

3L
L: 5ms, M88
M88.3P
69268

Public Health

THE JOURNAL OF

The Society of Medical Officers of Health.

No. 1.

OCTOBER, 1924.

VOL. XXXVIII.

Subscription price, 31s. 6d. per annum, post free
in advance. Single copies, 2s. 6d., post free

Editorial.

OURSELVES.

69268.

CONTENTS.

EDITORIAL—

Ourselves	1
Psychological tests of Educable capacity	2
Experimental Cancer Research	3
The Registrar General's Statistical Review for 1923	3
The Prophylaxis of Diphtheria	4
Infant Welfare Conference	4

Oysters and the Public Health (By Professor J. W. H. Eyre, M.D., F.R.S., Edin. Illustrated)	6
Care Work in Tuberculosis (By Dr. J. J. Jervis)	27

SOCIETY OF MEDICAL OFFICERS OF HEALTH—

Council Meeting	31
Annual Report of Council	36
Branch Elections	36
Notes from Branches	36

REVIEWS—

Sewage Treatment in the United States	38
Tuberculosis and Sleeping Sickness in Equatorial Africa	38
Frimley Sanatorium Results	40

The first page of a new volume may be profitably utilized in a retrospect of the achievements of the Society of Medical Officers of Health, a consideration of its present position and reflections on its future.

It is nearly seventy years (actually on April 23rd, 1856) since Dr. F. W. Pavy, the medical officer of health of the Vestry of St. Luke gathered together at his house in Finsbury Square thirty of his colleagues and there was founded the Metropolitan Association of Medical Officers of Health. With the appointment of medical officers of health in the provinces consequent on the passing of the Public Health Act, 1875, provincial Associations were formed and in 1887 on the suggestion of Dr. Alfred Hill, medical officer of health of Birmingham all the existing Associations were amalgamated and the Society of Medical Officers of Health came into being. In May, 1888, there was issued the first number of Public Health as the official organ of the Society under the editorship of Dr. A. Wynter Blyth, Barrister-at-Law, and medical officer of health of St. Marylebone. The earliest scheme for the compilation, and distribution among the compilers, of returns of infectious and other cases of sickness was initiated in 1857 by the Metropolitan Association and became in effect an advisory body for the Government of the day on health matters, a circumstance no doubt in great measure to the fact that Mr. (afterwards Sir) John Simon, the first medical officer to the General Board of Health, was President of the Association from 1856 to 1861. The history of the Society so clearly and fully written by Dr. Reginald Duffield in the 100th number of Public Health issued in 1915 is less the history of public health legislation and administration during the second half of the last century and affords ample evidence of

69268

3L

L:5msb, M88

M88.38

the influence of the Society upon public health.

From its very earliest days the Society has been recognised as constituting a body of experts whose training and administrative experience gives special weight to conclusions at which they arrive and whose opinions the legislature no less than the general public cannot prudently ignore. The annual report of the Council of the Society on page 33 contains a long list of the public departments and public bodies with which the Society has been in communication during the past year and affords sufficient evidence of the large number of interests that are concerned in one way or another with public health administration.

With the opening years of the present century the activities of public health officers were considerably increased. School medical officers, Tuberculosis officers, Maternity and child welfare officers and medical officers in charge of venereal clinics were appointed all over the country. The Society, inspired by Professor H. R. Kenwood, C.M.G., at the time President of the Society, decided to form "groups" of these and other specialist officers within the parent body. It is thus possible for definite questions to be considered in sections as it were and when conclusions have been arrived at by those who are recognised experts in a particular branch, their value can hardly be overestimated. Never before in the whole period of its existence has the Society been more entitled to take a foremost place among public bodies concerned with public health administration. At no period of its history could it be charged with being retrograde and the progressive policy of the founders is that of the present generation of members, who realise however that there is infinitely more for the Society to do to-day than was the case even twenty years ago. The achievements of the Society in the last few years are well known to our readers, but they have only been made possible by the zeal and enterprise of the Council, of the branches and of the groups, and by the self sacrificing labours, often very un congenial, of many individual members. There must be no abatement of that zeal and every single member should feel that it is up to him to take some part in upholding the prestige and adding to the usefulness of the Society. The estimation in which the Society is held in the public health service itself can be gathered from a perusal of the membership roll which contains the name of every prominent senior member of the service and from which there ought not to be absent the name of any junior member. In 1888 there were about 300 members in the Society. At the present time the membership is approaching

2,000 and there are still some potential members who have not been enrolled. The Council are determined that the activities of the Society shall be of such a character that no public health officer who has a full sense of his responsibilities can afford to remain outside its ranks. The Society has a great past of which every member may be pardonably proud. It has great possibilities before it. Its reputation must not only be maintained, it must be enhanced.

PSYCHOLOGICAL TESTS OF EDUCABLE CAPACITY.

The Board of Education have issued the Report of the Consultative Committee on so-called "intelligence tests," at the price of 2s.

As might be expected the Report is a sane and well-balanced criticism and appreciation of the work that has been done in grading and standardising mental tests. The Committee find that there is no agreement amongst psychologists as to what the term "intelligence" really connotes and wisely have decided to substitute for "intelligence" the words "educable capacity." The limitations of the tests for various purposes have been clearly perceived. A great number of most interesting psychological questions are discussed in the report and sections are devoted to group testing and to tests of vocational aptitude.

From the point of view of the School Medical Officer the special interest of psychological tests is connected with his work of certification of children for admission to schools for the mentally defective. The amount of space in the Report devoted to the use of graded tests for this purpose is surprisingly small, considering that it was for this purpose the graded tests were first elaborated and that it is in this field that the use of them has been most conspicuously helpful. The conclusions of the Committee however, are extremely sound and will commend themselves to all our readers whose work has embraced the handling of problems of mental deficiency. The Committee is strongly of the opinion that the tests should not be applied by untrained persons and, in particular, that no child should ever be treated as mentally deficient solely on the evidence afforded by the application of "intelligence" tests, however carefully they may have been administered and marked.

The merits and disadvantages of the various groups of tests and scales that are in existence are critically reviewed and compared one with another in the report and a number of appendices examples of tests, the of well-known

experts and the utilisation of tests in civilised countries abroad are set out. The Report forms a most useful compendium of what is known and thought about mental tests at the present time and will be found not only exceedingly interesting but also most useful to all members of the public health service engaged in the administration of the Education and Mental Deficiency Acts.

EXPERIMENTAL CANCER RESEARCH.

The fourth memorandum of the series on Cancer issued by the Ministry of Health differs somewhat from its predecessors in being philosophical rather than practical in style, it is, nevertheless, a very valuable contribution on the subject for it serves admirably to focus the diffuse and divergent views held by experts upon the essential features of the cancer research problem. No one is better qualified to deal with this aspect of the subject than Dr. J. A. Murray (Director of the Imperial Cancer Research Fund) who at the invitation of the Departmental Committee on Cancer, has been responsible for compiling this brief review of the position to-day. That position is very different from that obtaining so recently as, say ten years ago, is patent even upon cursory reading of the memorandum and when due consideration is given to the several outstanding landmarks that have been established we realise that, at least, definite progress has been made towards the desired goal. Until the advent of the microscope and the tentative theories of the causation of cancer—microbic, embryonic, gametic, irritative, etc.—propounded by Virchow, Thiersch, Cohnheim and others, we had nothing to take the place of the purely speculative inventions of the ancients, but now we have some glimmering knowledge of the origin of certain forms and several of the primary difficulties of the technique of research have been successfully overcome. Two typical characteristics of cancerous growths are now definitely recognised, namely, the unlimited power of multiplication of cancer cells and the ability of the mass to form metastases. As to causation we can now clearly distinguish between two different types, and produce them artificially in suitable animals, one caused by persistent irritation (e.g., tar cancer) and another produced by inoculation of cell-free tumour extracts (e.g., fowl cancer). Further, certain of the conditions under which cancer can be transmitted experimentally have been determined so that this entrance gate to the field of research has been discovered and cleared. This achievement dates only from 1915!

Compared with research in other fields of scientific activity, progress towards a solution of the Cancer problem may appear exasperatingly slow, but it must be borne in mind that in this matter we are not dealing with simple chemical elements nor even organisms of humble habit. The mysteries of cell nutrition and cell propagation have not yet been elucidated and until we know something of cellular life, much of the cancer work can be no more than vague groping in the dark. But here again we are on the threshold of discovery for in the last year or two methods have been devised for maintaining growths of living tissue apart from the body and these methods have been applied with success to the culture of cancer. With proper technique, normal and cancerous tissues can now be made to grow apparently indefinitely *in vitro*. Thus, step by step, each discovery whether of technique or of vital property, leads to more extended observation and further opportunities of enquiry, but the full benefit of these disjointed steps can be obtained only by frequent interchange and careful correlation such as is expressed by the phrase "team-work."

THE REGISTRAR-GENERAL'S STATISTICAL REVIEW FOR 1923.

Section 5 of the Census Act, 1920, makes it the duty of the Registrar-General "from time to time to collect and publish any available statistical information with respect to the number and condition of the population in the interval between one census and another." In accordance with the provisions of the Act the Registrar-General decided to revise the form and arrangement of his annual reports, and that for 1921 was issued in three sections. Part I contained medical tables, part II civil tables and the third volume issued last contained the text of the report. The 1921 review was issued in December, 1922, that for 1922 in September, 1923, and that for 1923 in August last. Dr. T. H. Stephenson, the superintendent of statistics is to be congratulated on his achievement. It is no light matter to prepare and print a 500 page volume Royal 8vo. in so short a period. The early issue has met with the approval of all concerned and to public health officers it is especially necessary and helpful to have a speedy issue of the tables in which they are most interested.

The annual figures of the notifications of infectious disease which were formerly issued as a

separate volume by the local government board are included in the Registrar-General's review.

The estimated population of England and Wales at the middle of 1923 was 38,403,000. The 758,131 births in 1923 gave a birth-rate of 19.7 per 1,000 of the population, the lowest recorded with the exception of the war years 1917-1919. The death-rate of 11.6 per 1,000 of the population and the infant mortality rate of 69 per 1,000 births were the lowest rates yet recorded in this country. The death-rate from scarlet fever (0.026 per 1,000) was lower than in any previous year except 1917 when it was 0.022 per 1,000. The death-rates from diphtheria (0.071 per 1,000), typhoid fever (0.012 per 1,000) and phthisis (0.84 per 1,000) were the lowest on record but the cancer death-rate of 1.3 per 1,000 was above that of any previous year.

THE PROPHYLAXIS OF DIPHTHERIA.

A complete resumé of the immense amount of work which has been done in the United States of America in connection with the Schick test and the active artificial immunisation of non-immune persons is to be found in *The prophylaxis of diphtheria*¹ by Dr. Louis Van Boeckel. The work is one of a series of documents issued by the League of Nations during the present year and though a small one and covering as it does a great field of experiment and experience is nevertheless complete in every detail and in no way suffers from the condensation of such material. On the contrary the reader, whether conversant or not with the subject, cannot fail to be interested and enlightened. The book is divided into two main parts. The first is concerned with the determination by the Schick Test of the susceptibility of individuals to diphtherial intoxication. We have purposely emphasised intoxication because it is interesting to read that though isolated cases of suspicious inflammation of the throat containing Klebs Loeffler bacilli have been noted from time to time in persons classed as immune according to the Schick Test, it has been observed that such cases show no signs of diphtherial intoxication and always recover. Those who have proved this to their satisfaction refrain from giving anti-toxin to such cases. The subject of susceptibility is very thoroughly dealt with, *i.e.*, according to age, sex,

social environment, etc., and the results recorded differ in no way from those obtained by observers in this country. A good description of the technique of the test with the various types of reaction is given, though we think its value would have been enhanced by the inclusion of some coloured plates. The second part of the book relates to active artificial anti-diphtherial immunisation, all phases of which are dealt with. Regarding contra-indications the author, while believing that immunisation is harmless considers that the practitioner should insist on obtaining properly controlled products. As to the important point of the duration of artificial immunity, we are told that many thousands of children have been examined after a lapse of seven years and remain negative to the test. Even though immunity did not last longer than this it would be doing a great service in protecting the child during those years when it is most susceptible to diphtheria. The final pages are devoted to methods adopted in the United States to popularise immunisation. The author appears to treat his subject in quite a disinterested manner thus rendering his conclusions all the more valuable. The book ought to be in the possession of all those interested in preventive methods as applied to diphtheria.

INFANT WELFARE CONFERENCE.

The third English speaking Conference on Infant Welfare held recently at the Caxton Hall, London, under the auspices of the National League, produced some interesting contributions on Welfare subjects, both from overseas and home.

The Presidential address was delivered by the Rt. Hon. John Wheatley, M.P. (Minister of Health) and it was conceded that this had been the most successful conference of the kind yet held, there being an attendance of about 700 including a large proportion of representatives from the Colonies and dominions overseas.

The papers grouped themselves under three main heads, namely: Midwifery, Settlement of "Unwanted" Children and Training of Workers. No greater contrast in the care and attention bestowed at child-birth could be furnished than that presented by Dr. R. J. Blackham (Late Hon. Surgeon to the Viceroy of India) in his description of the revolting practices of the native midwife (dhai) in India, and the thoughtful paper by Dr. Helen Macmurchy (Chief of the Division of Child Welfare, Department of Health, Canada), on the measures adopted in Canada for securing healthy pregnancy

and safe delivery. The Indian wife, often about to become a mother at a very immature age, has her natural desire for motherhood intensified by the knowledge that if she fails to bear a son her position in the family will be far from enviable, and yet, at the most critical moment in her life, she is subjected to superstitious practices and filthy conditions which virtually preclude a natural labour and healthy puerperium. Dr. Blackham quotes with approval the excellent work done by Dr. Crake (M.O.H. Calcutta) and his "Corporation Midwives" in introducing Western methods and the fact that at least one out of every six babies born in Calcutta is attended by a Corporation midwife shows that native prejudice is not the insurmountable barrier it was thought to be. Dr. Helen Macmurchy classified the necessary care for mothers and infants under four heads, viz: Medical, Nursing, Domestic and Community, and proceeded to show how Government Departments, Provincial Health Authorities and Voluntary Agencies, fulfil in their own spheres, the functions included under those heads. It must be confessed however, that there are still wide gaps and great need for better co-ordination and that the sparsely populated districts do not share the amenities enjoyed by the towns, otherwise the infant death rate for the whole of Canada would not remain at just over 100. Lady Barrett, M.D., M.S. (Royal Free Hospital) also dealt with this subject, discussing in detail the provisions necessary for ensuring safe childbirth, and Miss C. van Blarcom (New York) described the resources for maternity care in the United States of America. An interesting contribution on the subject of infant and maternal mortality was that of Mr. J. Theodore Dodd, M.A., J.P., who traced a direct relationship between a high maternal and infant mortality and a low scale of Out-relief by the Guardians.

On the question of the unwanted child, Dr. Julius Levy (Director of Child Hygiene, New Jersey) described what had been done in his State towards the "prevention of foundlings." The essential part of the plan there, is to keep the baby with the mother and nursed by her as long as possible, and every effort is made to restore her to her home. In the past two years this has been accomplished in two thirds of the cases, while the mortality rate amongst illegitimate infants has been reduced to nearly that of the usual infant death rate, or, from half to a third of the illegitimate death rate in most other states and countries. "The Foundling Asylum," he said, "which has come down to us from the Middle Ages can well be replaced by the develop-

ment of some such system as has been described." Closely related to the same subject was the paper on "Child Adoption," read by Mrs. David Margesson (Hon. Sec. National Adoption Society), her main points being that, by legal adoption an "unwanted" child gains not only his birthright, but a status in the family and citizenship in his country, which he loses through the unfortunate circumstances of his birth, and that by adoption he would be enabled to enjoy the advantages of stability of home environment. Mr. Gerald B. Hurst, K.C., dealt with the legal aspect of the same subject, remarking that "public opinion has thus far outpaced legislation, for adoption in England is, in fact, a common practice," and pointing out the need for regularising and safe-guarding the custom by law. Dr. Henry D. Chapin (President of the Children's Welfare Federation of New York) traced the history of the law of adoption from Babylonian times (code of Hammarubi circa 2285 B.C.) down to the recent inauguration of the same in Manitoba and Saskatchewan in 1922. "England," he said, "is one of the few civilised countries that has no adoption laws and never had any." He maintained that the *homeless child* should be placed in the *childless home*, and so far as the question of heredity was concerned, adopted children as a rule turned out as well as natural children in good families. Even in the "best" families, the question of descent would not bear too close examination. Mr. Percy Roberts (Dr. Barnardo's Homes) spoke feelingly of the conditions under which so many slum children live and the new world which is opened up to them under a well regulated emigration scheme. Dr. Mildred Thynne (Maternity and Child Welfare Medical Officer, Bermondsey) described the diet and provision made on Ocean Steamers for children, the Regulations made by the Board of Trade under the Merchant Shipping Act, 1906, the rations provided on H.M. Troopships and the replies to a questionnaire addressed to the principal shipping companies.

On the educational side, the training of midwives, of health workers, and of nursery school workers, formed the subject of papers by Dr. Ethel Cassie (Chief Medical Officer for Child Welfare (Birmingham), Dr. Janet E. Lane-Clayton (London) and Miss E. Stevinson (Principal of the Rachel McMillan Training Centre, Deptford) respectively; all of whom urged the necessity for extended facilities and cultivation of the right attitude of mind so that the preventive side of the work should not be obscured by the more immediate curative results.

(1) "The prophylaxis of diphtheria by the determination of susceptibles and their active artificial immunisation in the United States," by Dr. Louis Van Boeckel, Director of the Laboratory of the Belgian Public Health Department. London: Constable & Company, Ltd. Price 2/6.

THE OYSTER AND THE PUBLIC HEALTH.

BY

J. W. H. EYRE, M.D., F.R.S. Edin.,
Professor of Bacteriology in the University of
London; Bacteriologist to the Ancient & Worshipful
Company of Fishmongers; Director of the
Bacteriological Department, Guy's Hospital.

The oyster has been utilised as an article of food since the earliest times,—oyster shells in large numbers having been found in the ruins of all five of the prehistoric settlements at Hissarlik, whilst Oyster Farming as an industry has been practised by the Chinese for, at any rate, two thousand years,—that is to say, even before the time when Sergius Orata (about B.C. 95) formed artificial oyster beds at Baiae. Incidentally, it is common knowledge that the earliest civilisations scoured the oyster beds to secure the coveted pearls wherewith to deck their wives and mistresses.

