medical attention for everyone. The other side of the question is presented by Dr. Van Etten, who admits freely that the distribution of medical service is faulty, but points to the constantly diminishing morbidity and mortality rates in this country, and holds that medical services are steadily improving both in quantity and quality. With the building of many thousands of miles of concrete road, medical centres have become tremendously more accessible, and even many small towns now have hospitals with complete and modern facilities for diagnosis and treatment. We know positively how to prevent diphtheria, small-pox, typhoid fever and other diseases, yet the public is notably unwilling to take advantage of this service. Will any insurance plan produce better effects in this respect? It is held that compulsory health insurance in Europe has not improved the public health, and does not provide reasonable compensation to the doctor because of administrative costs. It is widely felt also that any such scheme would destroy the relation between the patient and the physician. Indeed,

in this country any form of socialisation of medicine is generally regarded with horror, and it is safe to predict that it will take many years to change the feeling of the mass of the medical profession, if, indeed, it can ever be brought about. It is evident that an acrimonious and lengthy battle is threatening, perhaps, with the Foundations, endowed by non-medical men who are interested in the philanthropical and economical aspects, on the one hand, and the majority of the medical profession, who have come into contact with the sick and also the well, on the other. The end cannot be predicted.

The Poliomyelitis Situation.

The epidemic of poliomyelitis continues in California, though the peak has evidently been reached. Up to July 1st, some 1,223 cases have occurred in the state. Los Angeles heads the list in the number of cases. San Francisco, since May 1st has had 69 cases, with six deaths. Fortunately, the death-rate continues low. Dr. James P. Leake, of the United States Public Health Service, who was in charge of the investigation of encephalitis in St. Louis last year, has been sent out to the Coast to co-operate with the health officials in a study of the disease. Attempts to manufacture a vaccine against poliomyelitis have been going on for several years, and considerable success has been reported on some of the lower animals, such as monkeys. Dr. Brodie, of the New York University and Bellevue Hospital Medical School, has attempted immunisation with very minute doses of active virus, combinations of virus and serum, and virus rendered non-infective by formalin or phenol. Using active virus in very minute doses is dangerous, as there is risk of the disease developing during the course of immunisation. The combination of virus and serum presents difficulties, since an excess of virus in the mixture may produce the disease, while an excess of serum will lessen its immunising properties. After many experiments, the active virus treated with formalin has been found to be best, and can be used with success as well as safety on monkeys. Application has been made to the authorities to allow its use in the city of New York, and a group of physicians, among whom are Dr. William H. Park, Dr. Josephine B. Neal and Dr. M. Brodie, have allowed themselves to be injected with the vaccine in order to prove its innocuous character. So far no bad results have

followed, and there is little doubt that its use will be allowed on an experimental group of children. Dr. John A. Kolmer, the well-known serologist of Philadelphia, has also given a preliminary report on a vaccine which he says is prepared in a similar manner to that being tried in New York. The details are not yet available, and will not be until they have been submitted to the American Medical Association.

The A.P.H.A. Meeting.

We are looking forward to the meeting of the American Public Health Association in Pasadena the first week in September, and wish that conditions were such that our honorary members in Great Britain, as well as other guests, could be with us.

MAZYCK P. RAVENEL, M.D.

THE RIGHT HON. THE EARL OF MALMESBURY, D.L., J.P., Chairman of the Hampshire County Council, has consented to become President of the next Health Congress of the Royal Sanitary Institute, which is to be held at Bournemouth from July 15th to 20th, 1935.

THE Minister of Health has appointed an Advisory Committee to consider general questions regarding the administration of town and country planning in England and Wales, and any other related matters which may from time to time be referred by the Minister to the Committee, and, as occasion may require, to make recommendations to him. Mr. E. J. Maude, C.B., Deputy Secretary of the Ministry of Health, has been appointed Chairman, and Mr. E. S. Hill, of the Ministry of Health, Secretary of the Committee.

THE Royal Sanitary Institute announces that the autumn session of training courses for candidates desiring to enter for the examinations held by the Institute for sanitary inspectors, inspectors of meat and other foods and smoke inspectors, for Associateship (in general hygiene and sanitation) and in sanitary science, will commence on September 19th, 1934. Particulars of the lecture courses and syllabuses of the examinations are obtainable from the Secretary of the Institute, 90, Buckingham Palace Road, London, S.W.1.

The Society.

Reports, Proceedings and Announcements.

NOTICES.

ROLL OF MEMBERS, 1934-35.

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 SUBSCRIPTIONS.

A number of members have not yet forwarded the annual subscription due on October 1st, 1933.