That aspect of the physiology of the secreting cells of the oyster whose function it is to protect the mollusc from irritation and injury by foreign bodies—protective properties which result in the formation of the pearl itself—has been exhaustively studied by Dr. Lyster Jameson, and his results have proved of great value to the pearl merchant,—and in hardly less degree to the pearl faker and the astute biologist in the Far East, who stimulates the oyster to fabricate pearls to a laboratory specification. But upon this relationship of the oyster to the æsthetic side of Public Health I do not intend to touch at all.

Having thus attempted to disarm some, at any rate, of the criticism that would naturally be aroused by the very incomplete survey of my subject that I am placing before you, I feel at liberty to proceed forthwith to some preliminary notes on the distribution and the appearance and structure of the oyster which may be needed to elucidate any future references.

I. ANATOMY & BIOLOGY.

Classification.

The oyster of commerce is a member of the group of molluscs known as the "bi-valves," having two shells joined at the narrower end by a hinge. The zoologist classifies it as follows:—

Class,	Conchifera,
Order,	Lamellibranchiata,
Family,	Ostradæ,
Genus,	Ostrea,

whilst the species indigenous to our own coasts is known as "*O. edulis*."

In dealing with environmental factors in the present connection, brevity becomes virtuous.

Temperature.

The oyster has a wide distribution in nature, which does not appear to be in any way controlled or limited by extremes of temperature of the water covering its habitat. For example, in the Gulf of Mexico the temperature of the water over the oyster beds may reach as much as 90° F., whilst the opposite extreme is reached in Long Island Sound, where the temperature falls in winter to freezing point.

Density.

The density of the water from the point of view of the development of the oysters is of more importance, for, although life can be maintained in common sea water of a density of 1.025, death soon takes place if the density falls below 1.007. The optimum density ranges between 1.011 and 1.022.

Depth.

The oyster is met with, in nature, at varying depths from high water mark to about 20 fathoms, but when artificially planted is usually cultured in shallow water, on a clean surface which becomes exposed at low water, or in depths of two or three fathoms.

Locality.

The oyster is fairly uniformly distributed all round the shores of England, Ireland, Scotland and Wales, occurring sometimes in deep sea water, but more usually in shallower waters and in the estuaries of large rivers, where the sea water is diluted by considerable volumes of fresh water.

Morphology.

External Appearance.—The marketable oyster, with which we are all of us familiar, has an average length of about four inches; the shell of the embryo oyster is nearly circular, but subsequently it spreads out and becomes ovoid or pyriform in outline, increasing in size by the extension of the free edges. When solitary and growing in deep sea, single oysters sometimes attain enormous dimensions and may even exceed a foot in diameter. If, on the other hand, they are crowded in a restricted area or on a muddy bottom they may remain small or become distorted and exhibit considerable variations in size and shape.

Certain other variations in morphology, almost attaining the dignity of specificity, serve to distinguish the oysters indigenous to Portugal, Holland, and the British Isles respectively; whilst the expert readily assigns the home-grown specimen to its source of origin, e.g., Falmouth, Poole, Whitstable, etc. (See Figures 1-10 on Plates I.-IV.)

The narrow portion of the valve, where the hinge is situated, is usually spoken of as the

anterior extremity, as the mouth of the mollusc is located in this region; whilst the free, rounded edge forms the posterior end.

The lower (left) valve, by which the oyster is often attached to rocks, etc. (although the mollusc may rest upon the bottom equally well in prac-

the valves are thrown slightly apart when the large adductor muscle of the mollusc is relaxed or cut.

The margins are thin and when the valves are closed are so closely pressed together as to render the internal cavity practically water-tight.

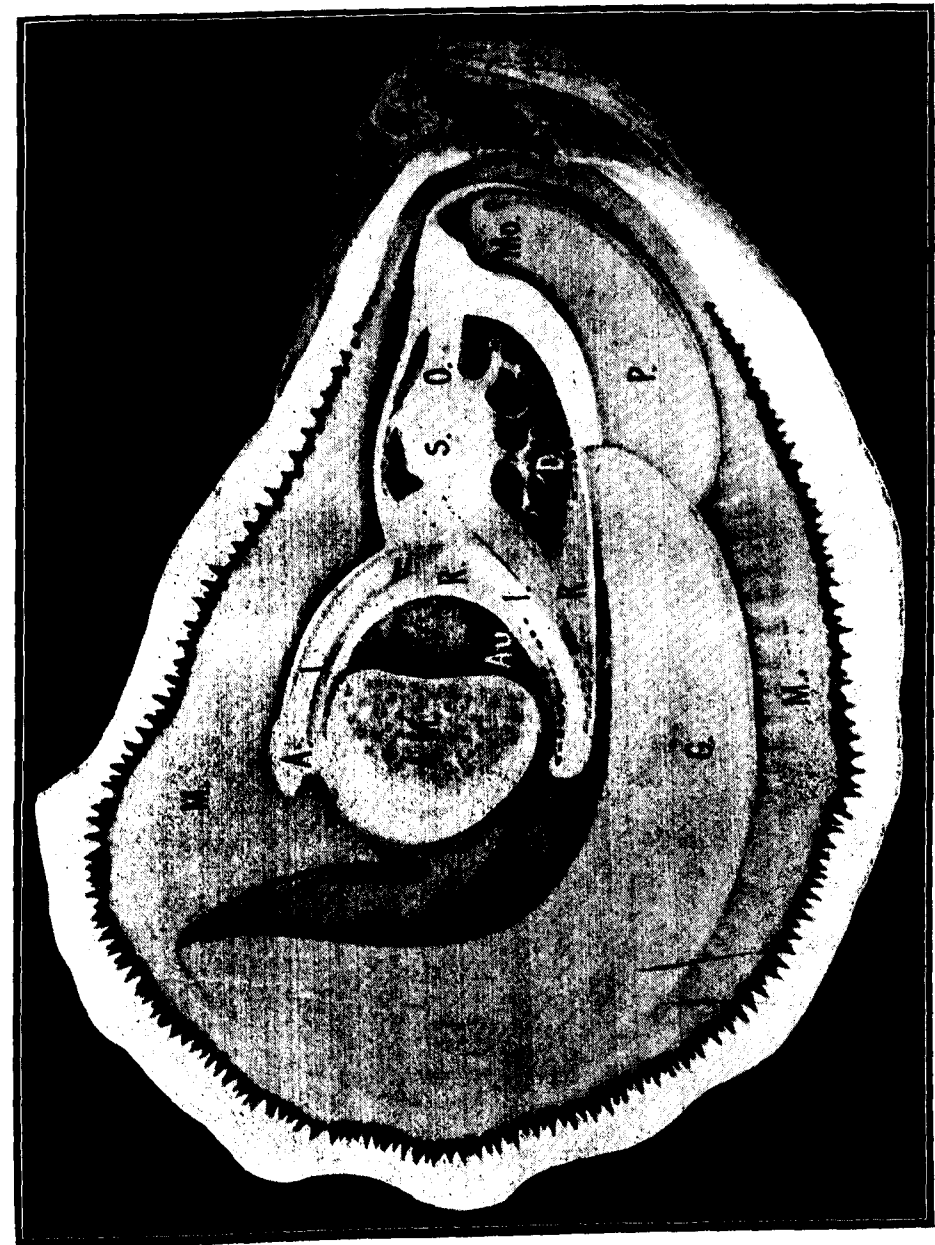


FIG. 11. Oyster with right shell and mantle removed. A.M., Adductor muscle. M., Mantle. Mo., Mouth. P., Palps. O., Oesophagus. S., Stomach. I., Intestine. A., Anus. D., Digestive gland or liver. G., Gills. V., Ventricle and Au., Auricle of heart. R., Reproductive gland.

tically any position) is cup-shaped, or deeply concave within. The upper (right) valve is flat, or even slightly convex as to its interior surface. The valves are held together by two short, olive-green ligaments, so placed that the free ends of

The shell varies in thickness from $\frac{1}{4}$ in. to $\frac{3}{4}$ in. at its thickest part, generally over its anterior end, but is of tissue paper dimensions at its free growing edges. The exterior is marked by laminations and roughly concentric lines of yearly growth.

The colour is yellowish-brown, usually dull in appearance.

The interior surface is generally white, tinged with purple near the margins, with a more or less pearly lustre; it is marked by an oblique or transverse pear-shaped, or kidney-shaped, muscular scar—the insertion of the large adductor muscle.

Anatomical Features.

The body or trunk of the mollusc is relatively large, as it nearly fills the cavity formed by the valves, and the mantle border is comparatively narrow. It is of a pale drab colour, tinged with brown; and in volume the average market oyster corresponds to ten cubic centimetres.

The main structures and organs are shown in Fig. 11, representing an oyster from which the upper valve and right mantle have been removed and a certain amount of dissection carried out, as follows:—

1. *Adductor Muscle*, situated about the centre of the body, by contraction of which the oyster closes its shell.
2. *Mantle*, a thin membrane investing the body of the oyster, from which it is reflected to line nearly the whole area of each valve, but free along the margin, and together with the muscle attaches the oyster to its shells.
3. *The Mouth*, is circular, open and ciliated; and is furnished on each side with a pair of large and nearly triangular lips or *Palps* hanging free in the mantle cavity, their posterior extremities lying under the anterior ends of the gills. The surfaces of the palps are also ciliated.
4. *The Oesophagus*. A tube so short that the mouth appears to open directly into
5. *The Stomach*, which is situated posteriorly to the mouth. When this sac is opened the orifices of the hepatic ducts are visible in its walls.
6. *The Intestine*, "figure of 8" in outline, passes downwards and backwards from stomach beneath the adductor muscle, then curves sharply forward on the left of the stomach to the oesophagus, then directly backwards to the vent or anus.
7. *The Anus* is situated just above the adductor muscle.
8. *The Liver*. This compound, racemose gland, composed of cubical secreting epithelium with ducts joining up to a main tube which opens into the wall of the stomach, practically surrounds that organ. It

is greenish, sometimes brown, in colour.

9. *The Gills and Respiratory System*. The gills, branchiae, or "beard," two in number, marked with fine striae at right angles to the free edges, extend from the palps to the posterior end of the mantle cavity. Each of the gills consists of a pair of plates formed by the bending of a filamentous lamella upon itself, held together by filaments. The outer lamella of the outer plate is attached to the internal surface of the mantle on the same side for a part of its length; the inner lamellae of the inner plates are attached to each other. Thus the cavity enclosed by the mantle is divided by the lamellae of the gills into an infra- and a supra-branchial chamber. The filamentous structure of the lamellae results in the formation of innumerable tubes through which water is forced by the action of the ciliated epithelium covering the gills from the infra- to the supra-branchial chamber, and as each gill axis contains a blood vessel giving branches to each of the branchial filaments that form a lamella, the blood is by this means aerated.
10. *The Heart and Circulatory System*. The heart, enclosed in a delicate pericardial sac, consists of a thin-walled auricle (lower chamber) and a more muscular ventricle (upper chamber) communicating through a hinged valve. The walls of the ventricle are dark brown or black in colour. The circulatory system of the oyster is of an exceedingly simple, "open" type, as the blood vessels do not terminate in capillaries, but in large spaces, or lacunae, between the tissues, from which the blood (which is colourless and non-coagulable) is collected into veins and conveyed to the lower chamber of the heart—the auricle. Thence it is passed into the upper chamber, or ventricle, through the hinged valve, and from the ventricle the blood is forced into the arteries and so into the lacunae, where it bathes the various cells of the body.
11. *The Nervous System*. This is also exceedingly simple. One pair of ganglia lies immediately over the oesophagus; a nerve passes from each backwards to a corresponding ganglion situated behind the adductor muscle. Small nerves extend from these two sets of ganglia to various parts of the body.

FIG. 12. Spermatozoon of Oyster $\times 1,700$.

12. *Reproduction*. The reproductive organ consists of numerous tubules and connective tissue occupying the area between the folds of the intestine and covering the stomach and liver and intimately connected with these organs. Numerous ducts unite to form one on each side, which opens just below the adductor muscle. Although the sex of the oyster cannot be determined by the external appearance of the shell or of the body, or even of the reproductive organs themselves, the sexes are separate and distinct to the extent that some oysters function as male and develop spermatozoa or milt, others as female and produce ova or spat—either product being microscopic in size. It is, however, still a matter of controversy as to whether any given oyster functions consistently as male or female, or whether the same oyster, in different seasons, may vary its sex. The only recent observation bearing on this point is one by Orton,¹¹ who noted ripe sperm morulae in twenty-three-week old spat—the gonad of all the young oysters he examined indicated maleness.

been estimated that the female oyster produces over sixteen million eggs. Spawning usually takes place towards the end of May or in June, but depends very

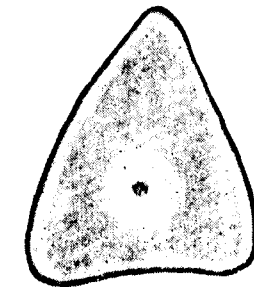


FIG. 13.
Ovum of Oyster $\times 600$.

largely upon atmospheric conditions, since it proceeds normally only when the temperature of the water is above 68° F.; so that given a warm, early summer spawning may occur as early as May, or in a late, chilly summer it may be delayed to July or August. Spermatozoa and ova (Figs. 12 and 13) are discharged into the water (subject to the caprices of tides, currents and other influences), where fer-

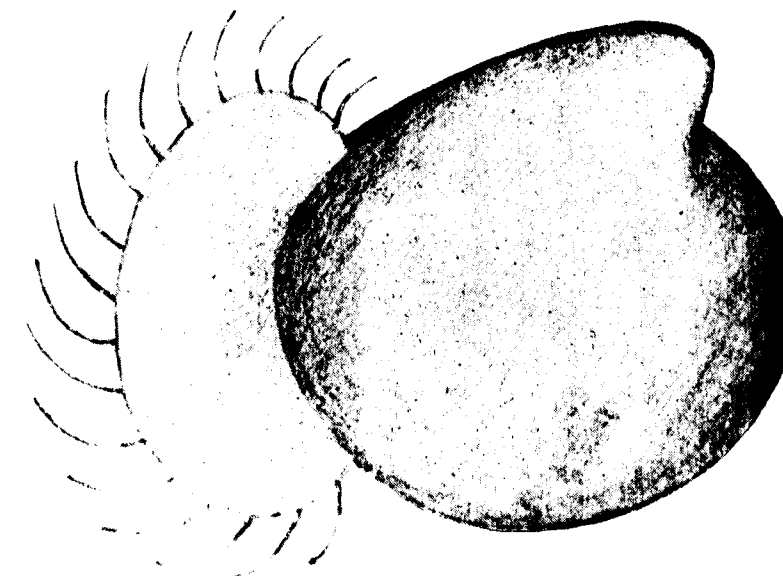


FIG. 14. Free swimming larva of oyster about ten days old, with velum extended $\times 300$.

At the time of spawning the female oyster is said to be "black-sick," whilst the male is "white-sick." For those who are of a mathematical turn of mind it has

tilization of the eggs occurs. When the spermatozoon punctures the egg membrane its head only passes in, while the tail separates and breaks off. The single

¹¹Small figures refer to References in list at end of paper.

cell of the ovum undergoes rapid subdivision and in the course of from five to ten hours develops into a small larva, which swims by means of fine hairs, or cilia, distributed over the external surface of the body. Shell is soon excreted and covers the entire body; and when about two days old, the definite organ of locomotion makes its appearance,—consisting of a disc provided with cilia, on the end of a thick stalk, and known as the velum, which is protruded from between the valves and by means of which the larva swims rapidly (Fig. 14). When the velum is retracted the larva, now measuring about 1/250th in. in diameter,



FIG. 15. Oyster spat—one month old — on brick. $\frac{1}{3}$ natural size.



FIG. 16. Oyster spat—two months old — on slate. Natural size.



FIG. 17. Oyster spat—3½ months old—on slate. Natural size.

sinks to the bottom. This stage lasts for about fourteen days, at the end of which time the larva is about 1/75th in. in length, one valve has become deeper than the other, and the *umbo*—indicating the position of the hinge—is well defined. During this stage the larva is undoubtedly susceptible to weather conditions and may be killed off by cold rain storms and other influences which would be completely innocuous to the adult shell-fish. If proper conditions are now present the spat “sets” or “strikes”; that is to say, it becomes attached by the lower valve to some hard, firm surface in

the water, such as rock or another shell, which it is essential should be clean so that the spat may attach firmly. Once attached, the swimming organ disappears and the oyster, by its own volition, never moves again (Figs. 15-17, supra-branchial chamber, from photographs kindly lent me by Dr. Dodgson).

13. *Food.* The food of the oyster consists of microscopic plants and animals and debris, either present in the water or carried to the oyster beds by tides or currents. The bulk of food is made up of diatoms. Nanoplankton forms, especially flagellates and peridines, often constitute a large proportion of the food. The oyster also feeds

on the free-swimming larvae of other bivalves, copepods and rotifers. Organic detritus and substances of organic origin dissolved in the water also afford sources of nutrition available to the oyster. Worms, protozoa and bacteria have also been found in the stomach of the oyster. (Fig. 18, next page).

During the summer months feeding is an almost continuous process and laboratory observations have shown that at this season the oyster remains open and therefore feeding and breathing for nineteen or twenty out of the twenty-four hours. When the oyster is open the cilia covering

both sides of the gills vibrate rapidly and cause a current of water to impinge on the free edges of the branchial fringe; this water is forced through the fine openings of the water tubes in the gill laminae and thence into the cavity beyond and behind them. During this process the blood is aerated, just as in the case of this fish, since the two processes of breathing and feeding are carried out simultaneously. From the cavity behind the water tubes the water passes behind the adductor muscle and out between the joint of the valves of the shell around the end of the



FIG. 18. Contents of Oyster's Stomach. A = Diatom. B = Vegetable Tissue. C = Bacterium.

gills. Some idea of the activity of the mollusc can be obtained when it is stated that roughly about two litres of water enter and leave the shell of the oyster every hour, during which time all the particulate matter contained in the water is entangled in the layer of adhesive mucus which covers the surface of the gills, in common with all the soft surfaces of the body—water alone passing into the water tubes of the gills. As soon as the food particles are entangled, the cilia push or slide them forwards in the direction of the mouth and when they reach the

anterior ends of the gills they are pushed off or fall between the palps, which in their turn, being also covered with cilia, carry the particles forward until they reach the mouth, which is always open. The entire alimentary tract is lined with ciliated epithelium, so that the food is in turn passed into the oesophagus, the stomach—where it is acted upon by the fluid secretions from the liver—and the intestine—where the nutrient portion is absorbed—and the waste is expelled from the vent in long ribbon-like form, being caught up by and carried outside the valves by the stream of water passing out from the supra-branchial water chamber beyond the gills.

Having thus briefly recapitulated the salient points in the anatomy, physiology and nutrition of the oyster we can now turn our attention to various considerations which should influence the selection of areas for Oyster Farms.