They are asked to do so at once, as the collection of these payments must be completed before the annual audit.

ANNUAL DINNER.

The Annual Dinner of the Society will be held at the May Fair Hotel, London, on Thursday, November 22nd next.

Tickets, price 12s. 6d. (exclusive of wines).

THE EAST MIDLAND BRANCH.

President: Dr. W. M. Ash, M.O.H., Derbyshire C.C.
Hon. Secretary: Dr. J. A. Stirling, M.O.H., Chesterfield.

The annual meeting of this Branch was held at Bretby Hall Orthopædic Hospital, near Burton-on-Trent, on July 19th, 1934, the President occupying the chair. Fourteen members and two guests were present.

The annual report of the Hon. Secretary and Treasurer was submitted and adopted, and Dr. Stirling was thanked for his services during the session.

The following office bearers were elected for the session 1934-35:—

President: Dr. J. A. Fairer.

President-Elect: Dr. W. S. H. Campbell.

Vice-President: Dr. W. M. Ash.

Hon. Secretary and Treasurer, and Representative on Council of Society: Dr. J. A. Stirling.

Branch Council: Drs. Barker, Buchanan, Banks, Booth, Ferguson, Millard, Morrison, Newth, Stevens and Tibbitts.

Co-opted Dental Associate Member: Mr. V. C. Carrington.

Dr. Graham and Mr. Littlar were re-elected Auditors.

Drs. Fairer and Banks were re-elected representatives of the Branch on the British Medical Association Midland Branch Council.

Dr. Heffernan was elected representative of the Branch on the Tuberculosis Group Council.

At the conclusion of formal business, Dr. Elizabeth Grierson, the Assistant Medical Superintendent, gave an interesting demonstration of cases, followed by a tour of the Hospital, after which tea was served. The Derbyshire County Council, through Councillor Harrison (Chairman of the Tuberculosis Committee), who was present, was warmly thanked for the kindly hospitality provided, as were also Dr. Ash for the excellent arrangements made, and Dr. Grierson for her splendid demonstration. Councillor Harrison's reply brought to a close a very enjoyable meeting.

THE WELSH BRANCH.

President: Dr. J. W. Miller, County M.O.H., Radnorshire.

Hon. Secretary: Dr. D. J. Thomas, Deputy M.O.H., Rhondda.

The fourth meeting of the session of this Branch was held at the Llandough Hospital, Cardiff, on April 6th, 1934, the President occupying the chair. Before the meeting commenced, the members were entertained at tea by the Matron and Medical Superintendent of the Hospital.

Dr. D. Morgan (Medical Superintendent of the Llandough Hospital) gave details of the design of the institution, and enumerated the staff employed. The arrangements for the admission of patients and the types of diseases treated were also fully described. It was emphasised that there was a constant demand for medical beds, and the number of patients treated medically was equal to or exceeded the

number of surgical cases. Facilities for the after-care of discharged patients were provided at another and more accessible institution.

Under the guidance of Dr. Morgan, the members toured the receiving rooms, kitchens, operating theatres, surgical, medical and children's wards, laboratories, mortuary, laundry, and the quarters of the medical and nursing staffs. Numerous innovations in hospital administration and equipment were shown, and their advantages were discussed during the course of the tour. The ingenious system of signalling adopted at the hospital was also explained.

A cordial vote of thanks was accorded to the Matron for presiding at the tea, and to Dr. Morgan for his demonstration, which occupied nearly three hours and proved very instructive and was greatly appreciated by all the members who accompanied him.

The last meeting of the session was held at the City of Manchester Sanatorium, Abergele, North Wales, on June 9th, 1934. The President and ten members and visitors were present.

It was decided that Dr. Thomas Evans (Medical Officer of Health, Swansea) be nominated as President of the Branch during the session 1934-35.

The remaining officers of the Branch were re-elected.

Dr. W. F. W. Betenson (County Medical Officer of Health, Breconshire) opened a discussion on "**The Housing Problem in Rural Areas.**" He stated that the policy implied in the Housing Acts, from 1890 onwards, appeared to be the demolition of unfit houses and the maintenance of existing cottages in a reasonable state of repair. The Housing (Rural Workers) Acts, 1926 and 1931, intended to provide some solution of the problem, but the results had not been encouraging. Amongst the reasons which might be given for their failure were: (a) the Acts were complicated and not easily understood, (b) the initiative rested with the owner and not with the local authority, (c) the allowance of 3 per cent. interest on the owner's capital was not sufficiently attractive, and (d) some houses could not be made fit. The advantages accruing from the application by county councils of powers conferred by Part IV of the Housing Act, 1930, were explained, but it was noted that no provision had been made for rehousing individual cases of overcrowding. Reconditioning was worthy of consideration but not as a cheap alternative to the demolition of houses