Obviously, the systematic and scientific study of the marine plankton now affords—or should do so—one of the principal criteria of the suitability or otherwise of any proposed site for the culture of the oyster; and freedom from the risk of the addition of matters dangerous to either the oyster or its consumer is undoubtedly of equal importance. Other factors are accessibility, suitable salt concentration, the influence of tides, etc. In fact, we may tabulate the chief desiderata for successful oyster layings from the commercial point of view thus:—

- A. Proximity to the shore or ready accessibility.
- B. Large volume of sea water and sufficient admixture with fresh (river) water to ensure the optimum density.
- C. Clean sea bottom subject to the action of tides and currents which, by their movements, wash away silt and debris and so maintain the cleanliness of the sea bed, and also ensure a constant supply of fresh food.
- D. Adequate food supply previously demonstrated by study of the marine plankton.
- E. Freedom from obvious adjacent sources of pollution, either human or mammalian—a point which can only be determined by topographical survey of the surrounding country.
- F. Freedom from more remote contamination (i.e., waterborne sewage), which can only be determined by bacteriological examination of the water over the layings.

But the oyster farmer has long known empirically that the estuary of a river forms an excellent situation for the founding of his beds, since in such localities the oyster "fattens" rapidly and satisfactorily. This is well shown on the accompanying map of England on which have been marked the chief oyster layings at present in use.



FIG. 19. Map of England and Wales showing the position of the chief oyster layings. (DS=deep sea oyster beds.)

That this is so is due, not only to the admixture of fresh river water with the sea water—thus providing the optimum density for the development of the oyster—but also because of the amount of nutrient matter derived from land washings and animal and vegetable putrescible matter, which is carried down to the sea by every river and which can be regarded as so much food to be added to the pre-existing marine flora and fauna. Speaking generally there are very few rivers of any size in England which do not also carry down to the sea a considerable amount of sewage, derived from towns and villages on their banks, and there can be no shadow of doubt that this form of organic material provides a definite proportion of the food of the oysters growing on the beds at their mouths; and it is at this point that the sanitarian becomes deeply interested in the welfare of the oyster.

It is, of course, unnecessary to elaborate the point that certain diseases affecting man, which

often assume epidemic proportions—Typhoid, Para-typhoid, Cholera, Dysentery and Epidemic Diarrhoea—have been shown by the bacteriologist to follow the ingestion of certain specific bacteria contained in infected food (whether solid or liquid) and their subsequent lodgment in the walls of the intestinal canal. The progeny of these organisms is in turn passed out from the bodies of infected individuals with the excreta and on occasion, by means of the water-carriage system of drainage in vogue in this country and despite the precautions of the sanitary authorities, the specific bacteria reach the rivers in a living, virulent condition and are then carried down to the estuaries and discharged into the sea. From the frequency with which these infected and infective excreta have in the past polluted water supplies drawn from these rivers on their journey to the sea the diseases themselves have been designated "water-borne."

In the natural course of events the specific bacteria eventually die—but not immediately; they remain living and virulent sufficiently long to form a potential source of infection of oyster beds.

Again the estuary of a large river is often an exceedingly busy locality and influences to a marked extent the development of the adjacent land, which it is not uncommon to find occupied by populous towns and villages; and these communities frequently turn their crude sewage—again on occasion infected and infective—into the estuary as the quickest and simplest method of disposal, with a total disregard of the potential danger to existing oyster layings.

Finally, crude faeces may be added to the waters of the estuary from ships and other vessels. Here, however, the factors at work to minimise this risk are manifold. The disintegrating and diluting action of the constant movement of an enormous volume of fluid brings the bacteria contained in the relatively small bulk of faeces intermittently added to the estuarial water very rapidly under the plasmolytic action of a 3% solution of salt; so that for all practical purposes it is the sewage effluents, in which the contained bacteria have been gradually educated up to a life in a high sodium chloride concentration, that provide the real danger. By any and all of these routes, however, the pathogenic bacteria may reach the oyster layings, gain access to the mollusc, and so convert the succulent bivalve into a veritable dose of poison.

It is a somewhat remarkable fact that it is only within comparatively recent years that the connection between diseases of the enteric group and polluted shellfish has been clearly recognised.

There was published in 1890 a two-volumed monograph, "Oysters and All About Them,"¹² dedicated to Professor Huxley and written by a certain Dr. John R. Philpots, in which one entire chapter (Chap. XVI.) of thirty-five pages entitled "The Oyster and the doctor," eulogises the value of the oyster from the medicinal point of view—and the only words of warning contained therein are that "at the moment in which natural death ensues all animal matter begins to show its chemical affinities by separating again into the elements of which it consists and, as at such times it is always more or less of a poisonous nature, it is well to study the method by which it may be known whether an oyster be living or dead when its shell is opened. This can be seen at a glance. If the muscle appears sunk it is proof that the animal was living; but if it appears higher and above the oyster, it was dead before it was opened and the animal is, consequently, unwholesome and unfit for food" (p. 331); and again "What to Avoid." "This can be answered in a few words, namely, a stale oyster, which, like a stale egg, once tasted will not easily be forgotten" (p. 339).

In 1893, however, cholera visited our shores and in a Report for the following year the then Medical Officer to the Local Government Board, Sir Richard Thorne Thorne, expressed the conviction "that the distribution of shellfish from Cleethorpes and Grimsby as a centre had been concerned in the diffusion of scattered cases of cholera over a somewhat wide area of England."¹⁴

The relative paragraphs that were written by Thorne Thorne in the introduction to "Reports and Papers on Cholera in England in 1893,"¹³—in rather more guarded language—are as follows:—

"The state and sources of the 'waters' in which the oysters are grown or kept come, therefore, to acquire importance in so far as the public are concerned; and having regard to the significant indications afforded by some of the cholera histories of last year I cannot avoid the conviction that shellfish from Cleethorpes and Grimsby must, in some cases, remain under suspicion as having contributed to the diffusion of the disease. (Page xxviii.)."

"Oysters and shellfish, both at the mouth of the Humber and at other points along the English coast line, are at times so grown and stored that they must of necessity be periodically bathed in sewage, more or less dilute; oysters have more than once appeared to serve as the medium for communicating disease, such as enteric fever, to man; and so long as conditions exist such as those

with which the oyster trade of Cleethorpes and Grimsby is shown to be associated—conditions which may at any time involve risk of the fouling of such shellfish with the excreta of persons suffering from diseases of the type of cholera, and enteric fever—so long will it be impossible to assert that their use as an article of diet is not concerned in the production of diseases of the class in question. (Page xxix.)."

This dictum marked the starting point of a series of investigations under the auspices of the old Local Government Board, in which the topographical survey of the British oyster layings was entrusted to Dr. Timbrell Bulstrode and the laboratory work on the bacteriological aspect of the subject to Professor Klein. The masterly work of the former observer showed that practically all the layings were situated in close proximity to sewage outfalls and that every opportunity was offered the oysters of acquiring supplies of intestinal bacteria, whether pathogenic or merely saprophytic.

Klein's careful observations, since repeatedly confirmed, showed, moreover, that having once gained access to the liquor contained in the shell of the oyster and to the body of the mollusc pathogenic organisms, like *B. typhosus* and *Vibrio*, cholerae can exist for variable periods, extending as a maximum to about fourteen days—and that without producing any obvious change in the oyster itself which would draw attention to its noxious character. Consequently, the sanitarian, once familiarised with these observations, is now equally familiar with the instances of epidemics of, for example, typhoid, directly traceable to the consumption of polluted oysters and other shellfish originally derived from beds at a considerable distance from the locality affected by the epidemic. The classic examples which may be instanced are the epidemics of typhoid fever that followed the consumption of polluted oysters at the Mayoral banquets of Winchester and Southampton.¹

Several cases of typhoid occurred in the village of Emsworth in the Autumn of 1902 and at a time when the main outfall of the Emsworth sewers opened directly on to the area of foreshore occupied by oyster storage pits. (Fig. 20.) Oysters were taken from these particular pits, dispatched to Winchester and Portsmouth and were consumed at the Mayoral Banquets on November 9th. Out of 134 guests at the former banquet 61 cases of gastro-enteritis occurred, of which nine were subsequently diagnosed as typhoid fever and four died; of 132 guests at the latter 55 were affected, eleven of them developing typhoid fever; at each

banquet one waiter also suffered from typhoid fever.

bacteria. This, however, is not the case and even as long as 1904 Houston⁸ showed that B.

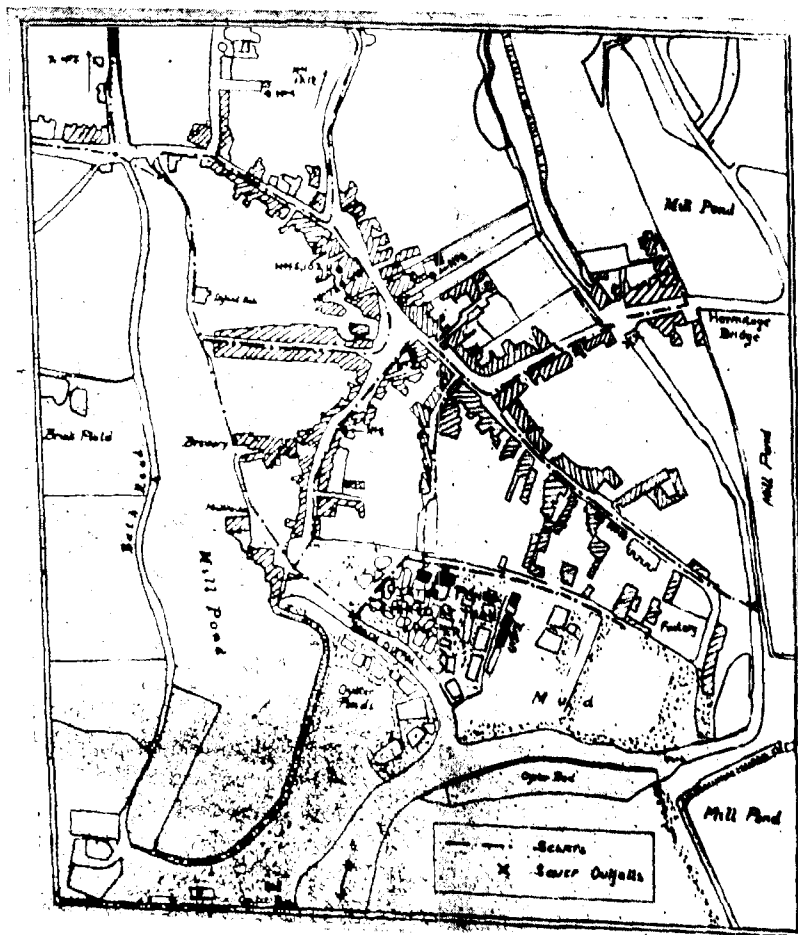


FIG. 20. Map of Emsworth, 1902, showing relationship between sewers and sewer-outfalls and the oyster ponds. Black spots and numbers refer to cases of typhoid.

On the other hand, if after pollution with any of these specific bacteria the oyster is transferred to a bed or pit supplied with water which is, from the bacteriological point of view, above suspicion, the passage of two litres per hour of pure fluid through the oysters' dwellings for a period of seven or eight days suffices to remove these dangerous denizens and to render the mollusc once more an innocuous article of food.

In this connection the adjacent table adapted from Nankivell¹⁰ affords an excellent example of the rate and amount of the purification process as indicated by the number per oyster of a certain species of sewage bacteria—B. coli—in batches examined before and after relaying in bacteriologically clean water.

Incidentally, I would mention the belief that exists in some quarters that an oyster removed from its bed and kept under "dry" conditions will naturally and quickly free itself of sewage

coli, having once gained access to the oyster, its presence can be demonstrated under the conditions suggested above not only so long as the oyster is alive, but also after death, until putrefaction of the dead body is far advanced.

EFFECT OF RELAYING OYSTERS.

Oysters dredged from Main Channel Poole Harbour.			Interval in days.		After relaying off Shipstall Point.	
Date.	B. coli per oyster.				Date.	B. coli per oyster.
22-9-19	100	8			30-9-19	2
8-10-19	1600	10			18-10-19	14
8-10-19	1200	10			18-10-19	10
23-10-19	400	7			30-10-19	40
4-11-19	400	8			12-11-19	15
4-11-19	700	8			12-11-19	40
12-11-19	2580	8			20-11-19	17
12-11-19	1050	8			20-11-19	12
22-11-19	590	10			2-12-19	3

The correlation of these facts has resulted in a system of policing the oyster beds of this country which has been built up through the combined energies of the Ancient and Worshipful Company of Fishmongers on the one hand and the various Health Authorities—now merged in the Ministry of Health—on the other. By means of detection with which I now propose to deal in some detail, the risk to the public health from the consumption of infected oysters is reduced to a minimum.

Of the organisms responsible for the diseases already enumerated, the cholera vibrio is alone sufficiently characteristic to enable its presence to be even suspected when infected materials are examined directly with the microscope. The members of the Typhoid and Para-typhoid groups are so similar microscopically and in turn so closely resemble one of the normal saprophytes of the intestinal canal of man—the *Bacillus coli*—that the microscope alone is insufficient to detect their presence.

Again, the actual detection of these specific bacteria in water or other articles of food, even when they have been intentionally added for experimental purposes, is so exceedingly difficult that the proportion of successful recoveries is extremely small.

Fortunately for the bacteriologist it is not essential to determine the presence or absence of, for example, the typhoid bacillus, in order to form an estimate of the safety or danger attaching to any given batch of oysters, since we now know, from observation and experience, that disease-producing "intestinal" bacteria rarely occur except in association with a preponderance of *Bacillus coli*; so that the demonstration of the presence of this latter organism affords presumptive evidence of the access of sewage to the oyster.

A concrete example will perhaps make my meaning clear. Some years ago, whilst investigating dysentery in asylums, I was fortunate in having the opportunity of watching certain cases practically from the onset to the termination, whether in death or recovery; and I then noted that in the early days, whilst the actions consisted of nothing but blood and slime, plate cultures therefrom yielded almost pure cultures of the Shiga type of *B. dysenteriae*,—*B. coli* being conspicuous by its absence. This was the picture presented by the fatal cases right up to the end, so that the isolation of the specific bacillus was an easy matter. The cases that recovered, on the other hand, showed a progressive diminution in the numbers of colonies of Shiga's

bacillus on my plates and a gradual increase, first in the numbers of colonies of the faecal streptococci, and then of the *B. coli*; so that by the end of the first fortnight the search for the specific micro-organism was a matter of considerable difficulty, and by the twenty-first day and onwards, barring the occasional outbursts of the carrier cases, successful finds predicated special methods of enrichment and concentration.

Now, the water carriage system for the disposal of sewage involves the dilution of the dose of infective material comprised in the motions of even several unrecognised cases, of acute dysentery by admixture with the excrement of many hundreds, or possibly thousands, of healthy individuals, so that a plate culture of the resulting mixture would closely resemble the plate prepared from the motions of a convalescent dysenteric or even of the normal individual. The further immense dilution that the sewage effluent, even when untreated, undergoes in its passage to, and particularly when it actually reaches, a river estuary renders it practically impossible, by our present methods of examination, to isolate the specific bacterium.

In order to emphasize the inference to be drawn from these statements I will paraphrase a previous paragraph thus:—

The general principle involved in the bacterioscopic analysis of water or other food stuffs liable to contamination with bacteria of excremental origin has become well established and it is now recognised that the limitation of our search to the actual specific bacterium responsible for some particular intestinal infection is neither necessary nor desirable. Our observation must rather be directed to the presence and numerical frequency of certain bacteria commonly found in human excrement.

This is especially desirable when dealing with the examination of shell-fish, for here the object of the investigation is rather to gain an idea of the volume of sewage that is being added to the water supply of the layings and so to estimate the reality or the extent of the potential danger.

In this connection reference must, however, be made to the concentration the bacterial content of polluted water undergoes in the body of the mollusc, since the filtration action of the gills is comparable to the method employed in the early days of the bacterioscopic analysis of water, when many litres of a suspected water were passed through a porcelain filter candle and the bacterial deposit on its wall examined in a usually futile search for typhoid bacilli. Houston⁹ first pointed out this in 1904 and my own

observations fully confirm his; but as my own records have failed to show such an excellent series of readings I may be forgiven if I reproduce a portion of one of his charts to illustrate the point that, so far as concerns *B. coli*, the oyster contains approximately ten times as many per c.c. as the overlying water,—that is to say, if in the examination of the water there is presumptive evidence of the presence of *B. coli* when quantities not smaller than 10 c.c. are tested, the oysters from the same spot will contain one *B. coli* per c.c. of body volume, or ten *B. coli* per oyster.

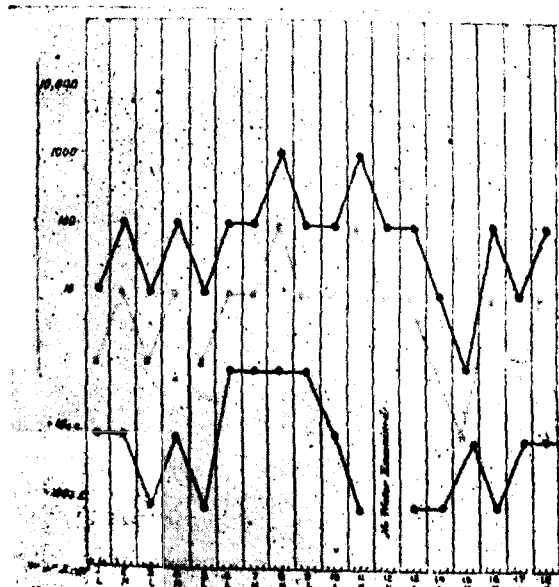


FIG. 21. Upper Line=Number of *B. coli* per oyster. Faint middle line.=Number of *B. coli* per c.c. of oyster body. Lower line=Smallest quantity of water over the layings yielding *B. coli*.

This brings us to a consideration of the bacterial constituents of a normal faeces and in this connection the universal presence of *B. coli* is of the first importance.

I employ this term to cover not only *Bacillus coli communis*, the "type" organism originally described by Escherich, which was isolated from the stools of breast-fed infants and characterised when freshly isolated by its inability to ferment saccharose (although it can be educated in the laboratory to do so), but also *B. coli communior* which is able to ferment saccharose when first isolated, very soon replaces *B. coli communis* when the child reaches a mixed diet, and is the type commonly met with in the faeces of the adult and in sewage.

But when Nutrose Agar is the medium employed for plating, the *Streptococcus faecalis* is

found to be the next in order of frequency of the readily cultivated bacteria, and from an enormous number of observations one is justified in putting the normal ratio of *Streptococcus faecalis* to viable *B. coli* as 1 : 10.