which could not be rendered fit. Types of houses found in rural areas, including a shepherd's cottage, a semi-detached cottage, terraced houses on a hilly site, and the "shack," were described. In considering the requirements for reconditioning, it was claimed that the medical standard of fitness should include a third bedroom, at least one bedroom with a fireplace, a lighted and ventilated larder, separate water-closet or earth-closet, concrete or other suitable paving around the external doors, etc., but unfortunately the legal standard of fitness was either that in conformity with local byelaws, if any, or the average standard of housing for working-classes in the district. If the average standard was the "shack," nothing could be done. Standards of fitness also varied in different districts, the variations being largely determined by the activities of the local authorities and of their officials. A national survey of rural housing conditions appeared to be the first essential step towards the solution of the problem. There was need also of greater co-operation between the county and rural district councils.

Dr. Lewys-Lloyd (Merionethshire) stated that good results had been obtained by the application of the Housing (Rural Workers) Acts, but continued propaganda to induce more owners to apply for the grant was required.

Prof. R. M. F. Picken remarked that the Housing (Financial Provisions) Act, 1933, did not enable building societies to build or let houses, and the initiative was left to local builders. Unification of public health administration in rural areas was also required, as under existing conditions the condemnation of houses devolved on the district councils, whilst county councils dealt with the allocation of grants towards rehousing or reconditioning.

Dr. Parry Pritchard (Carnarvon) suggested that the grants might be increased, and noted that the administration of the Housing Acts by part-time officers was ineffective.

In closing the discussion, the President stated that more could be done under the powers conferred by the Housing (Rural Workers) Acts, but rural housing conditions would continue to be unsatisfactory in the absence of efficient administrative machinery.

It was resolved that a communication be sent to the Welsh Board of Health, stating that the Branch was of opinion that the provisions of the Local Government Act, 1929, dealing with the reorganisation of areas and the appointment of

whole-time officers, should be made effective with the least possible delay as a measure towards the improvement of rural housing conditions.

Dr. Parry Pritchard (Carnarvon) opened a discussion on "**The Treatment and Control of Diphtheria in Rural Areas,**" and reviewed the position in Carnarvonshire, where 80 to 90 per cent. of the cases were admitted into isolation hospitals and a severe mortality had not been experienced. He advocated the prompt administration of antitoxin in larger doses than those which practitioners had been accustomed to give in the past, and tonsillectomy was approved as a last resort in the treatment of virulent "carriers." In epidemics Dr. Pritchard held that it was futile to close the schools, and the services of the school nurses could be usefully employed in the examination of children in the rural schools where nasal infections were the most common sources and most frequently missed by the local practitioners.

Prof. Picken emphasised the importance of the diagnosis of diphtheria on the clinical appearance of the throat, and insisted that the evil of placing reliance on the examination of a swab must be impressed upon students and practitioners. The probable introduction of new preparations enabling immunity to be conferred by a single injection would in the near future render immunisation against diphtheria more practicable from the administrative point of view.

Dr. Lewys-Lloyd recalled his experiences in three outbreaks of diphtheria in Merionethshire, where there was no isolation hospital. Twenty-two cases had occurred in one village, and all the children attending the village school were swabbed, with the result that six "carriers" were discovered.

Dr. Lloyd recounted his experiences, extending over a long period, at St. Asaph. Diphtheritic paralysis appeared to be more prevalent in recent years, and was frequently noted amongst cases which had been treated as suffering from tonsillitis. Endocarditis also appeared to be increasing in frequency amongst diphtheria cases.

Hearty votes of thanks were accorded to Drs. Betenson and Parry Pritchard for their opening contributions to the discussions.

Before making a tour of the hospital under the guidance of Dr. Geddes (the Medical Superintendent), Prof. Picken and Drs. Lewys-Lloyd paid tribute to the services rendered to

public health in Wales by Mr. Howell E. James, former Member and Secretary of the Welsh Board of Health, and it was resolved that an expression of appreciation of his services and regret on his departure from the Principality be recorded in the minutes of proceedings of the Welsh Branch.

In the course of viewing the hospital, a number of interesting cases and the most modern approved methods of treatment of non-respiratory tuberculosis were demonstrated, whilst numerous topics relating to the administration of institutional treatment were discussed. Subsequently the members were invited to lunch by the Matron and Dr. Geddes, and sincere votes of thanks were accorded to them and to the Manchester City Corporation for their kindness in welcoming the members of the Welsh Branch to their Sanatorium.

THE MATERNITY AND CHILD WELFARE GROUP.

President: Dr. Thomas Y. Eynlay, M.O. (M. & C.W.), and Asst. M.O.H., Edinburgh.

Hon. Secretary: Dr. Isobel Wright, 1, Briton Close, Sanderstead, Surrey.

Annual Report, Session 1933-34.—The membership of this Group, which is drawn from all over the country, numbers about 250. Nine meetings have been held during the year. There were two joint discussions, one with the parent Society on "Maternal Morbidity," which was opened by Dr. Gladys Hill, a member of the Group, and another with the Dental Officers' Group, when "Dental work in relation to Maternity and Child Welfare" was discussed; Dr. Agnes Nicoll spoke for the Maternity and Child Welfare Group and Dr. Grantley Smith for the Dental Officers' Group.

An informal dinner meeting was held at Pagani's Restaurant, London, in December, when Professor Lancelot Hogben, in an amusing and provocative speech, opened a discussion on "Heredity versus Environment as Affecting the Child up to Five Years of Age."

The annual provincial meeting was held in Glasgow from May 24th to 26th. The Group enjoyed the hospitality of the city council and an excellent programme arranged by the public health staff. In July the Group took part in the National Conference on Maternity

and Child Welfare held in Birmingham. A one-day clinical course for doctors attending the Conference and a meeting open to all members of the Conference were organised by the Group. Seventy-six Group members and guests attended a very successful annual dinner, organised by the Midland Sub-Group.

The average number attending the discussion meetings was 29. Seven Committee meetings have been held; the committee numbers 36, and the average number attending was 12. Two sub-committees have been formed, one to consider the Local Government Act, 1929, Section 58, and the other to consider a Memorandum on the Staffing and Administration of Maternity and Child Welfare Centres.

There are three Sub-Groups—Midland, Northern and Yorkshire—which arrange local meetings.

PROGRAMME FOR SESSION 1933-4. 1933.

October 27th.—“The Future of the Maternity and Child Welfare Movement.” Dr. G. F. McCleary.

November 17th.—“Dental Work in Relation to Maternity and Child Welfare.” Joint Meeting with the Dental Officers’ Group.

December 15th.—Dinner Meeting at Pagani’s Restaurant. Discussion on “Heredity versus Environment as Affecting the Child up to 5 Years of Age.” Opened by Prof. Lancelot Hogben.

1934.

January 26th.—“Diet for the Pre-School Child.” Prof. V. H. Mottram.

February 23rd.—“Ophthalmia Neonatorum.” Mr. David Lees.

March 23rd.—“Maternal Morbidity.” Joint Meeting with the Parent Society. Discussion opened by Dr. Gladys Hill.

April 27th.—“Allergic Reactions.” Dr. John Freeman (Dr. Bray unable to attend).

May 24th to 26th.—Annual Provincial Meeting, Glasgow.

July 2nd, 4th, 5th.—Annual General Meeting, Birmingham.

GROUP OFFICERS FOR THE SESSION 1934-5.

President.—Dr. Stella Churchill.

Past-President.—Dr. Thomas Y. Finlay.

Vice-Presidents.—Drs. Agnes Bernfeld, Hazel Chodak Gregory, Agnes Nicoll.

Honorary Secretary.—Dr. Muriel Radford.

Honorary Assistant Secretary.—Dr. Virginia Saunders-Jacobs.

Representative on Council of Society.—Dr. Ethel Cassie.

Committee.—Drs. Marjorie Back, Jessie Balsillie, Georgie Brodie, Margaret Emslie,

Victor Freeman, Maule Horne, Enid N. Hughes, Marguerite G. Hughes, Andrewina Laird, George M’Gonigle, Elwin Nash, Maitland Radford, Nora Smith, Helen Standring, James Stephen, Dorothy M. Taylor, Ruby Thomson, William Wallace, Isobel Wright, Dame Louise McIlroy.

At the National Conference on Maternity and Child Welfare held at Birmingham in July, the Group held a discussion on “The Prevention of Tuberculosis in the Child under five years of age.” The meeting was open to all members of the Conference, whether medical or lay, and in spite of the fact that it was held at the end of a long day and that there was the strong counter-attraction of a garden-party, over a hundred people attended. Dr. Finlay occupied the chair.