Finally, representatives of a group of anaerobic spore-bearing bacilli, *B. welchii*, originally described by Klein (1904) under the name of *B. enteriditis sporogenes*, are of frequent occurrence in the form of spores and when present exist in a ratio to *B. coli* of 1 : 1,000 or sometimes even 1 : 100.

These various bacteria are usually referred to as *Microbes of Indication* of the presence of sewage, and in an average specimen of normal faeces will show the following ratios:—

<i>Bacillus coli communis</i> ,	100
<i>Streptococcus faecalis</i> ,	10
<i>B. welchii</i> ,	1

Although these ratios will, I fancy, find general acceptance the actual figures per gramme of faeces vary according to different observers within rather wide limits. Houston¹⁰ found one hundred millions *B. coli*, one million *B. welchii*, and one hundred thousand *Streptococci* per gramme; the average of a number of my own estimations gives ten millions *B. coli* and reverses Houston's figures for streptococci and spores of *B. welchii*.

Again, the ratio noted previously holds in connection with the average sewage effluent and it may be stated with a fair amount of accuracy that sewage effluent usually contains per cubic centimetre:—

<i>Bacillus coli communis</i> ,	100,000
<i>Streptococcus faecalis</i> ,	10,000
<i>B. welchii</i> (spores),	1,000

The three microbes are exceedingly uncommon in deep sea water, since negative findings as regards *B. coli* not only in 100 c.c. but also in 1,000 c.c. samples are the rule and not the exception. Moreover in unpolluted sea water the multiplication of *B. coli* appears to be inhibited, and the organism, when experimentally added to "clean" sea water, undergoes progressive diminution in numbers and by the end of seven or eight days can no longer be isolated; so that the constant presence of any considerable number of *B. coli* in an estuarial water clearly indicates continuous sewage contamination.

The *Streptococcus* is even less viable under these conditions than *B. coli*, so that its presence in sea water indicates very recent pollution.

The same considerations hold good with regard to deep sea oysters also.

Consequently, to reiterate a former statement, in our analysis of shellfish our attention is directed primarily to a demonstration of the numerical prevalence of *B. coli*, which must be regarded as the real index of sewage contamination, together with such confirmatory evidence as may be afforded by the similar prevalence of faecal streptococci and of the spores of *B. welchii*. But it will be noted that these three microbes are by no means of equal value as indicators of dangerous pollution. Having regard to the brief life of *B. coli* in sea water it is justifiable to regard the consistent presence of the organism as evidence of continued contamination with excremental matters, and the same may be said of the presence of *Streptococci*. The presence of *B. welchii*, however, has not, *per se*, the same significance; existing as it does in the form of spores it may by itself merely indicate a very remote and possibly a temporary and transient addition of sewage to the water over the layings.

The methods adopted in order to bring each of these "microbes of indication" into evidence are essentially the same as those employed when either water or sewage effluent is the subject of the investigation. That is to say, selective media are inseminated with fractions and multiples of a unit volume—one cubic centimeter—(whether the material examined is water or oyster), using Bile salt glucose broth (MacConkey), Glucose formate broth, and Litmus milk for the demonstration of *B. coli*, *Streptococcus faecalis*, and *B. welchii* respectively.

From what has already been said in connection with the concentration of the bacteria in the water of the layings within the body of the oyster and the methods involved in the aeration of its blood and provision of its food it is obvious that our search for the microbes of indication should be directed to an examination of the surfaces of the gills and the length of the alimentary tract from mouth to anus, since the flesh of the oyster is usually devoid of bacteria. Such a procedure, however, is lengthy and tedious and introduces opportunities for the entrance of extraneous bacteria during the dissection, so that for many reasons it is preferable to mince up or mash the body of the mollusc, thus setting free the intestinal contents, and to take for examination varying quantities of the resulting mixture.

The general technique, therefore, is to take ten oysters, mince them finely with sterile scissors and make up the volume of the minced material with sterile water to 1,000 c.c.m. After thoroughly mixing, the number of *B. coli* present

in 1 c.c.m. of the mixture can be determined, just as if it were a drinking water, and the average number per oyster then computed.

For the sake of completeness I will now set out in detail the technique I have adopted for many years past for the examination of oysters and other shellfish, which closely resembles that proposed by Houston⁵ in 1904 and differs only in minor details from my previously published description.³

The Examination of Oysters and Other Shellfish.

Long Method.

Apparatus Required.

Two hard nail brushes.

Liquid soap.

Sterile water in aspirator jar with delivery nozzle controlled by a spring clip.

Sterile oyster knives.*

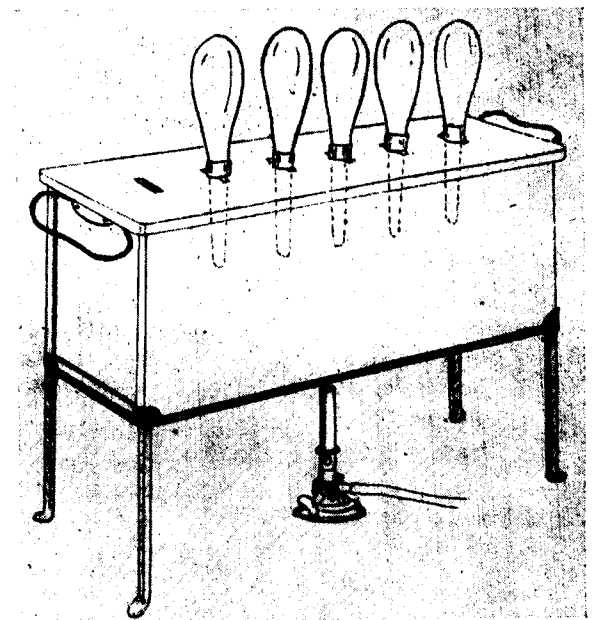


FIG. 22. Hot water steriliser for set of six oyster knives.

Sterile glass dish with cover, sufficiently large to accommodate ten oysters.

Sterile forceps.

Sterile scissors.

Sterile towels or large gauze pads.

Sterile graduated cylinders, 1,000 c.c. capacity, with either the lid or the bottom

*As a matter of convenience I have found a special steriliser for oyster knives very useful, in the shape of a copper water-bath which will take half a dozen of these instruments. If the bunsen burner is properly adjusted the water can be kept just boiling and the knives are used in order and each replaced in its respective slot after use, immediately after which the next one is taken (Fig. 21).

of a sterile Petri dish inverted over the open mouth as a cover.

Sterile glass rods sufficiently long to reach easily to the bottom of the 1,000 c.c. cylinders.

Lysol solution, 2 %.

Bile salt glucose broth (MacConkey) in tubes.

Surface plates of Nutrose agar (or MacConkey's Lactose Bile salt agar may be used by those accustomed to this medium).

Sterile Petri dishes.

Tubes of Nutrient media—Salt Agar, Agar and Gelatine.

Litmus milk.

Glucose Broth.

Case of sterile pipettes, 1 cc. (in 1/10th cc.).

Case of sterile pipettes, 10 cc. (in 1/10th cc.).

Case of sterile glass capsules.

Erlenmeyer flasks, 250 c.c. capacity.

Double strength Bile salt broth in flasks of 250 cc. capacity.

Method.

1. Thoroughly clean the outside of the oyster shells by scrubbing each in turn with liquid soap and a nail-brush under a tap of running water. Then, holding an oyster shell in a pair of sterile forceps wash every part of the outside of the shell with a stream of sterile water running from the aspirator jar; then deposit the oyster inside the sterile glass dish. Repeat the process with each of the remaining oysters. (Ten oysters in all constitute a "sample" for investigation.)
2. Before proceeding further, cleanse the hands thoroughly with clean nail-brush, soap and water, then plunge them in Lysol, 2 % solution, and finally in sterile water.
3. Spread a sterile towel on the bench.
4. Remove one of the oysters from the sterile glass dish and place it, resting on its convex shell, on the towel. Turn a corner of the sterile towel over the upper flat shell to give a firmer grip to the left hand, which holds the shell in position.
5. With a sterile oyster knife in the right hand open the shell.* Separate the body of the oyster from the inner surface of the upper flat shell; bend back and separate the flat shell, leaving the oyster in and attached to the concave shell. Avoid spilling any of the liquor.

Some dexterity in opening oysters should be acquired before undertaking these experiments.

6. Cut up the body of the oyster with sterile scissors into small pieces and allow the liquor freed from the body during the process to mix with the liquor previously in the shell.
7. Transfer the comminuted oyster and the liquor to the cylinder.
8. Treat each of the remaining nine oysters in similar fashion.
9. Mix the contents of the cylinder thoroughly by pounding and stirring with a sterile glass rod. The total sample will amount to about 100 c.c. This material is referred to as "Mixed Liquor" and the average bacterial flora of one oyster will be contained in every 10 c.c.
10. Use 0.1 c.c. of the "Mixed Liquor" to inseminate each of a series of three Nutrose surface plates. (=each 1/100th of an oyster. If *B. coli* or *Streptococci* are present to the extent of more than 100 per oyster, their characteristic colonies will appear on these plates and will be readily recognised.)
11. Make Salt Agar, Agar and Gelatine plates for total bacteria of "Mixed Liquor" with quantities of 0.1 and 0.5 c.c. for each of the three varieties of media.
12. Inoculate 1.0 cc. and 0.1 cc. of the Mixed Liquor into each of two tubes of Litmus Milk. (=1/10th and 1/100th of an oyster.)
13. Add sterile distilled water to the contents of the cylinder up to 1,000 cc.; stir thoroughly with a glass rod and allow to settle. This emulsion is henceforth referred to as "Cylinder Fluid" and the average bacterial content of one oyster may now be regarded for all practical purposes as comprised in 100 cc. of fluid. (3.2 cc. Mixed Liquor having been already utilised for various cultures.)
14. Make Salt Agar, Agar and Gelatine plates for total bacteria of the "Cylinder Fluid," using three plates of each kind of medium containing respectively 0.2, 0.3 and 0.5 cc. of fluid. (=1/100 of an oyster.)
15. Inoculate 1 cc. of "Cylinder Fluid" into a tube of Litmus Milk. (=1/100 of an oyster.)
16. Arrange four glass capsules in a row and number them I., II., III. and IV. Pipette 9 cc. of sterile distilled water into each.
17. To Capsule No. I. add 1 cc. of the "Cylinder Fluid" and mix thoroughly.

- To Capsule II. add 1 cc. of dilution from Capsule I. and mix thoroughly. Carry over 1 cc. of fluid from Capsule II. to Capsule III., afterwards adding 1 cc. of fluid from Capsule III. to Capsule IV.
18. Label tubes of Bile Salt Broth 1 to 8 and inoculate with the following amounts of diluted oysters:—
No. 1 with 1.0 cc. Capsule Fluid IV. (=1/1,000,000 oyster).
No. 2 with 1.0 cc. Capsule Fluid III. (=1/100,000 oyster).
No. 3 with 1.0 cc. Capsule Fluid II. (=1/10,000 oyster).
No. 4 with 1.0 cc. Capsule Fluid I. (=1/1,000 oyster).
No. 5 with 0.5 cc. Cylinder Fluid (=1/200 oyster).
No. 6 with 1.0 cc. Cylinder Fluid (=1/100 oyster).
No. 7 with 5.0 cc. Cylinder Fluid (=1/20 oyster).
No. 8 with 10.0 cc. Cylinder Fluid (=1/10 oyster).
19. Transfer 100 cc. "Cylinder Fluid" (=1 oyster) to an Erlenmeyer flask and add 50 cc. double-strength Bile Salt Broth and label "9."
20. Duplicate all the above indicated cultures.
21. Incubate the tube cultures aerobically at 37°C for twenty-four hours.
22. Tubes which then show an acid reaction and gas formation must be planted out on Nutrose Agar and after incubation some of the resulting colonies selected and worked through upon a variety of media to determine their identity with *B. coli*.
The enumeration of the *B. coli* is performed by noting that fraction of an oyster corresponding to the lowest numbered tube from which the organism was identified, thus:—
If growth occurs in all the tubes down to No. 1, the organism finally isolated (e.g., *B. coli*) must have been present to the extent of at least one million per oyster.
- Note.—In this medium the growth of members of the Typhoid group will give rise to an acid reaction, but without the evolution of gas; tubes exhibiting this type of growth should also be carefully studied with a view to identification.
23. Inoculate a series of eight tubes of Glucose broth with quantities of the material similar to those indicated under Para-

graph 18. Incubate under aerobic conditions at 37°C for 48 hours and then examine the resulting growth, if any, microscopically for the presence of streptococci and, if found, enumerate, isolate and, if possible, identify.

24. Inoculate a series of eight tubes of Litmus milk with quantities of the material similar to those indicated under paragraph 18 and together with the tube cultures prepared under paragraph 12 and paragraph 15; heat in a water bath at 80°C for ten minutes; then incubate under anaerobic conditions at 37°C for 48 hours. If growth occurs which exhibits the "stormy" coagulation or "raft" clot, enumerate and confirm the presence of *B. welchii* by the subcutaneous inoculation of the guinea-pig with some of the whey.

Having completed the analysis and assembled the resulting figures there now comes the more difficult task of appraising their significance in terms of safety to the consumer. To refer again to Houston's work, it may be recollected that after examining sixty oysters from layings which seemed topographically beyond reproach, he found that about 88 % of them contained less than 100 *B. coli* per oyster, and after allowing for a certain degree of permissible contamination he suggested two tentative sets of figures,⁴ just as he had previously done when dealing with water analysis—the one a *stringent* standard and the other a *lenient* one—a method which would involve the rejection of oysters yielding the following results under respectively the stringent and the lenient.

STANDARDS PER OYSTER.

Stringent.			Lenient.
100	...	<i>B. coli</i>	1,000
10	...	<i>B. welchii</i>	100

The investigation just detailed is intended to provide such data relating to the bacteriological flora of the oysters submitted for examination as are necessary to form the basis of a sound opinion as to whether or no any given batch of oysters is fit for human consumption, or, on the other hand, is or is not responsible for a particular outbreak of enterica—under which generic term I would include cases of any or all of the intestinal diseases previously enumerated. But even a moment's consideration discloses the fact that such an analysis requires many days for its completion, and in point of fact two or even three weeks may be needed before the whole of the data can be properly assembled. In other words, such an analysis, whilst of considerable value in proving

the guilt of the oyster, is of no use whatever in preventing the conveyance of disease by the oyster, unless of course the sale of the oyster is prohibited until such time as the analysis is completed—by which time, equally of course, the shellfish are unsaleable. Here then is where the sanitarian appears to come into direct conflict with the vested interests of the oyster merchant.

That this conflict is apparent only, and not real, and that the interests of all three sections of the community—viz., the oyster farmers, the oyster consumers, and the guardians of the Public Health—are actually identical becomes at once obvious when one recollects the disastrous effects on the oyster industry as a whole of an outbreak of typhoid fever, such as that already referred to at Winchester or Southampton. For many years after 1902 the British Public carefully eschewed oysters and the loss on invested capital exceeded by many thousands of pounds sterling the amount of the profit derived by the individual oyster merchant from the sale of that particular batch of typhoid-carrying oysters.

Now the Public Health Act of 1875 and its various amendments and the orders made thereunder afford very little assistance to the Medical Officer of Health in dealing with shellfish. The wording of the Section (116) under which he could proceed is as follows:—

“Unsound Meat, etc. Powers of Medical Officer of Health to inspect Meat, etc. Any medical officer of health or inspector of nuisances may at all reasonable times inspect and examine any animal carcase, meat, poultry, game, flesh, fish, fruit, vegetables, corn, bread, flour, or milk exposed for sale, or deposited in any place for the purpose of sale or of preparation for sale, and intended for the food of man—the proof that the same was not exposed or deposited for any such purpose or was not intended for the food of man resting with the party charged; and if any such animal carcase, meat, poultry, game, flesh, fish, fruit, vegetables, corn, bread, flour, or milk appears to such medical officer or inspector to be diseased or unsound or unwholesome or unfit for the food of man, he may seize and carry away the same himself or by an assistant, in order to have the same dealt with by a justice.”

If the batch thus seized contained a large proportion of dead and dying oysters with gaping valves—“hecklers”—or the shellfish, owing to putrefaction, were offensive to the smell the magistrate would probably condemn them. But shellfish in this condition are not at the moment in question, for no reputable oyster merchant would offer them for sale.

Perfectly healthy oysters may be green in colour from the ingestion of algae, or from a green leucocytosis or the presence in their tissues of copper or iron, and might conceivably be condemned on account of this coloration; on the other hand, there is not necessarily anything abnormal in the appearance of the typhoid infected oyster; and unless he could be convinced that the oysters were derived from a laying which was known to be typhoid infected the magistrate would naturally be reluctant to condemn what appears to be perfectly sound food.

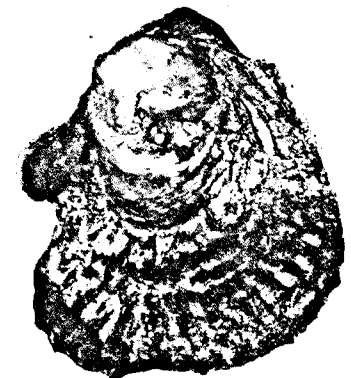
The Public Health (Regulations as to Food) Act, 1907, it is true, enabled the Local Government Board to issue in 1915 certain Regulations under the act—i.e., Public Health (Shellfish) Regulations—which empowered Local Sanitary Authorities to prohibit the sale of shellfish likely to endanger health and to close completely shellfish layings in its district if its Medical Officer of Health reports that such layings are liable to dangerous contamination, or on receipt of representations from some other Local Authority in whose district the shellfish are consumed. (Closing Order.) The working of these Regulations, however, is cumbersome, requiring a minimum of three to nine weeks before any order under the Regulations can be enforced, and the Regulations frequently fail to attain their object—quite apart from the right of appeal to the Minister of Health, which in itself involves considerable further delay.

Hence the utility and the necessity for the existence of that Corporate body, the Worshipful Company of Fishmongers—at once the protective patron of the Oyster Industry and, with its long-sighted view of the real interests of its protégé, the jealous guardian of the Public Health. Although without specific authority under its Charter to control the actions of Oyster Farmers outside the County of London, its power over the London Fishmarket is absolute and autocratic, and at the same time so wisely exercised that the shellfish industry of the British Isles cheerfully submits to its dictates, and even the corresponding industries of the Continent find it advisable to conform to its regulations.