Dr. G. B. Dixon (Tuberculosis Officer, Birmingham) dealt with the means of protection from tuberculosis arising as a result of infection with the human strain of the bacillus. Two lines of action suggested themselves: first, the production of some degree of immunity; secondly, the introduction of such measures as will result in breaking the child’s contact with the known source of infection. Doubt remains as to the effectiveness of B.C.G. vaccine in regard to immunity. Voluntary segregation, practised benevolently and secured by tactful and sympathetic persuasion, should be aimed at. Patients with advanced disease should be encouraged by every means possible to accept residential treatment in suitable pavilions for long periods; they might be granted concessions with regard to visitors, recreations, and so on, which would be refused to more robust patients with a better prognosis. The larger the percentage of total deaths from pulmonary tuberculosis which occurs in these pavilions the better for the community concerned; in Birmingham it was about 40 per cent. Segregation is insufficient in itself to break the vicious circle of familial influence. Vigorous measures must be adopted to treat the disease in infancy and early childhood. This is only possible where close co-operation exists between the tuberculosis and maternity and child welfare departments, school medical service, voluntary and municipal hospitals, patients, relatives, contacts and the family practitioner, whose co-operation is invaluable. Young children living in contact with imperfectly isolated cases of open pulmonary tuberculosis are in constant jeopardy, and no stone should be left unturned in the endeavour to protect them. Good care work, satisfactory

housing, the loan of beds and bedding, sleeping chalets, adequate food and clothing, and satisfactory medical supervision of all concerned, should be aimed at. The lecturer mentioned Papworth and Preston Hall; at the former (in existence for 18 years), 65 to 68 per cent. of children from one to five years of age are positive reactors; no child born in the village has yet shown evidence of clinical tuberculosis.

Dr. D. H. Mills (Tuberculosis Officer, Stoke-on-Trent) dealt with the prevention of tuberculosis of bovine origin. A note with regard to his contribution to the discussion will be found amongst the editorials on page 378.

Dr. J. C. Spence (Hon. Physician, Royal Victoria Infirmary and Babies’ Hospital, Newcastle-upon-Tyne) dealt with clinical and pathological types. He pointed out that in the past there had been a widespread lack of knowledge of the clinical picture of tuberculosis as it affects young children, so that there is a failure to recognise it by doctors engaged in the public health service and those engaged in general practice. Tubercular infection and tubercular disease must be differentiated. The fundamental fact about tuberculosis in infancy is that whereas an older child or adult rarely develops tubercular disease as a result of his initial infecting dose (and under modern conditions all older children and adults living in cities received this dose at some time or other) a young infant is extremely liable to succumb. It is probable that infants under three months of age infected with tubercle bacilli from parents or other carriers develop signs of the disease in its most serious form. At any age under 12 months infection produces signs of local or general disease in the majority of cases; even at the comparatively safe age-period between three and five years, 50 per cent. of infected children probably show signs of disease. From records in children’s hospitals all over the country it has been estimated that 25 per cent. of deaths among children under five years of age are due to tuberculosis. At no other age-period is tuberculosis so prevalent or so dangerous, a fact which appears to have escaped notice, judging by the inadequate provision which has been made by the authorities for studying methods of dealing with the problem. For diagnosis, aids other than the stethoscope must be enlisted. (a) History of contact infection, which is a better term than “family history of tuberculosis.” Dr. Spence doubted a familial predisposition to the disease apart from the

danger of frequent contact infection. (b) General condition of the child. Failure to gain weight is usual, but rapid wasting is uncommon unless the lesion is complicated with ulcerative processes or secondary infection. (c) Temperature. In infancy tuberculosis is often afebrile even when there is a large lesion. (d) Tuberculous skin reaction. A skin test is of the greatest value in diagnosing the disease in infants, but experience in circumspection is necessary in its interpretation. A negative result is a most significant sign. (e) Local signs of tubercular disease in various organs. Primary infection occurs in the lung in most cases. The abdomen, superficial glands, bones (dactylitis) and skin may be attacked; a small chronic sore on any part of the body may be the only evidence. Erythema nodosum is a tubercular indication and occurs six to eight weeks after infection.

In considering tuberculosis in infancy, everything points to human contact infection as a source of the disease. The obvious solution to the problem of infection lies, therefore, in the safeguarding of the infant from all unnecessary contact during the first year of life at least. An ideal environment at such an age is one in which there is the minimum of travelling in public conveyances, and no indiscriminate visiting by relations, friends, or acquaintances, all of whom might be unwittingly disseminating tubercle bacilli in their sputum.

After the papers were read, several members of the audience asked questions, to which the speakers replied. A hearty vote of thanks was proposed by Dr. Finlay, seconded by Dr. James Stephen, and carried by acclamation.

DR. B. C. STEVENS is resigning his appointment as Medical Officer of Health for Grimsby, after 13 years’ service.

DR. T. L. J. COXON, Assistant Medical Officer of Health, Tynemouth, has been appointed to succeed Dr. J. O. Murray as Medical Officer of Health at a salary of £900 per annum.

SHREWSBURY Borough Council have approved the allocation of a site for the open-air swimming baths which are to be constructed as a memorial to the late Dr. James Wheatley, formerly County Medical Officer of Health for Shropshire, who died during his year of office (1927-28) as President of the Society of Medical Officers of Health.

The Literature of Preventive Medicine.

Modern Inhalation Therapy for the General Practitioner. By C. H. AUTY, M.R.C.S., L.R.C.P., Medical Officer, No. 2 District, Willesden. London: William Heinemann (Medical Books) Ltd., 1933. pp. 66. Price 3s. 6d. net.

The author of this brochure has applied inhalation treatment, using iodine, camphor, adrenalin and a number of other agents in a variety of disorders from angina pectoris to sciatica and distemper in dogs. The results he has obtained have been so encouraging, even good, that he considers it worth while recommending the method to others like himself in general practice.

The apparatus, the drugs and the dosage to be used, and the conditions in which he himself has adopted inhalation, are all very clearly and interestingly described.

Damaged Lives. By C. J. EUSTACE. London: Putnam & Co., Ltd., 1934. pp. 221. Price 3s. 6d. net.

This novel, adapted from the film of the same name, claims to treat a difficult subject with knowledge and restraint. The film was probably seen by many medical officers of health, who will agree with Mrs. Neville Rolfe (Secretary-General of the British Social Hygiene Council), who provides an introduction to the story, that "the book will perform a national service." In the hope that it may do so, it is here recommended.

Designs for Homes. By GRACE COPE, HON. M.L.A.A.S. London: Grayson & Grayson, 1934. pp. 197. Price 10s. net.

In these days, when all the talk is so much of housing and so little of houses and less of homes, it is a delight to come upon a book on "homes." It is all the more delightful when the talk is of the kind to be found in a book having such a title as "Designs for Homes." Especially it is pleasant when it appears that the author is a woman, and one exceptionally qualified for the task of writing such a book. The special qualifications that Miss Grace Cope, in fact, possesses are architectural, being as she is an architect of international repute and, in addition, the only woman upon whom the Incorporated Association of Architects and Surveyors has conferred its Honorary Membership. Miss Cope has

devoted a life-time to architecture, and this book contains the very essence of her knowledge and experience. Exceptionally well written, it is practical and full of guidance to the how of the making not only of beautiful homes but of homes beautiful, while still having the utilitarian in view.

The book is well produced and contains numbers of plans and photographs which add enormously to its value and its interest.

Hospital Accounting and Secretarial Practice.

By FRANK DEAN, F.C.I.S., Assistant Secretary, Birkenhead General Hospital; and C. H. SPENCE, F.C.C.S., Assistant Secretary, Royal Southern Hospital, Liverpool. London: Sir Isaac Pitman and Sons, Ltd., 1933. pp. 160. Price 7s. 6d. net.

Though intended primarily for hospital officials, examinees of the Incorporated Association of Hospital Officers, and for candidates for the independent qualifications granted by the several secretarial examining bodies, and to these ends providing instruction in hospital book-keeping and accountancy, it contains a quantity of useful information on other matters relating to hospitals, hospital management, etc.

In these days, when members of the health service are compelled to concern themselves more and more intimately with institutions of this kind and their management, such a book as this may not be without its uses and value, and for these reasons this well-written and well-balanced volume is worth having for reading and reference purposes.

The Liver Diet Cookery Book. By DOROTHY SEWART. Bristol: John Wright & Sons, Ltd., 1933. London: Simpkin Marshall, Ltd. pp. 62. Price 1s. 6d. net.

The writer of this book suffers from a condition which compels her "to live on a liver diet without the addition of any cooked fats." Amongst other risks, monotony bulks large, and it was with the object of overcoming this and as many as possible of the others, that she set about drawing up menus and hints for those preparing and serving the various items contained therein. She has done excellent service in collecting her menus and hints into a book which will be valuable to physicians and others dealing with patients on the liver diet.

In the Annual Reports.