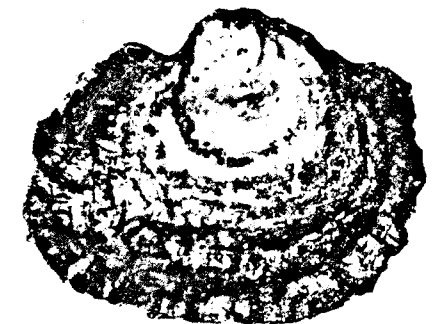
The last incorporation of the Worshipful Company of Fishmongers (London 1604) sets out the comprehensive powers granted with respect to dealing with unwholesome fish in the following terms:—

“And moreover we will and by these presents from Us, our Heirs and Successors, we grant to the same Wardens and Commonalty of the Mystery of Fishmongers of the City of London and to

Plates Illustrating “The Oyster and the Public Health.” by John EYRE



Whitstable Natives

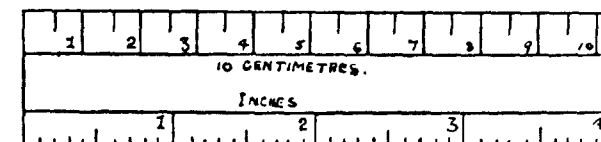


Medway Natives



Essex Natives

PLATE I





Falmouth Natives

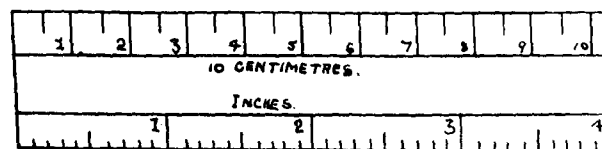


Saltash Natives

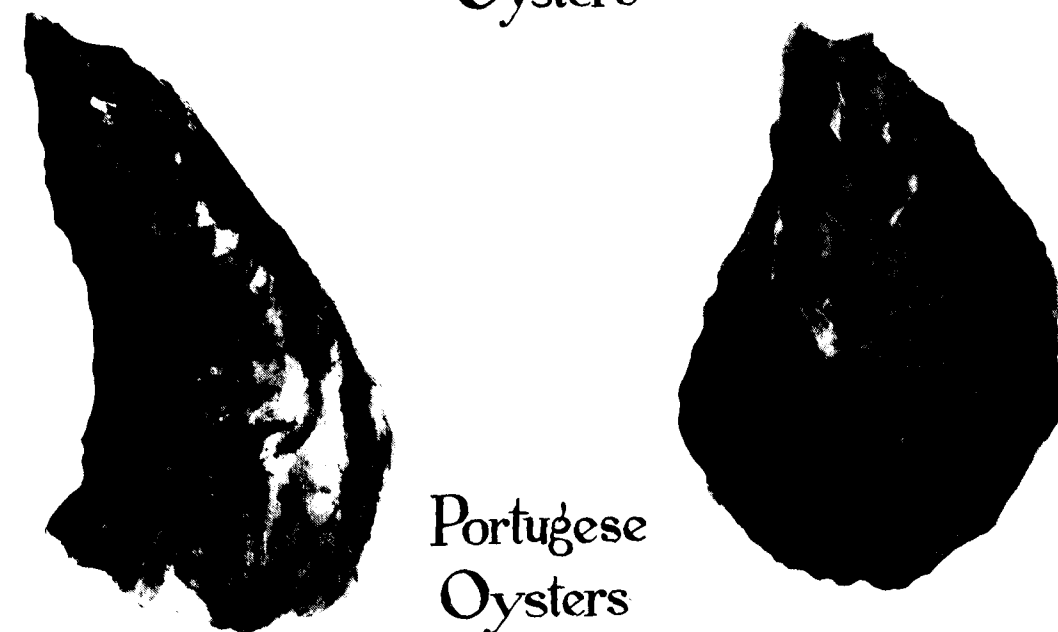


Poole Natives

PLATE II



Dutch Oysters

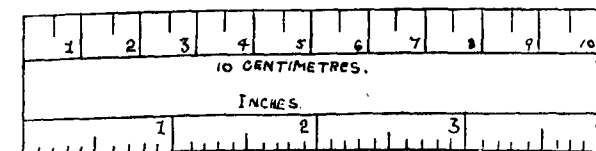


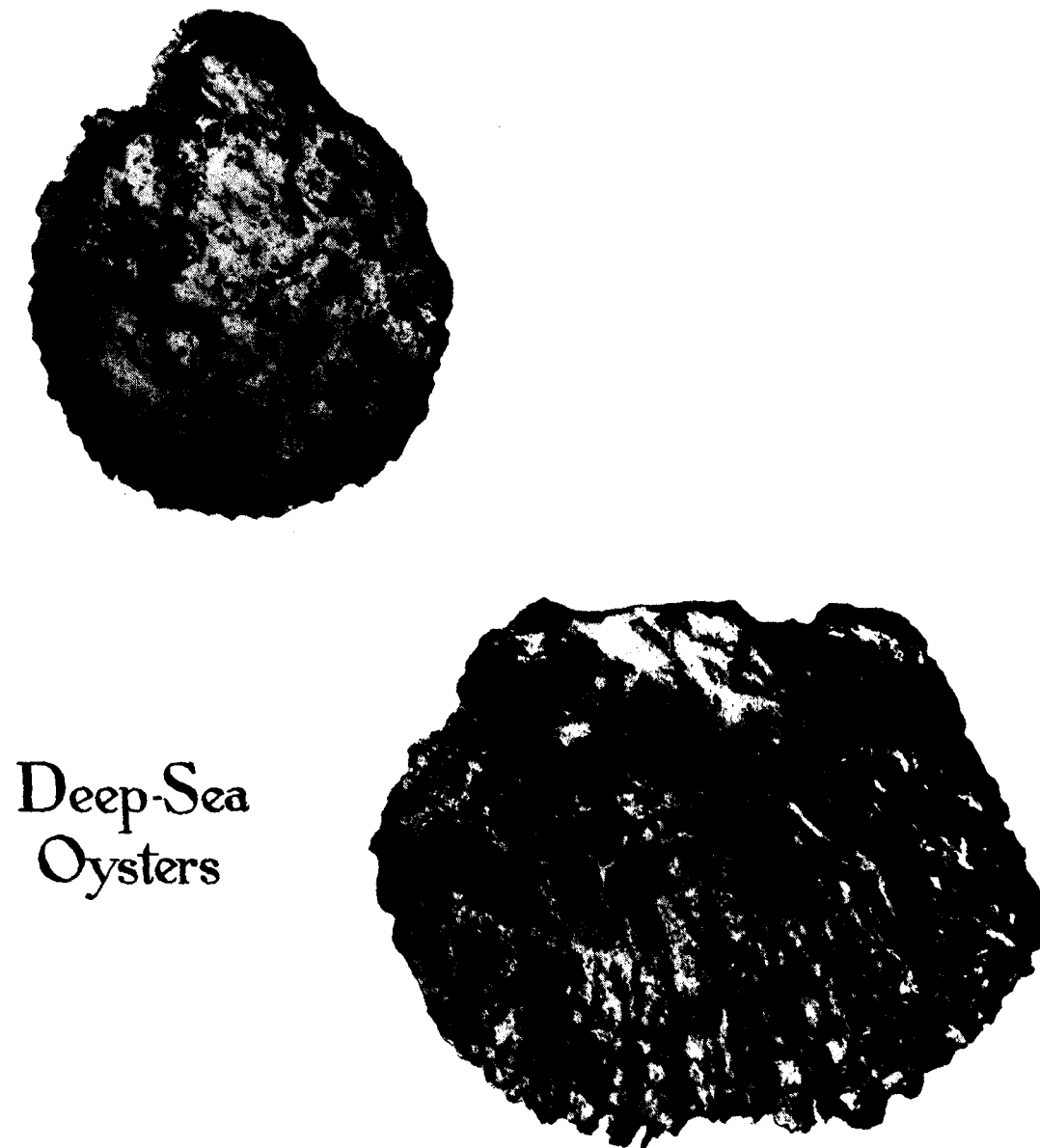
Portugese Oysters



American Blue Points

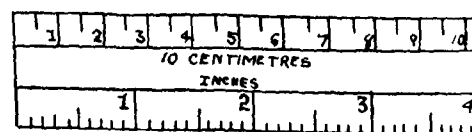
PLATE III





Deep-Sea
Oysters

PLATE IV



their Successors and the Assistants of the Mystery of Fishmongers of the City of London aforesaid, and their Successors which for the Time shall be, from Time to Time hereafter for ever, shall have, make and use, within the City of London and within the Liberties and Suburbs of the same and within our Borough of Southwark aforesaid, at all convenient times, the full and entire Survey, Search, Government and Correction of all and singular Persons, Denizens and Strangers, and all others whatsoever, of whatsoever Art or Mystery they shall be, selling or having, possessing or keeping, to sell, any salted Fish, salted Herrings, fresh Fish of the Sea, Salmon, Stock Fish, or any other Fishes whatsoever, within the same City of London, Liberties or Suburbs of the same City, or within the same Borough of Southwark, and the Liberties and Precincts of the same Borough; And that it shall be lawful to the Wardens of the same Mystery, for the Time being and to every of them from Time to Time, and at all Times convenient, whensoever it shall seem good unto them, or any of them, to enter into any House, Shop, Ship, Cellar, Wharfe, and other Place and Places whatsoever within the City and Borough aforesaid, or either of them, or within the Suburbs, Liberties or Precincts of the same City or Borough, or either of them, where any such salted Fish, salted Herrings, fresh Fish of the Sea, Salmon, Stock Fish, or other Fish whatsoever shall be laid or housed, wither the same be in Cask or without Cask, and to view, search and survey wither the same be wholesome for Man's Body and fit to be sold or no; and if the same Fish, either fresh or salt Herrings, Salmon, Stock Fish, or other Fish whatsoever, by them or any of them, within the City, Borough, Suburbs, Liberties or Precincts aforesaid, in such search shall be found to be unwholesome or corrupt or unfit to be sold. That then it shall be lawful to the same Wardens of the Mystery of Fishmongers aforesaid, or any of them, the same bad, unwholesome and corrupt Fish, from the Owners and Possessors thereof, as forfeit, to take and seize, and thereof to dispose and do according to our Laws of England and the usages and Customs of the said City of London and Borough aforesaid, from Time to Time used and frequented."

Possessed of such wide and autocratic powers it became necessary for the Company to institute a biological control which, whilst protecting the consumer, would not impose vexatious restrictions and delay upon the producer. The task of elaborating such a control was delegated to my predecessor, Professor Klein, and the so-

called "Short Analysis," based upon presumptive tests for the presence of *B. coli* which he then adopted, has been in operation for over twenty years. The outlines of this method are as follows:—

He took six oysters and examined them separately by taking $\frac{1}{4}$ c.c. (later $\frac{1}{5}$ c.c.) of the liquor from the shell and testing for the presence of *B. coli*. He found from prolonged experience that the presence of *B. coli* in this amount of liquor meant at least 200 *B. coli* in the whole oyster. In the case of mussels the inoculations were made with a smaller amount of fluid— $\frac{1}{10}$ c.c. The passing or rejection of a sample of shellfish was made to depend upon the proportion of oysters or mussels showing the presence of *B. coli* in these amounts of liquor. The standard set up by Dr. Klein, approximately 200 *B. coli* per oyster is thus seen to be in close agreement with Houston's standard.

In the early months of this year (1924) a Bacteriological Committee was formed at the instigation of the Worshipful Company of Fishmongers to report upon the suitability of the biological standards employed by the Company to present day needs. This Committee was constituted as follows:—

Professor Sir Frederick Andrewes, nominated by the Royal Society; Professor R. Tanner Hewlett, representing the Oyster Growers' Association; and Professor John Eyre, of the Fishmongers' Company. A representative from the Ministry of Health (Dr. MacEwan) and one from the Ministry of Agriculture and Fisheries (Dr. Dodgson) were present at the conferences of this Committee. I would like to quote two paragraphs from the Report of this Committee:—

1. "We do not consider the bacteriological tests for shellfish as suggested by Professor Klein and since carried out by Professor Eyre in any respect too severe in the standards set up, and we should regard any relaxation in the standards as a retrograde step."

2. "We recommend that instead of six oysters (or other shellfish) ten should be examined in testing each sample. This will help to diminish any possible element of chance in the number found contaminated and will facilitate a statement of results as percentages."

Consequently the full details of this method of examination are now as follows:—

The Examination of Oysters and Other Shellfish.

Short Method.

Apparatus Required.

Two hard nail brushes.

Liquid soap.
Sterile towel.
Six oyster knives (sterilised as for the Long Method in the special water-bath).
Case of sterile pipettes, 1 cc. in 1/10th cc.
Ten tubes MacConkey's Bile Salt Broth (Lactose).
Three tubes 2 % Glucose formate broth.
Three tubes Litmus milk (freshly boiled).

Method.

1. Thoroughly clean the outside of the oyster shells by scrubbing each in turn with liquid soap and nail brush under a tap of running water. Ten oysters will be required.
2. Before proceeding further cleanse the hands thoroughly with a clean nail brush, soap and water; then plunge them in Lysol 2 %, and finally in sterile water.
3. Spread a sterile towel on the bench.
4. Rinse the ten scrubbed oysters in sterile water and lay them on the sterile towel.
5. Take one of the oysters and, resting it on its convex shell, turn a corner of the sterile towel over the flat upper shell to give a firmer grip to the left hand, which holds the shell in position.
6. With a sterile oyster knife in the right hand open the shell and separate the body of the oyster from the inner surface of the upper flat shell. Bend back and separate the flat shell, leaving the body of the oyster in and attached to the concave shell. Avoid spilling any of the liquor.
7. Cut up the body of the oyster with the sterile oyster knife into small pieces and allow the liquor freed from the body during the process to mix with the liquor previously in the shell.
8. Treat each of the remaining oysters in similar fashion, using a sterile knife for each.
9. With a sterile pipette suck up 0.2 c.c. of liquor from the first oyster and inoculate into a tube of Bile salt broth.
10. Repeat this process with each of the remaining nine oysters; do not discard any of them for the moment.
11. Use 0.2 c.c. of liquor from any one of the oysters to inoculate a tube of Glucose broth. Repeat this with two other of the oysters and inoculate the second and third Glucose broth tubes.
12. From each of three selected oysters containing sufficient liquor suck up 1.0 c.c. and inoculate a tube of Litmus milk.

13. Incubate these sixteen tubes at 37° C. for a period of twenty-four hours.

At the termination of the incubation period the tube cultures are examined (naked eye) for the presence of acidity and gas formation in the Bile salt broth, and "raft" clotting in the Litmus milk tubes,—such appearances being regarded as presumptive evidence of the active growth of *B. coli* and *B. welchii* respectively. The Glucose broth tubes are examined microscopically for the presence of "chain cocci." The value of the presumptive evidence as to the presence of *B. coli* can be readily tested by plating out "positive" tube cultivations, isolating separate colonies and working them through in accordance with well-known bacteriological methods. Having done so in hundreds of instances, I can fully endorse Klein's dictum—"If material taken from an oyster . . . and implanted in this fluid turns it in and within twenty-four hours at 37° C. red and full of gas, we may safely conclude that this material contains the *B. coli*."

Now in the foregoing analysis the quantity of material used to initiate the culture is 0.2 c.c. of the liquor exuding from the oyster after mincing and as an average oyster approximates in volume to 10 c.c., this amount is equivalent to 1/50th of an oyster. Hence it follows that if acidity and gas are present in the culture, the oyster from which it was derived contained at least fifty *B. coli*—probably more—(according to Klein usually a total of 200); on the other hand, if this combination of acid and gas is absent, then the oyster in question contained less than 50 *B. coli* and thus is in general agreement with the "stringent" standard previously referred to.

So far I have dealt only with *B. coli* and in point of fact this is the all-important index. *Streptococcus faecalis* (and *B. welchii*, if present) merely serves to confirm the nationality, so to speak, of the *B. coli*—its absence from oysters not too heavily contaminated with sewage causes no surprise, by reason of its relative infrequency (or at any rate numerical inferiority to *B. coli*) in faeces and sewage, and its shorter lease of life.

In the case of oysters derived from polluted areas and examined in this way we know by long experience that all, or at any rate the large majority, of the ten tubes will yield presumptive evidence of the presence of *B. coli*; and we are equally certain that when clean layings are in question not more than one, or two tubes at most, will show the presence of acidity and gas.

Therefore the *B. coli* index obtained from an examination of the ten tubes is expressed in terms of percentages of cleanliness, as follows:—

All 10 oysters devoid of *B. coli*, 100% (Clean).
5 of 10 oysters containing *B. coli*, 50%.
All 10 oysters containing *B. coli*, 0%.

Consignments yielding 100%, 80% and 60% clean are allowed to be sold without further comment; 30 % and less are condemned forthwith; 50 % and 40 % are held up pending a further analysis and, if necessary, a revision of the topographical examination of the layings.

Whilst this is a completely acceptable method of procedure from the point of view of the oyster farmer, as involving a minimum of delay, the Medical Officer of Health not unnaturally re-

control was afforded by the fact that Dr. Nankivell, examining oysters from the same batches on the spot, but by somewhat different methods, obtained precisely similar results in all save one—the first—sample.

Having thus assembled the machinery for the testing of shellfish in such a manner as to bring into prominence any pollution from sewage which they may have acquired, I will next endeavour to show how that machinery works in every day practice.

In the first place, it is now common knowledge in the shellfish trade that the Fishmongers' Company is prepared to apply this method of

POOLE OYSTERS.

Comparison of Long and Short Methods. Long Method, results in organisms per oyster.
Short Method, results in number of tubes showing growth of corresponding bacteria.
Nankivell's Method (in brackets) results in organisms per oyster.

Lab. No of Specimen.	<i>B. coli</i> .	Streptococci.	<i>B. welchii</i> .	Recorded Result.
129	100 not 1000 5 out of 6 (11 N)	absent 0 out of 2	absent 0 out of 2	Clean Not Clean
135	10 not 100 0 out of 6 (43 N)	1 not 10 0 out of 2	absent 0 out of 2	Clean Clean
145	10 not 100 0 out of 6 (96 N)	absent 0 out of 2	10 not 100 0 out of 2	Clean Clean
149	10 not 100 0 out of 6 (40 N)	absent 0 out of 2	absent 0 out of 2	Clean Clean
165	1 not 10 0 out of 6 (? N)	absent 0 out of 2	absent 0 out of 2	Clean Clean
167	100 not 200 2 out of 6 (46 N)	10 not 100 2 out of 2	absent 1 out of 2	Passably Clean Passably Clean
175	10 not 20 0 out of 6 (17 N)	absent 2 out of 2	10 not 100 1 out of 2	Clean Clean
176	10 not 20 2 out of 6 (14 N)	absent 0 out of 2	1 not 10 1 out of 2	Clean Passably Clean
180	10 not 20 0 out of 6 (28 N)	absent 0 out of 2	10 not 100 1 out of 2	Clean Clean
182	20 not 100 1 out of 6 (22 N)	absent 0 out of 2	10 not 100 2 out of 2	Clean Satisfactorily Clean

quires further evidence of the reliability of such a rapid, not to say scrappy, analysis; and appreciating the importance of this point I turned my attention to a comparison of the two methods immediately I was appointed to my present post and soon satisfied myself that they yielded completely comparable results and that for all practical purposes the "Short Method," intelligently interpreted, afforded reliable data upon which to form an opinion as to the "safety" or otherwise of any given batch of oysters.