HEALTH CERTIFICATES BEFORE MARRIAGE.—It is the obvious duty of each party to such a vital step as marriage to make a full declaration of everything as regards physical health likely to affect the health and well-being not only of the partner but also of any offspring resulting from the marriage. It should clearly be the right of each partner to have this information before the irrevocable step is taken. Some day one may hope that such interchange of certificates will not only be customary but compulsory. In the meanwhile, the clergy might do much to introduce this reform if they would tactfully inquire if health certificates have been exchanged before they agreed to publish banns. They may not at present have power to require it, but the mere making of such a suggestion would go a long way to bringing the reform about. If I may make a personal allusion, I would say that I myself have had four children married, and in each case an exchange of health certificates, as indicated above, took place between the young people and their prospective partners for life.—*Dr. C. Killick Millard, Leicester.*

DIPHTHERIA: DANGER IN DELAY.—Several of these deaths have demonstrated the calamitous results of delay in administering anti-toxin. They have also pointed out in no uncertain way the dire consequences of delay in diagnosis. Doctors have apparently not all learnt the lesson that it is dangerous to wait for the result of the swab, and that it is imperative to treat every suspicious case of diphtheria in the only way which gives the patient every chance of recovery, namely, by the immediate administration of anti-toxin. Every opportunity has been taken to urge medical practitioners to administer anti-toxin to suspicious cases. A new method of drawing the attention of local doctors to this important matter has been adopted recently by enclosing a leaflet with every swab outfit issued from the council's pathological laboratory. This leaflet emphasises the importance of the early treatment of suspicious cases of diphtheria, and reminds medical practitioners that a free supply of anti-toxin may be obtained from the public health department for all patients whose home circumstances are poor.—*Dr. Thomas Orr, Ealing.*

THE DEVELOPMENT OF THE HOSPITAL LIBRARY SERVICE.

Some time ago the Council of the Society considered the question of hospital libraries, and appointed representatives to a special committee dealing with it. In this note, Mrs. Marjorie E. Roberts, Organising Secretary of the British Red Cross and Order of St. John Hospital Library, submits a number of details with regard to procedure in relation to the forming of libraries which will be found helpful and of interest by members of the Service.

It is probably not going too far to prophesy that a few years hence a hospital which does not possess an "organised patients' library"—as distinct from mere collections of books in the wards—will be considered to that extent below standard. Many times ex-patients of the London County Council and voluntary hospitals have said to the writer, "When I was in such and such a hospital a few years ago there was no library; but they have one now, and what a difference it makes." Reports from America, and several European countries, tell the same story, and it is only a matter of time before a patients' library will be accepted as part of the essential equipment of every hospital.

So far as Great Britain is concerned, the immediate need is for a vigorous effort to be made throughout the provinces for a hospital library service such as now extends to nearly every hospital in London. It must not be thought by this that the service is by any means entirely lacking elsewhere. In Sheffield, for instance, an excellent service is organised by the chief librarian of the public library, and in Liverpool, the Toc H organisation is gradually building up libraries in the hospitals. But the important fact remains that on the part of authorities throughout the hospital sphere, the principle has not yet been accepted that a hospital without a patients' library is minus a part of its equipment which has definite recreative and psychological value. There are several reasons for this gap in the hospital service, chief amongst them being that such libraries have not been regarded as the specialised work of any particular person, and have often fallen

to the lot of anyone with a little spare time. In fact, this task has frequently fallen upon the already too busy chaplains. Another reason is the lack of accommodation, since architects have not yet planned for library rooms. Yet another reason is that although many medical officers of health and medical superintendents believe that patients' libraries are valuable, they do not know to whom to turn for their organisation, except in a few centres in which there is a local hospital library committee.

The Red Cross and St. John Hospital Library aim at establishing, as soon as possible, hospital library committees in all large towns, and for each county. On these committees the medical officers of health should take a leading part; and there is little that could help forward the movement so much as requests from medical officers of health to the Hospital Library Headquarters that an approach should be made to their respective centres. Such requests can set the ball rolling, and can open a channel of contact which is often the hardest part of the first stage in the work. Where these committees have been set up, they usually include the medical officer of health, representative authorities from every kind of hospital in the area, and representatives of bodies competent to supply voluntary help for book collections and librarians, such as the British Red Cross, Order of St. John, Toc H, Scouts, Guides, Women's Institutes, etc.

So far as accommodation is concerned, experience has shown that this can usually be overcome to an extent that makes a library possible, though not always

perfect. A great deal of space is not necessary; book-cases can, if required, reach to the ceiling; but there must be light, air, and freedom to work at reasonable hours. This means that waiting-rooms and chaplains' rooms, which are still often used for housing book-cases, are not satisfactory. A suitable end of a corridor partitioned off is sometimes better. Actually, experience proves that somewhere or other adequate, though perhaps not ideal, space is found whenever the will to possess a library is strong enough. But new buildings or extensions should undoubtedly be planned to include a suitable library room, and, best of all, a library reading-room, to which certain patients, fit to leave their wards for a short time, could have access.