To illustrate the closeness of the results I would draw attention to the accompanying table, relating to Poole Oysters. Here an additional

bacterioscopic analysis to samples of oysters from any grower who cares to avail himself thereof, with the result that we are constantly in receipt of samples voluntarily submitted for analysis; and as there is no falling off in the supply of samples from this source we can only conclude that the information contained in the Company's reports proves of value to those to whom it is supplied.

In the second place, the Company's Chief Inspector, Mr. Hattersley, and his assistants, in the course of their supervision of the fish of all kinds entering London, seize—practically daily throughout the season—samples of oysters in

Billingsgate Market or from the various oyster shops scattered about the Metropolis. These samples are brought to Fishmongers' Hall and are allotted serial numbers and under these numbers only are submitted to the "Short" method of analysis already described.

Twenty-four hours later the result of the test is "read," the details entered in the Company's records and a report detailing the percentage "cleanliness" of his wares is despatched to the grower from whom the samples were taken. Oysters having a "clean" percentage between 100 and 50 raise no comment within the Hall itself and reports thereon are sent without remark; but in the case of badly polluted oysters the report is accompanied by the phrase "Oysters show so high a percentage with presumptive evidence of sewage contamination that they must not at present be marketed."

As soon as a report such as this has been despatched the bacteriologist is supplied with details as to the source of the polluted shellfish; the Admiralty Chart of the district is spread out and the bacteriological record of the implicated "layings" are turned up in the office files—if necessary for twenty years past—and the various possibilities discussed. If no obvious explanation is apparent, further samples are called for and when necessary, arrangements are made to revisit the layings and investigate upon the spot.

A few examples will suffice to show the value of this method of sampling the oysters exposed for sale in London, first premising that the topography of all the British "layings" is familiar to the officers of the Company from personal inspection and that the bacteriological analyses of their oysters and the corresponding water have been recorded in the books of the Company since 1900:—

I. Bosham Oysters.

January 24th, 1922	100 % Clean.
February 7th, 1922	100 % Clean.
February 21st, 1922	83 % Clean.
December 20th, 1922	0 % Clean.

Enquiries elicited the information that the sluices from the neighbouring Sewage Works were open during the whole of ebb tide; it was therefore arranged with the Surveyor to close the sluices two hours before the end of ebb.

December 28th, 1922	83 % Clean.
January 1st, 1923	100 % Clean.

II. Hayling Island Oysters.

After topographical enquiry and bacteriological examination of the waters of the layings, the

Oyster Growers were advised to relay oysters in specified "clean" pits before marketing.

February, 1922	100 % Clean.
June, 1922	100 % Clean.
June 27th, 1922	0 % Clean.
June 30th, 1922	0 % Clean.
July 14th, 1922	17 % Clean.

Enquiry elicited the fact that the fishermen had found it easier to relay the catches in a polluted creek, instead of the selected pits. Subsequently the oysters were relaid in the "clean" pits.

July 20th, 1922	66 % Clean.
July 26th, 1922	66 % Clean.
August 15th, 1922	100 % Clean.

It is true that pollution of the beds themselves with *B. coli* may in certain cases be due not to sewage, as such, but to washings from manured soil, or to excremental material from cattle; and such contamination may be as a rule free from danger.

III. Brightlingsea Creek Oysters.

April 10th, 1923	83 % Clean.
June 26th, 1923	33 % Clean.
June 29th, 1923	50 % Clean.
July 3rd, 1923	30 % Clean.
	0 % Clean.

Inspection revealed the excrement from a large herd of cattle on the foreshore; this source of pollution was removed.

July 11th, 1923	83 % Clean.
July 13th, 1923	100 % Clean.
July 17th, 1923	100 % Clean.

Yet even the excreta from cattle are not necessarily free from danger, since these animals may suffer from infections with Gaertner's bacillus or *B. Aertrycke*, which are causes also of human gastro-enteritis. Nevertheless, such possibilities of harmless contamination with *B. coli* render it desirable that before taking final administrative steps the findings of the bacteriologist should be checked by topographical investigation.

It is also true, on the other hand, that exceptional cases occur in which contamination may occur after removal from the layings, in processes of washing or transit to market (as in example IV.); but it must be remembered that the Fishmongers' Company is concerned with the quality of shellfish as offered to the public for consumption.

IV. Weymouth Deep Sea Oysters.

March 18th, 1921. (Sample from Market).	17 % Clean.
---	-------------

Topographical inspection revealed no obvious source of contamination and bacteriological examination of surface and bottom (12 fathoms) water gave *B. coli* only in quantities of 50 c.c.

April 6th, 1921. (Collected from bed).

- 100 % Clean.
- 100 % Clean.

Original sample was therefore contaminated between collection and exposure for sale in the market, and on local enquiry it was admitted by fishermen that oysters dredged from a clean source in deep water in Weymouth Bay had thereafter been deposited in bags in the sewage-polluted waters of Weymouth Harbour.

So far, so good. But it may be contended that the bacterioscopic supervision of the Shellfish Industry is largely a work of supererogation—that the risk to the health of the community from disease due to shellfish is very slight, for since 1902 no epidemic of typhoid fever has occurred in any way comparable to the Winchester epidemic. To a certain extent this is true. Small outbreaks have been reported, such as the one in Guildford in 1904, due to the consumption of polluted shellfish; and another in the same year at Dorchester. On the other hand, as recently as 1914 Workington and one of H.M. ships at Portsmouth afforded further instances of the continued existence of the danger.

But typhoid and allied fevers are endemic throughout the land—a condition which Bulstrode's investigations lead one to believe results from "single" cases occurring in the community, untraced it is true but probably largely due to the consumption of polluted shellfish.

Fish-borne typhoid fever in its relationship to the total cases from all causes exhibits wide variations in a township according to the local habits and circumstances; but individual Medical Officers of Health have made its existence a subject for comment from time to time in their Annual Reports. Thus, Newsholme at one time regarded 30% of the cases of typhoid fever in Brighton as due to the consumption of contaminated shellfish; Niven recorded a similar proportion for Manchester, and the number of cases that occur even now, where there is *prima facie* evidence implicating shellfish—usually mussels and cockles—is quite considerable.

In studying the incidence of typhoid fever within that particular area in which the activities of the Fishmongers' Company are principally exercised, viz.:—London, it may be noted that after a marked fall during the period 1875 to 1885, the number of typhoid cases

remained between 3,000 and 3,500 per annum until 1900, when they rose to well over 4,000. During the next five years there was a very steep fall in numbers and since then a more gradual, but still steady, decline down to the present day—the totals for 1922 and 1923 being 224 and 331 respectively. This is well shown in the accompanying chart taken from the Report of the Bacteriological Committee to the Fishmongers' Company.

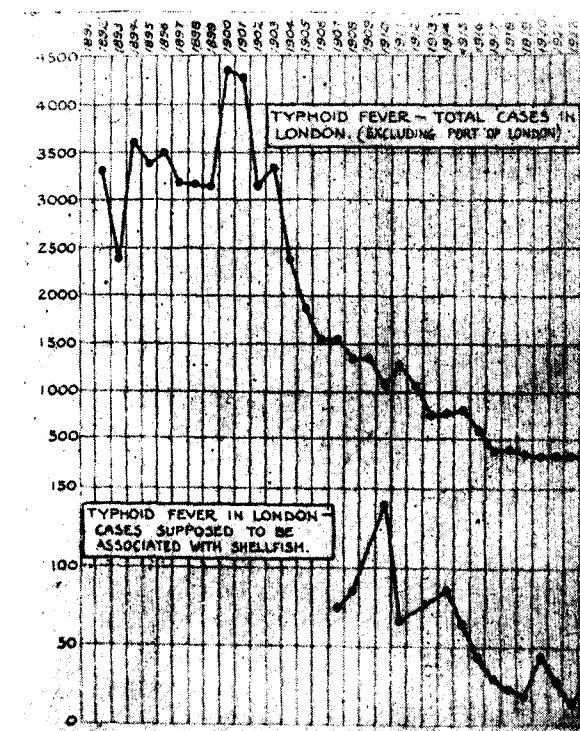


FIG. 23. Typhoid cases in London.

Many factors have been operative in producing this happy result, in addition to the stringent supervision of the shellfish industry maintained by the Fishmongers' Company, the chief of which may be enumerated as follows:—

1. The increased care bestowed on the water supply;
2. The increased care taken in isolating typhoid cases in hospitals and in dealing adequately with their infective evacuations;
3. The recognition of "carriers" and their segregation or supervision;
4. The dilution of the community as a whole by a large proportion of individuals more or less protected against typhoid by previous vaccination;
5. The diminution in fly-borne infection owing to the substitution of motor for horse drawn vehicles;

and it is difficult, if not impossible, to allocate its correct value to any one of the above factors.

But with regard to typhoid fever ascribed to shellfish, the various Medical Officers of Health concerned in the administration of the London area have indicated year by year since 1907 the number of cases where the history and other circumstances point to shellfish as the probable cause of infection, and these figures have also been plotted on the chart of total cases. It will now be seen that these two falling curves correspond very closely—a point strongly suggesting that no matter for what reason, shellfish do not operate now so markedly in conveying infection as they did in former years.

Sir Alexander Houston, whilst giving evidence before a Departmental Committee set up by the Ministry of Health in 1920 to enquire into the working of the Metropolis Water Act of 1902 (Minutes of Evidence, 13th day, page 133), referred to a chart he had put in showing the typhoid case-rate for London from 1900 onwards and stated—"Of course, it (the chart) shows a very satisfactory state of affairs. At the same time I do not wish to exaggerate the point. I cannot say that this is entirely due to the operations of the Water Board. The great public health reforms of the Local Government Board and the London County Council, and I think also the Fishmongers' Company in prohibiting the sale of unsound fish, have co-operated to produce that very happy result."

The Bacteriological Committee (already referred to), while drafting its report to the Fishmongers' Company, sought the opinion of Sir William Hamer on this point and his opinion, as formulated in a letter (April, 1924), confirms that enunciated by Houston four years previously, as he expressly states—"In my opinion control of shellfish has played a part in the well-known diminution of typhoid during the last twenty years, but probably not a very large part."

In conclusion I would point to the significant fact that the strict biological supervision of the shellfish industry by the Fishmongers' Company was commenced at the beginning of the present century and was carried on by my predecessor, Professor Klein, for more than twenty of the years comprised in this chart, and during that period I personally cannot help feeling that the paucity of epidemics of typhoid fever due to the consumption of polluted shellfish, no less than the diminution in fish-borne typhoid fever in London, forms a permanent testimony to the value of his labours.

REFERENCES.

1. Bulstrode, H. Timbrell, "Report upon alleged Oyster-borne Enteric Fever, following Mayoral Banquets at Winchester and Southampton."—Rep. Med. Off. Loc. Govt. Bd., 1902-3, 32, 1904 (129-189).
2. Dean, Bashford, "The Food of the Oyster."—Supplement to the Second Report, Oyster Investigations, State of New York, 1887.
3. Eyre, J. W. H. Bacteriological Technique, London and Philadelphia (Saunders). 2nd Edit. 1913 (463-467).
4. Houston, Alexander C. Fourth Report, Royal Commission on Sewage Disposal, 3, 1904 (171).
5. ———. Fourth Report, Royal Commission on Sewage Disposal, 3, 1904 (173-175).
6. ———. "The Bacteriological Examination of Normal Stools of Healthy Persons."—Rep. Med. Off. Loc. Govt. Bd., 1902-3, 75, 1923 (143-1169).
7. ———. Fourth Report, Royal Commission on Sewage Disposal, 3, 1904 (125-131).
8. ———. Fourth Report, Royal Commission on Sewage Disposal, 3, 1904 (304-305).
9. Martin, G. W., "Food of the Oyster (with Bibliography),"—*"Botanical Gazette,"* 75, 1923 (143-169).
10. Nankivell, A. T. and Stanley, J. M., "The Contamination of Oysters."—*Journal of Hygiene*, 18, 1920 (472).
11. Orton, J. H., "An Oyster Spat (1921) with mature male sexual products."—*Nature*, 108, 1921 (500).
12. Philpots, John R., "Oysters and All About Them."—London (Richardson), 1890 (391-399).
13. "Reports and Papers on Cholera in England in 1893," with an introduction by the Med. Off. Loc. Govt. Board, 1894 (pp. xxviii. and xxix.).
14. "On Oyster Culture in relation to Disease with introduction by the Medical Officer."—Supplement, Rep. Med. Off. Loc. Govt. Board, 1894-95, 24, 1896 (i.).

DISCUSSION.

The President, in proposing a hearty vote of thanks to Prof. Eyre for his interesting and instructive paper, expressed his personal regret

that the audience that afternoon was not very large in numbers. He was sorry to say that that was not the first occasion on which he had had to apologise to the reader of a paper for the smallness of the attendance and, while explaining that all members would have the opportunity of reading the paper in the journal, could not help feeling that it was a very great pity that more of their members, particularly those who lived in or near London, did not come to the meetings. With regard to the paper, the President said he was exceedingly interested in the anatomy of the oyster, and was also struck by the efficacy of the arrangements made for the protection of the public against disease from such shellfish. He did not know if the Fishmongers' Company exercised any jurisdiction outside London, but whatever the cause of the fall in the number of cases of typhoid fever there was little doubt that the care given to the places from which the oysters came was an important factor in the reduced incidence of the disease. Prof. Eyre had given credit to medical officers of health in regard to the investigation of cases, but it was doubtful if this praise was merited. Typhoid fever was now rarely encountered, and with an isolated case it was no easy matter to assign a cause. Even with a history of shellfish the difficulties in forming a conclusion were very great. Only when there was a succession of cases was any evidence worth having obtained. In many instances where one would expect great incidence of disease from shellfish it was entirely absent. In Liverpool, for example, at the estuary of the Mersey considerable quantities of mussels were gathered, in some places quite near the sewage outfall, and, though boiled, one would have looked for very distinct evidence of the results of eating polluted shellfish, but one did not get it.

Dr. R. Woolsey Stocks stated that in West Bromwich there had been eight cases of typhoid fever in the last ten years, but prior to that there were not less than 100 and frequently over 150 cases of the disease in a year. In his view the drop was concurrent with the greater care taken with the water supply (the laying on of tap water especially) and with sewage disposal.

Prof. Eyre returned thanks for the expression of appreciation of the paper, and replied briefly to several questions asked. The jurisdiction of the Fishmongers' Company, he pointed out, extended beyond the Metropolis in a moral sense only. The important thing, however, was the point of disposal of the oysters, viz., Billingsgate. With regard to the query as to oysters coming from outside sources, such oysters would have to be

relaid. Coloured particles were employed in the computation of the quantity of water (2 litres) found to pass through an oyster per hour.

CARE WORK IN TUBERCULOSIS.

BY

J. J. JERVIS, M.D., M.O.H., Leeds.

It will be generally agreed that no scheme for the treatment of Tuberculosis is complete without some provision for care and after-care of the tuberculous subject. It is not so clear what form that provision should take. In his Annual Report for 1918-19, the Chief Medical Officer of the Ministry of Health states that the great object of after-care work is to "provide as far as possible a good environment." The word "environment" here must be taken to mean the whole of the social conditions under which the tuberculous subject lives—his house, his food, and his comfort generally. This is made clear in a further reference to the subject in his Annual Report for 1921, which reads thus: "The personal and social care of the tuberculous person stands in the front rank of methods for securing his recovery." But to provide such care in anything like an adequate manner means the expenditure of money, and the question immediately arises of where that money is to come from. Up to the present such care work as has been done has been undertaken by purely voluntary bodies, depending for their funds on the generosity of an already over-harrassed public. The results, except in a few cases, have admittedly been disappointing, and they will continue to be so until the whole thing is put on a sounder financial basis. If it be true, as Sir George Newman says, "that the personal and social care of the tuberculous person stands in the front rank of methods for securing his recovery," then surely it should be the first essential of any tuberculosis scheme to make proper financial provision for care work, and not to leave it to the very uncertain efforts of charity. To me it seems illogical to pay for part of the cure and not the whole.

In a paper read by Dr. F. J. H. Coutts at the Ninth Annual Conference of the National Association for the Prevention of Tuberculosis, held in Birmingham in July, 1923, the following paragraph occurs: "There is a special danger in the case of tuberculosis in regarding care work as being primarily a matter of distributing financial assistance, and Care Committees should therefore constantly keep before them the importance of avoiding as far as possible anything that will undermine the patient's self-reliance, and find ways of giving assistance whilst safeguarding

the patient's self-respect and independence. The aim should be to help the patient to help himself, rather than to allow him to be dependent on others." Such sentiments are entirely commendable and few will quarrel with the motive which prompts them. But is not the crux of the whole problem of the tuberculous man simply one of finance? Remove that, and the problem at once becomes comparatively easy. Good advice and encouraging words are all very well where there is an assured income, but where the wolf is at the door and disaster imminent, they only serve to accentuate the victim's sufferings. By all means let Care Committees dispense sympathy and good advice, so long as they realise that they must be prepared to lend practical assistance as well.

It may not be out of place to review shortly what the functions of a Care Committee are. Its first and chiefest function is to help the man who has had a course of treatment in a sanatorium, and who has so far recovered as to be able to undertake some light work to obtain suitable employment. To be able to do this, each committee is expected to compile a list of firms willing to employ partially disabled men. This is not an easy task—as many Care Committees have discovered—because for one reason or another, employers hesitate to take men on to their staffs who are not able to stand their corner with their fellows. Some employers are obsessed with the fear—quite groundless be it said in the majority of cases—of the infection being spread to other employees working in the same shop; others argue—and the argument I think is unanswerable—that it is not possible to make concessions to the tuberculous workman and deny the same privileges to the man with heart disease or cancer, or any other exhausting complaint. It is likely therefore that Care Committees are going to continue to find progress in this direction very slow.

The second function of a Care Committee is to keep in touch with the patient's home and family whilst he is in the sanatorium or training colony. If he is entirely without private means and dependent solely on his own earnings, his wife and family, if such he possesses, are going to be reduced to sore straits, and in all probability will require some practical assistance. This is the time when the contacts require the closest observation, because the pinch of poverty is often the signal for a mass attack by the disease. Advice as to the best method of warding off such an attack ought certainly to be given, but it ought to be supplemented wherever necessary by extra rations. It is not much use asking a soldier to

defend a post if he is only imperfectly equipped with the means of defence.