The workers for the library, once a local committee has been formed, can usually fairly easily be obtained; but even before that has happened a hospital that wishes to start a library will soon secure offers of voluntary service if publicity is given to the need for it. Some care, however, should be exercised in the selection of helpers. Hospital librarianship is now recognised as a specialised form of work, and not merely as a useful job of book distribution. Knowledge of books, understanding of people, tact, method, energy and cheerfulness are qualities that librarians must possess, and each head librarian should have organising ability. In the London area there are now four hospitals used as teaching centres for head librarians. They are: Lewisham (London County Council), Guy's, St. Bartholomew's and Middlesex. Such teaching centres will, it is hoped, extend gradually to all large cities; but in the meantime appointments can be made with the London teaching centres for prospective head librarians from the provinces to visit them, and to see something, during a two or three hours' stay, of the system of work. The number of librarians required in a library is one for every 60-80 beds of reading patients, of whom one must be competent to be, and recognised as, head.

The formation of a Guild of Hospital Librarians is the natural outcome of the improved organisation of a library service for patients in hospitals and kindred institutions. The desire to unite the librarians engaged in this valuable form of social service first found expression at the annual meeting of the Hospital Library of the British Red Cross Society and Order of St. John of Jerusalem in the London County Hall in 1932, when a large audience cordially welcomed the suggestion. The proposal was discussed at a meeting of hospital librarians held in St. George's Hospital in May, 1933, when it was decided to proceed with the formation of a body to unite them together. Shortly after, the Third Congress of the International Hospital Association in Knocke endorsed the proposal as one which would appeal to hospital librarians throughout the world. Accordingly, a Guild of Hospital Librarians was formed at a meeting held in Chaucer House, by the kind courtesy of the Library Association, on March 14th, 1934. Hospital librarians, members of library or hospital committees, librarians and other persons connected with the organisation and administration in hospitals and kindred institutions or interested in the objects of the Guild are eligible to become members.

A complete hospital library service should include the whole hospital—medical, nursing and domestic

staff, and patients—under the administration of a trained librarian. That, so far, is a counsel of perfection, although in some hospitals, librarians are already trying to meet the needs of the nursing staff as well as of the patients. For the purpose of this note, however, patients' libraries only will be considered. Books are supplied by the Red Cross and St. John Hospital Library to over 2,000 hospitals of all kinds—non-infectious, infectious, mental, and so on. So far as librarians are concerned, no attempt can be made to include them for infectious hospitals; for these, the staff has to run the book service. Librarians should be found for all other hospitals. Mental hospitals stand as a problem apart, and for these the principle is slowly gaining ground that "outside" voluntary librarians should assist, even if they do not entirely take over the libraries. The library work in these hospitals requires much time and discrimination; moreover, it can be regarded as occupational for certain patients.

The basic facts remain that all types of hospitals should have a book supply, and a system of book distribution. Until fairly recently, it has been taken for granted that an unending supply of books, and of funds, with which to run this national service were held by the Red Cross Hospital Library. Actually, however, it is of importance that a certain degree of decentralisation from headquarters should be aimed at. By decentralisation it is hoped that in course of time big cities, and even some counties, will become responsible for the library service to their own non-infectious hospitals, leaving to headquarters the infectious and mental hospitals. Whenever this is done, it will mean that the local committee will arrange for a depot, which should be rent free, to which books collected locally should be sent, of which a proportion should be kept for local non-infectious hospitals, and a quota sent to headquarters (unless it is desired to take over the entire service). Such a depot should be supervised by a volunteer, and it would be found that the expense connected with it would be exceedingly low. Indeed, transport and packing within a county are usually small matters, in so far as the county library vans and other forms of conveyance can often be used. On the other hand, there may be instances in which it is not found feasible to set up a committee and organise a depot: whenever this is so, hospitals in those districts can look for help to the Red Cross Hospital Library, but it is only reasonable to realise that where unnecessary reliance is placed on headquarters, without any attempt on the part of those in the hospitals or their localities to improve or build up their libraries, the service for all hospitals tends in the long run to be weakened to that extent.

It is, therefore, a matter worthy of thought that medical officers of health and all those who are concerned to develop a permanent hospital library service for the country, should take steps to accept the principle of such libraries, and to formulate a policy for their development in their respective districts.

Suggestions and enquiries in respect of further details, local meetings or personal visits, or with regard to the Guild of Hospital Librarians, will be gratefully received by the Organising Secretary, Mrs. M. E. Roberts, 48, Queen's Gardens, Lancaster Gate, London, W.2.

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