Thirdly, the Care Committee ought to prepare for the patient's homecoming. If the house is unsuitable, an attempt might be made to get another and a more suitable one. If it is badly arranged so that the patient cannot have a room, or at any rate, a bed to himself, such re-arrangement ought to be recommended as will make good the omission. If an extra bed or bedding are required, these might be supplied. Any special surgical appliance for non-pulmonary cases should be provided either gratuitously, or, if the income will stand the charge, at a small cost.

Fourthly, a Care Committee should be prepared to provide free or at small cost, convalescent treatment for contacts or suspicious cases. This is true preventive work, and any money spent on it is sure of a good return. I am convinced that if only we could have more "preventoriums," we could soon reduce the number of sanatoriums. If instead of spending all the money that has been spent in patching up, more had been devoted to keeping the individual healthy, we would have been nearer a solution of the problem of tuberculosis to-day than we are.

Fifthly, a Care Committee should keep closely in touch with all agencies at home or abroad which might assist the healed or arrested case to recover his lost earning power, and re-instate him as an independent and self-supporting unit.

It will be obvious to the merest tyro that the functions outlined above cannot be adequately fulfilled without the expenditure of a considerable sum of money, and I want to suggest that the finding of that money ought not to be left to charity, but should be a charge on the community. The voluntary system is a spent force and it is useless to add another to its already numerous undischarged obligations. I cannot conceive why a pauper should be able to claim relief out of public funds, and a man who has been so unfortunate as to lose his health in the service of the community should be denied similar relief. This is another reason why the obsolete system of Poor Law Relief should be scrapped and funds now used for the benefit of a small and not always worthy section of the community applied to the whole.

As to the question of employment for tuberculous persons, I have a few special words to say on this aspect of the subject. I have already stated, and you all know it to be true, that the tuberculous man, except in the minority of instances, cannot be re-absorbed into industry. What is to be done with him? Well, I have a

proposition which I should like to put before you for your approval. The scheme I am about to propound is based on one already in being in this city for tuberculous ex-service men. (I ought to have explained earlier on in the paper that my remarks have special reference to the civilian tuberculous subject and not to the ex-service man, who is in a rather more favoured position, and enjoys many privileges which are denied to his civilian brother.) The scheme to which I refer is run on a co-operative basis. The funds to establish it were collected from the tuberculous ex-service men themselves. As a matter of fact these funds were made up of the grants made to the men by the Civil Liabilities Department under Royal Warrant, to enable them to start small businesses of their own. With this initial capital amounting to £2,000, the Tuberculosis Ex-Service Men's Co-Operative Society was formed and registered under the Industrial and Provident Societies Acts. A small factory consisting of two army huts joined together, and provided with gas, water, and sanitary conveniences was bought for £600 or £700. Brushmaking, joinery, and firewood departments were opened, and the machinery and appliances needed to carry on these in the most efficient and economical manner were purchased. Electricity for lighting and power were introduced, and in connection with the latter, it may be remarked that the introduction of mechanical power has been a great boon, inasmuch as it has increased output and made it possible to produce goods at competitive prices. In addition to the above, a window-cleaning department was inaugurated, which rapidly developed and is now giving employment to a considerable number of men. Because of its open-air character and freedom from undue physical exertion, window-cleaning readily lends itself to the limited resources of the disabled man. Not content with these efforts, the Society, constantly on the look-out for new fields to conquer, approached the Corporation and asked to be allowed to undertake work in connection with one of the street-cleaning schemes, which would ordinarily have widening reserved for the unemployed. This application was granted on the condition that the work was carried out on the same terms as it would have been, had it been done by the unemployed. A contract on this basis was entered into and the Consulting Tuberculosis Officer was asked to examine carefully all the out-of-work tuberculosis pensioners, and to pick out those physically fit for this class of work. Out of a total of 250 so examined, 50 were selected as suitable, and the work was started. The success which attended the

experiment exceeded all expectations and more than justified the seemingly foolhardy temerity of those responsible for the suggestion in the first instance. A carriage way 3,500 yards long and 20 feet wide was completed in record time entirely by the labour of these tuberculous men, and so satisfied were the Corporation's engineers with the quality of the work, that another and more extensive job of a similar nature was entrusted to the Society on which their men are at present engaged. In the factory the men are paid by the piece, no man receiving less than 30/- per week, in addition to which the majority have their pensions, which vary in amount according to the degree of their disability. On the road schemes the men are paid by the hour in the same way as are the unemployed, only they are given certain privileges with regard to rest periods and have a hot meal purveyed in the middle of the day for which they pay sixpence each. They are kept under strict medical supervision, so that on the least sign of fatigue or recurrence of symptoms a man can be taken off and sent home, or put on lighter work until he has recovered and is able to resume.

The amount spent in wages during the first three years of the Society's existence was £16,000, and the number of men employed inside and outside the factory, over 100 (this number fluctuates considerably, as men are constantly falling out and others coming in). Strange to say the mortality rate has been almost negligible, notwithstanding the fact that the disability in some cases amounts to as much as 80% or 90%. The balance sheet issued at the close of the last financial year showed for the first time since the Society's inception a small profit on the undertaking, a result on which the Society is to be warmly congratulated. Having been fairly launched and now floating on an even keel, one hopes the ship will forge ahead and make good sailing, even though there may still be rough weather ahead.

All this ought to be very encouraging and should stimulate the Ministry of Health and local authorities to attempt similar ventures for the tuberculous civilian. I know his problem is rather different; indeed in some respects quite different. In the first place the civilian has no pension, and in the second there is no fund available out of which to draw the capital necessary to start an employment scheme. There are facilities for training in connection with certain sanatoria up and down the country, but no fund on which to draw to keep the home going whilst a man is undergoing that training. If he desires to be trained, it must be at his own expense, and once

trained, he has no guarantee that he will get a job in his new occupation. This is where the Care Committee is supposed to come in. But what can a committee do that has no funds? It can only give encouragement and advice, and that won't fill empty stomachs or keep the furniture out of the pawnshop. The only way out of the difficulty is a scheme on the lines of the one I have described, financed out of public money. First of all, every local authority of a size sufficient to support a scheme of the kind I propose (where the authority is too small, it might combine with other authorities to form a conjoint scheme), should be allowed to establish an employment centre with the necessary appliances and equipment. I would suggest that to start with the scheme be confined to men, and only to such men as would be likely to make good. They would have to be carefully selected. Men would be enrolled at that centre either for training or employment. If more convenient, the training might be done at the sanatorium, and the men simply drafted to the centre for employment. During training a man would be given a small allowance, if living at home, sufficient to keep things going until his training was completed and he was able to undertake regular employment. The money required to pay this would be drawn from a special fund established for the purpose and called a "Training Grants Fund." This fund might, I think, be provided by the approved societies, who have always shown themselves very eager to help any of their members in financial straits owing to ill-health and consequent reduced earnings, or failing this, by the National Health Insurance Fund. If the latter could not bear it out of its existing funds, perhaps an extra levy might be considered. After completion of training, the man would be taken on at the Employment Centre, and given regular employment for whatever number of hours per day his physical condition would stand without undue strain or exhaustion. There would be a variety of occupations, and it would be for the Medical Officer to decide the one for which he was best suited.

For his work he would be paid a wage which under no circumstances would fall below 35/- per week. To make that amount he would require to work so many hours, depending on the class of work he was engaged in. Whatever time he worked over and above these hours he would be paid for at current piece rates. The upkeep of the Centre and the payment of wages of employees would be a charge on the rates, to which the Government would be expected to contribute 50% or even more. If one reckons that in a city

of the size of Leeds there are 500 tuberculous civilian men capable of being employed in such a centre, that would mean at 35s. per week £45,500. The receipts from sale of goods and work done might reasonably be expected to reduce this total in the first year by £5,500, leaving a balance of £40,000 to be met out of the rates and by Exchequer grant. The net charge on the rates would not be more than £20,000 and would probably be less. That amount in Leeds would represent a 2d. rate. As the scheme developed and the public came to appreciate the value of the services rendered, the receipts would grow and the burden on the rates correspondingly diminish until it might even become self-supporting. That at any rate would be the goal to strive for. As a set-off against this total it might be possible to effect savings in other parts of the tuberculosis scheme e.g., cutting down the length of stay of cases in sanatorium; reducing the number of sanatoria, and making areas combine (few, if any, of the sanatoria have their full quota of cases; many are only partially full), etc.

You may say that the proposal is Utopian and impracticable because of the expense involved, but please do not dismiss it without careful and thoughtful consideration. The alternative is what? The old "*laissez faire*," or what is almost as bad, the ineffectual efforts of an impecunious Care Committee.

Of one thing I am absolutely convinced, and it is that employment for the tuberculous subject is essential to his recovery. The idleness of the present day sanatorium habitue is demoralising and has become a byword. Many of our modern sanatoria might be well named the "loungers' paradise," where men eat and sleep and drink and smoke, and now and then when they can muster sufficient energy, play a game of cards or indulge in that favourite pastime of the sanatorium patient, the abuse of the doctors and nurses. Under such conditions mind as well as body is bound to degenerate and men and women become mere cabbages. The whole system is wrong and will have to undergo a radical change. The Sanatorium, if it is to be retained as an effective part of a tuberculosis scheme, must cease to be merely negative in its influence on the mental outlook of the patient. Instead of idling away his time, a patient as soon as he is able to be up and about, should be given some definite task to perform. What the task is does not matter so long as it is interesting and not boring or distasteful. Change is lightsome and so the task should be varied from time to time. Only by some such method will the habit of industry be fostered and

will it be possible to make any employment scheme which may be adopted self-supporting. I sometimes think that if, instead of building expensive sanatoria on the present-day principle, some of the money so expended was devoted to the erection of large open-air workshops, comprising all sorts of crafts for adults, and open-air schools for children on healthy, but easily accessible sites, the results would be much more convincing. In any case the guiding principle of all schemes of treatment of the tuberculous should be to maintain working capacity. If Care Committees can help to make the attainment of this object possible, then they will more than justify their existence and deserve every encouragement and support. I would only reiterate that as in the steam engine there can be no power without fuel, so in the case of the Care Committee, if it is to be effectual, it must have funds.

Society of Medical Officers of Health.

COUNCIL MEETING.

A meeting of the Council was held at the House of the Society on Friday, September 19th, 1924. The President (Dr. T. W. Naylor Barlow) was in the chair and there were present Drs. G. F. Buchan, Porter, Cates, Banks, Pearce, Gibbons, Ward, Snell, Garstang, Ridley Bailey, Stocks, McMaster, Ernest Ward, Wilshaw, F. Thomson, Evans, J. T. C. Nash, Pedley, Clements, Fenton, Eustace Hill, Howarth, Lt.-Col. Herbert Jones and Prof. H. R. Kenwood.

The Minutes of the last Meeting having been approved and signed, messages of apology for absence were received from Lt.-Col. F. E. Fremantle, M.P., Dr. C. E. S. Flemming and Dr. G. Lissant Cox.

Correspondence. (1) From the Ministry of Health stating that the Minister had been unable to accept the suggestion that he should invite the Society to nominate one of the three members on the Board of the London School of Hygiene and Tropical Medicine to be appointed by him, and adding that unless the Society exercised their right of appointment to the Board of Governors within three months, the Minister would be reluctantly compelled to fill the vacancy. It was agreed that the Council could see no reason for revising the decision reached after careful consideration at their meetings in March and May last.

(2) From the Ministry of Health referring to the constitution of the Milk Advisory Committee. (See Council Proceedings: "Public Health,"

June, 1924, p. 232). Referred to Special Committee on Foods.

(3) From the Ministry of Health in reference to the Memorandum submitted by the Society on the organisation of Health Propaganda. The letter was referred to the Committee responsible for drafting the Memorandum.

(4) From the Royal Sanitary Institute suggesting the promotion of a joint committee to consider the methods adopted in relation to food handling in this country, and to approach the Minister of Health with a view to urging upon him the amendment of the existing legislation and the provision of new laws governing the preparation and sale of food and ensuring its proper cleanliness and freedom from contamination.

It was agreed to accept this invitation and to ask the Special Committee on Foods to nominate five persons for election as representatives of the Society on the Joint Committee.

(5) From Dr. Raymond Gamlin enclosing his report on the League of Nations' Course for School Medical Officers. The report was referred to Dr. Howarth (Chairman of Interchange Committee) and the School Medical Group.

(6) From Dr. Cecil L. Williams complaining that the Minutes of the Annual Provincial Meeting published in "Public Health" (August, 1924, p. 294), were not an accurate report of the proceedings. The Executive Secretary was directed to forward the letter to Dr. Howard-Jones, who presided at the meeting, with a request for his observations.

Conveyance of Infection by Books. Replies were received from the Branches in reference to the request of the Library Association that the Society should issue a pronouncement on the risk of infection arising by the circulation of books. The Eastern Branch expressed the opinion that "the risk (with smallpox excepted) is very small." The West of England Branch suggested that "research should be undertaken with a view of settling the point as to the dangers if any, of infection being conveyed by library books." The Metropolitan Branch expressed the view that "there is risk of conveyance of infection by books." The Home Counties' Branch "had no knowledge that infection has actually been conveyed by library books, but considered that in the light of the possibility of such infection it was still necessary to take measures to prevent infection." In view of these conflicting opinions it was agreed that the Society would not be justified in making a definite pronouncement on a subject which calls for further investigation and research.

Ministry of Agriculture Tuberculosis Order No. 9160. It was agreed to write to the Ministry of

Agriculture in support of representations now being made by Local Authorities with a view to the reinstatement of the Tuberculosis Order 9160, dated 24th June, 1914.

The Official Journal. On the proposal to appoint an Editor of "Public Health" in succession to Dr. R. A. Lyster, the Hon. Treasurer suggested that the Council should first consider the maintenance of a weekly journal. He pointed out that the lease of the Society's house would expire at Christmas, 1925, and it seemed advisable that a committee should be appointed to submit a comprehensive report on the future policy and financial commitments of the Society. Dr. Howarth expressed himself as in favour of the appointment of this Committee provided that they gave careful consideration to the maintenance of "Public Health" as a journal of international importance in connection with public health research and administration. He would not support the proposal for a weekly journal if it would prevent the development of "Public Health" on the lines he had indicated, though possibly as a quarterly publication instead of a monthly as at present. After some discussion it was resolved: "That the appointment of an Editor of 'Public Health' be deferred pending the report of a Special Committee on the future conduct of the Journal, and on the future of the Society having regard to the termination of the lease of the Society's House at the end of 1925." The officers of the Society with Prof. Kenwood, Dr. Charles Porter, Dr. E. H. Snell and Dr. Cates, were elected to form the Committee referred to in the resolution.

The Factories Bill, 1924. As representative of the Society on the B.M.A. Medico-Political and Parliamentary Committee, Dr. W. J. Howarth submitted a report and recommendations in reference to the Factories Bill, 1924. After discussion of the report the following resolutions were unanimously adopted:—

(1) "That in view of the contemplated consolidation of the Factory Acts the time would appear to be opportune for the Ministry of Health to extend the scope of its responsibilities by creating a Department of Occupational Hygiene.

(2) "That in any Bill concerned with Factory hygiene the responsibility of local authorities should not be less than those contained in the Factory and Workshops Acts.

(3) "That if the position which the new consolidating Bill will create will admit of it, sanitary responsibilities of local authorities should be increased rather than decreased.

(4) "That where the Secretary of State issues regulations bearing on sanitary matters such regulations should have general application notwithstanding any powers, local or otherwise, which may exist to the contrary.

(5) "That the matters with which the proposed Department of Occupational Hygiene may occupy itself shall be

administered locally and not centrally, and that in any transfer of such powers the interests of existing certifying Factory Surgeons should be safeguarded."

Registration of Plumbers. Dr. W. J. Howarth submitted a report as representative of the Society on the General Council for the registration of Plumbers. It was noted with satisfaction that in the scheme of reconstruction recently adopted by the G.C.R.P., the Society is given permanent representation both on the executive council and the general council of that body. The following paragraph in Dr. Howarth's report was formally approved by the Council:

I consider that in any movement for registration which depends upon examination and which has been delayed for so long a period, there will exist in the trade or profession which is to be controlled a large number of persons who have practical experience in the work carried out by such trade or profession, but who if required to pass an examination would fail to do so. Whether such persons are registered or not they will continue and must continue their work. If non-compulsory registration is to be effective in the future, the fullest encouragement should exist to induce all new people embarking on that career to register, and to effect this it seems desirable that some generosity should be displayed in approving those already working. The necessary kudos will only result from numbers, and I would, therefore, suggest with a view to giving a stimulus to registration, that all persons now engaged in the work who can show to persons selected and approved by the General Council, a satisfactory acquaintance with the theory and practice of the work, should be approved for registration. If older men thus selected are registered in considerable numbers the younger men will comply with requirements and fall into line, and the position will improve year by year.

On the proposal of Dr. Eustace Hill, Dr. Howarth was cordially thanked for his report.

Representation of the Society. The following were elected as representatives of the Society on the bodies indicated:

B.M.A. Public Health Committee: Dr. T. W. Naylor Barlow, Dr. R. Veitch Clark.

B.M.A. Insurance Acts Committee: Dr. W. J. Howarth.

Smoke Abatement League of Gt. Britain: (Manchester Conference) Dr. R. Veitch Clark, Dr. T. W. Naylor Barlow, Dr. Cyril Banks.

General Council for the Registration of Plumbers (Executive Council): Dr. W. J. Howarth.

Central Association of Mental Welfare: Dr. C. J. Thomas.

Council Elections, Session 1924-25. On the recommendation of the Committee of Officers of the Society the following Fellows were elected to the seven vacancies on the Council for 1924-25 under No. 19 (d) of the Society's Articles of Association, viz.:—

Dr. R. Veitch Clark, Dr. Eustace Hill, O.B.E., Dr. W. J. Howarth, C.B.E., Prof. H. R.

Kehwood, C.M.G., Prof. John Robertson, C.M.G., O.B.E., Dr. Charles Sanders, Prof. F. E. Wynne.

For election to the Council under Article 19 (f) it was decided to recommend Lt.-Col. F. E. Fremantle, O.B.E., M.P., and another who is being invited to accept nomination.

Royal Commission on National Health Insurance. The following were appointed as a Special Committee to consider whether the Society should give evidence before the Royal Commission on National Health Insurance, viz: Dr. W. J. Howarth, Dr. J. J. Buchan, Dr. James Fenton, Dr. Ernest Ward and Dr. J. M. Clements.

Retired Members. The Committee of the Officers of the Society were authorised, at their discretion, to exempt from further subscriptions members of long standing who have retired from their appointments.

Retirement of Prof. E. W. Hope. On the recommendation of the Committee of Officers of the Society, it was agreed that a letter be addressed to Prof. E. W. Hope, O.B.E., expressing the good wishes of the Society on his retirement from the post of Medical Officer of Health for the City of Liverpool.

Annual Report of the Council. The Report of the Council for the Session 1923-24 was adopted as follows:

REPORT OF THE COUNCIL.

Session 1923-24.

Your Council report:—

(1) that the membership of the Society has been well maintained during the Session 1923-24. One hundred and forty-one candidates have been elected as Fellows and Associates, giving a net increase of 63 on the Roll of Members. The Society has to deplore the loss by death of Drs. T. W. Beazeley, W. A. Bond, W. H. Coates, O. M. de Jong, Phoebe Foott, Joseph Jackson, W. F. Marsh Jackson, D. Morris Jones, Roger McNeill, A. M. Moore, J. W. K. Mullen, J. S. New, J. Patchett, R. J. Reece, C.B., Edmund M. Smith, John Taylor, F. Stanley Tinker, B. W. Broad, Prof. C. Hunter Stewart, Mr. William Thomson, F.I.C., F.C.S., and Dr. Andrew Smith, of Whickham. Forty-one resignations were received from members who are retiring from active work or leaving the Public Health Service for other branches of medical practice. Two members were invited to resign, in accordance with No. 11 of the Society's Articles of Asso-

ciation, after failure to co-operate with their colleagues in support of the policy of the Society. It has also been necessary to remove the names of fifteen members who have omitted to pay their subscriptions in accordance with Article 13. In this connection reference may be made to the unnecessary expense and labour involved in sending members two or three subscription notices each year, which could be avoided if payments were made on the appointed date, October 1st, in each session;

(2) that although the growth of the Society is steady and continuous, many members of the Public Health Service are still outside its membership. This especially applies to assistant medical officers who may not realise how much they owe to the activities of the Society during the past five years. Your Council suggest that Medical Officers of Health and Medical Officers in charge of departments might point out to their junior colleagues that the influence of the Society in promoting and safeguarding the interests of the Public Health Service depends very much on the strength of its membership. If approached in this way it seems probable that a large number of Assistant Medical Officers would apply for election to the Society;

(3) that the following papers were read at General Meetings of the Society:

Dr. T. W. Naylor Barlow, O.B.E. (Presidential Address): "Passing Thoughts on some Public Health Questions."

Dr. Archibald Leitch: "Considerations on the Etiology of Cancer."

Dr. Harold Scurfield: "On Lines of Advance in Maternity and Child Welfare Work."

Dr. Meredith Young: "The Public Significance of Mental Deficiency."

Dr. Charles Porter: "Impressions of Public Health Administration in the United States."

Dr. W. Allen Daley: "The Organisation of Propaganda in the Interests of Public Health."

Prof. J. W. H. Eyre: "Public Health and the Oyster";

(4) that the Annual Provincial Meeting of the Society was held at the Students' Union, Liverpool University on 18th July;

(5) that seven meetings of the Council have been held during the Session. Committees of the Council have met on eighteen occasions. The proceedings of the Council have been duly recorded in "Public Health" for the information of members;

(6) that they have had official communications with the Ministry of Health, the Board of Education, the Ministry of Agriculture and

Fisheries, the Home Office, the Board of Inland Revenue, and other Government Departments on numerous matters affecting Public Health Administration and Officials;

(7) that they have been in communication with a number of representative bodies concerning principles and details of public health administration, including the League of Nations, the American Public Health Association, The General Medical Council, the British Medical Association, the Association of County Medical Officers, the Smoke Abatement League, the Bread and Food Reform Association, the Association of Public Vaccinators, the British Dental Association, the Royal Sanitary Institute, the Royal Institute of British Architects, the National Association of Local Government Officers, the Association of Municipal Corporations, the Institute of Municipal and County Engineers, the Labour Party Executive, the British Dairy Farmers' Association, the National Union of Teachers, The Library Association, the National Council for Combating Venereal Diseases, the National League of Health and Infant Welfare, the Incorporated Midwives Institute, the National Association for the Prevention of Infant Mortality, the College of Nursing, the Central Midwives Board, the Sanitary Inspectors' Association, the Women Sanitary Inspectors' Association, and the Fever Nurses' Association;

(8) that the Special Committee on the Remuneration of Medical Officers of Local Authorities has held meetings from time to time to advise on matters in reference to salaries, bonus awards, superannuation and security of tenure. Representatives of the Committee have been in frequent conference with representatives of the British Medical Association, and jointly with them in negotiation with Local Authorities by invitation of the Ministry of Health. Although the Scale offered by the B.M.A. and the Society has not yet been officially adopted by the representative bodies of Local Sanitary and Education Authorities, the specified salaries have been offered for a large number of new appointments in England and Wales. The Scale has also proved effective in many areas as justifying a revision of inadequate salaries for existing appointments. Unfortunately the Scale is achieving less successful results in Scotland, where the Scottish Board of Health and Local Authorities are content with the services of young and inexperienced medical graduates who are willing to accept commencing salaries below the recognised minimum. By request of your Council, steps have been taken by the B.M.A. to inform the Deans of Medical Schools of the conditions existing in the

Public Health Service in order that newly-qualified practitioners may be warned not to accept undesirable appointments;

(9) that other Special Committees have reported to your Council on the Duties of Medical Officers of Health, the Organisation of Public Health Propaganda, Statistical Tables for School Medical Officers, and other matters. Jointly with the Royal Sanitary Institute your Council appointed a committee to report on the use of gas stoves for domestic and workshop heating, where no provision is made for the escape of flue gases to the outer air. The report of the Committee condemning the use of flue-less stoves except in such places as entrance halls, passages, etc., where ventilation is free and where occupants do not remain for any considerable length of time, was circulated to the professional and technical journals and has been widely quoted for the information of the public;

(10) that representatives of the Society have been nominated to serve on the Central Midwives Board, the N.C.C.V.D., the National Milk Publicity Council, the Central Council for Infant and Child Welfare, the British Medical Association, the International Society of Public Health Medical Officers, and numerous other bodies dealing with matters affecting Public Health administration. After serious consideration your Council declined to nominate a representative of the Society on the Board of Governors of the London School of Hygiene, in view of the fact that the Society was offered no representation on the Board of Management in which is vested the actual control and supervision of the School. In the opinion of your Council the Public Health Service is so closely concerned with the future of the School that a merely nominal connection with its management could serve no useful purpose;

(11) that by request of the Ministry of Health a Committee of the Society again organised Courses of Instruction for Foreign Health Officers visiting Gt. Britain under the auspices of the Health Section of the League of Nations. A Course in General Health Administration and Specialist Courses in Tuberculosis and School Hygiene were held during the months of February, March and April. Your Council submit that the thanks of the Society are due to Dr. W. J. Howarth (Chairman) and the committee responsible for the arrangements, and to Drs. W. Robertson (Edinburgh), E. W. Hope (Liverpool), J. J. Butterworth (Lancashire), J. J. Buchan (Bradford), J. R. Kaye (Yorks, W.R.), R. Veitch Clark (Manchester), Meredith Young (Cheshire), E. Colston Williams (Glamorganshire), R. M. F.

Picken (Cardiff), Duncan Forbes (Brighton), A. G. R. Foulerton (East Sussex), R. A. Lyster (Hampshire), R. E. Lauder (Southampton) and W. M. Willoughby (Port of London), who acted as local directors of the Courses. Thanks are also due to Dr. F. J. H. Coutts, C.B., and Dr. C. J. Thomas for valuable assistance in connection with the Tuberculosis and School Hygiene Courses, respectively. The organisation of the courses in Gt. Britain has given so much satisfaction to the Health Committee of the League of Nations that we are informed that other nations have been advised to arrange courses on the same lines. As further evidence of appreciation of the British courses, the Society has been asked to accept responsibility for one General and one Specialist Course during 1925.

Also by request of the Ministry of Health the Committee undertook the nomination of British candidates as participants in the Interchanges held in other European countries during the session. Those recommended were Dr. A. T. Nankivell and Dr. T. S. McIntosh (for the Netherlands); Dr. F. T. H. Wood (for Denmark); Dr. A. B. McMaster and Dr. W. H. Davison (for Switzerland). Owing to pressure of work Dr. McMaster was obliged to decline nomination, and was replaced by Dr. R. H. H. Jolly. For the specialist interchanges the nominees were Dr. W. H. Dickinson (Tuberculosis) and Dr. Raymond Gamlin (School Hygiene);

(12) that the annual exchange of officers and the reconstruction of the Council, involves the retirement of our colleagues, Drs. W. Benton A. B. McMaster, H. Gibbons Ward, A. G. R. Cameron, G. Lissant Cox, E. W. Rees-Jones, A. E. L. Wear, T. Adam, and R. Woolsey Stocks. The services rendered to the Society by these gentlemen are well known and should be gratefully acknowledged;

(13) that the election of Dr. R. A. Lyster to the presidential chair closes his term of office as Editor of "Public Health." Your Council recommend that the thanks of the Society should be accorded to Dr. Lyster for his self-denying services in this capacity during a period of seven years when the consequences of the Great War made the conduct of the journal very difficult;

(14) that cordial thanks are due to Dr. T. W. Naylor Barlow, O.B.E., for his services as President of the Society during the past Session. Dr. Barlow has been unremitting in his attention to the affairs of the Society, and the illness which prevented his attendance at the Annual Provin-

cial Meeting was a cause of regret to all his colleagues.

(15) that your Council desire once more to record their appreciation of the devoted labours of the Executive Secretary in the interests of the Society.

The Council then adjourned.

BRANCH AND GROUP ELECTIONS:

SESSION 1924-25.

METROPOLITAN BRANCH.

President ... Dr. Charles Porter.

Vice-Presidents ... Sir W. H. Hamer.

Dr. F. H. Thomson.

Hon. Treasurer ... Dr. C. S. Thomson.

Hon. Secretary ... Dr. James Fenton.

Representatives on

Council of Society Dr. James Fenton.

Dr. C. Porter.

SCOTTISH BRANCH.

President ... Dr. A. K. Chalmers.

Vice-Presidents ... Prof. Matthew Hay.

Dr. J. Maxwell Ross, M.B.E.

Hon. Secretary and

Treasurer ... Dr. T. Adam.

Representative on

Council of Society Dr. A. K. Chalmers.

MIDLAND BRANCH.

President ... Dr. R. Woolsey Stocks.

President-Elect ... Dr. W. H. Davison.

Vice-Presidents ... Dr. Bostock Hill.

Dr. G. Reid.

Dr. J. Robertson.

Dr. Ridley Bailey.

Dr. E. H. Snell.

Dr. H. Gibbons Ward.

Dr. A. Hamilton Wood.

Hon. Auditor ... Dr. W. M. Clendinnen.

Hon. Treasurer ... Dr. Ridley Bailey.

Hon. Secretary ... Dr. R. H. H. Jolly.

Branch Correspond-

ent ... Dr. W. H. Davison.

Representatives on

Council of Society Dr. E. H. Snell.

Dr. R. H. H. Jolly.

NORTHERN BRANCH.

President ... Dr. W. H. Dickinson, O.B.E.

Vice-President ... Dr. Roderick MacLeod.

Hon. Secretary and

Treasurer ... Dr. Harold Kerr, O.B.E.

Representative on

Council of Society Dr. Harold Kerr, O.B.E.

NORTH-WESTERN BRANCH.

President ... Dr. Joseph Beard.
 Hon. Treasurer ... Dr. H. H. I. Hitchon.
 Hon. Secretary ... Dr. G. W. N. Joseph.
 Representatives on
 Council of Society Dr. J. Beard.
 Dr. G. W. N. Joseph.
 Dr. James Wheatley.

WEST OF ENGLAND BRANCH.

President ... Dr. R. A. Askins.
 Vice-President ... Dr. S. Noy Scott.
 Secretary ... Dr. P. H. Stirk.
 Assistant Secretary. Dr. B. A. Peters.
 Treasurer ... Dr. J. F. Blackett.
 Representative on
 Council of Society Dr. P. H. Stirk.

SOUTHERN BRANCH.

President ... Dr. Lockhart Stephens, C.B.E.,
 D.L.
 Hon. Secretary ... Dr. W. J. Hart.
 Representative on
 Council of Society Dr. R. H. Wilshaw.

WELSH BRANCH.

President ... Dr. D. A. Hughes.
 Hon. Secretary and
 Treasurer ... Dr. Thos. Evans.
 Representative on
 Council of Society Dr. Thos. Evans.

HOME COUNTIES BRANCH.

President ... Dr. Alfred Greenwood.
 Hon. Treasurer ... Dr. A. E. Porter.
 Hon. Secretary ... Dr. H. J. Milligan, M.C.
 Representatives on
 Council of Society Dr. Alfred Greenwood.
 Dr. Joseph Cates.
 Dr. H. J. Milligan, M.C.

YORKSHIRE BRANCH.

President ... Dr. James Mair.
 Hon. Secretary and
 Treasurer ... Dr. Cyril Banks.
 Representatives on
 Council of Society Dr. G. H. Pearce.
 Dr. Banks.

EASTERN BRANCH.

President ... Dr. H. H. Back.
 Vice-President ... Dr. Laurence Gibson.
 Hon. Secretary and
 Treasurer ... Dr. J. T. C. Nash.
 Auditor ... Dr. H. Cooper Pattin.
 Representative on
 Council of Society Dr. J. T. C. Nash.

TUBERCULOSIS GROUP.

President ... Prof. S. Lyle Cummins, C.B.,
 C.M.G.
 Hon. Secretary ... Dr. Ernest Ward.

Representative on

Council of Society Dr. Ward.

NAVY, ARMY AND R.A.F. HYGIENE GROUP.

President ... Air-Commodore D. Munro,
 C.B., C.I.E.
 Hon. Secretary ... Major G. S. Parkinson, D.S.O.
 Representative on
 Council of Society Col. H. W. Grattan, C.B.E.,
 D.S.O.

SCHOOL MEDICAL GROUP.

President ... Dr. J. W. Fraser.
 Hon. Treasurer ... Dr. A. Ashkenny.
 Hon. Secretary ... Dr. W. J. M. Slowan, O.B.E.
 Representative on
 Council of Society Dr. C. J. Thomas.

NON-COUNTY M.O.H. GROUP.

Chairman ... Dr. Herbert Jones.
 Hon. Secretary ... Dr. J. M. Clements.
 Representative on
 Council of Society Dr. J. M. Clements.

MATERNITY AND CHILD WELFARE GROUP.

President ... Dr. Flora Shepherd.
 Vice-President ... Dr. E. H. T. Nash.
 Hon. Treasurer ... Dr. Stella Churchill
 Hon. Secretary ... Dr. R. W. Stocks.
 Representative on
 Council of Society Dr. Harold Scurfield.

FEVER HOSPITAL MEDICAL SERVICE GROUP

President ... Dr. C. B. Ker.
 Editor ... Dr. F. M. Turner.
 Hon. Secretary ... Dr. A. F. Cameron.
 Hon. Asst. Sec. ... Dr. J. C. Blake.
 Representative on
 Council of Society Dr. F. H. Thomson.

DENTAL OFFICERS' GROUP.

President ... Mr. C. E. Wallis, M.R.C.S.,
 L.R.C.P., L.D.S.
 Hon. Treasurer ... Mr. G. Thomson, L.D.S.
 Hon. Secretary ... Mr. Grantley Smith, H.D.D.,
 L.D.S.

Representative on

Council of Society Mr. R. Denison Pedley,
 F.R.C.S.Ed., L.D.S.

NOTES FROM BRANCHES.

WEST OF ENGLAND BRANCH.

Members have expressed their cordial appreciation of the services rendered by the retiring President, Dr. Adkins, under whose genial chairmanship several interesting and delightful meetings have been held.

SCHOOL MEDICAL GROUP.

The Eighth Annual and Twenty-third General Meeting of the School Medical Group was held at the Society's House on Saturday, 12th July, 1924. Several provincial members were present. The Minutes were read, approved and signed. Correspondence, statements of Sub-group Meetings, and apologies for absence were read. Officers for the year 1924-25 were then elected. Dr. James William Fraser, School Medical Officer for Hull was unanimously elected President. Dr. Fraser heartily thanked the Group for this great honour and hoped to be a worthy successor to Dr. Thomas and Dr. Auden, his immediate predecessors in office. Dr. Hutton-Ashkenny then proposed that Dr. C. J. Thomas, Principal Assistant School Medical Officer, L.C.C., be elected Representative on the Council of the Society. This was seconded by Dr. Slowan and passed unanimously. The President then expressed the regret of the Group at having to accept the resignation of Dr. Armly Hutton-Ashkenny as Honorary Secretary. He has been the live wire in the Group's affairs since its formation on the 10th October, 1913. It was largely through his indefatigable energy that the Society was ultimately in 1919 induced to alter its Articles of Association to enable it to constitute Groups and so obviate the formation of sectional Public Health societies. A resolution, to be recorded in the Minutes, was proposed by the President, seconded by the President-elect and passed with acclamation: "That the School Medical Group record their feeling of gratitude to Dr. Armly Hutton-Ashkenny for all the work he has done as Honorary Secretary of the Group since its origin."

Dr. W. J. M. Slowan, O.B.E., was then unanimously elected Honorary Secretary and Dr. A. Hutton-Ashkenny was elected Honorary Treasurer. Dr. Thomas proposed the following resolution, seconded by Dr. Fraser and passed unanimously: "That the Group Council shall consist of the officers of the Group, namely, President, Vice-President, Representative on the Council of the Society, Honorary Treasurer and Honorary Secretary; and Representatives from each Sub-Group or non-Sub-Group Area (to be co-opted by the Council) with a maximum of four per Sub-Group or Area."

An interesting Report on the visit of the Foreign School Medical Officers in connection with the League of Nations, given by the President, concluded the meeting.

The new President, Dr. Askins, is well known in the Branch. He has been Chief School Medical Officer at Bristol for some years and has recently been appointed as Deputy Medical Officer for Bristol under Dr. D. S. Davies. He is a doctor of Medicine, a barrister-at-law, popular with his staff, respected by his committees and well deserving of the honour now paid to him by his colleagues.

Dr. S. Noy Scott's acceptance of the Vice-Presidency and, therefore, in the ordinary course of things, of the Presidency for 1925-26, will give widespread satisfaction and is particularly appropriate just now. Dr. Noy Scott is Medical Officer of Health for Plympton-St.-Mary R.D.C., and has been in practice at Plymstock for many years. He has always taken a keen interest and an active part in medico-political matters and is widely known in connection with the British Medical Association. He is Secretary of the Plymouth Division, was President of the S.W. Branch in 1910-11, and has for some years been a Representative at the Annual Meeting. Public Health work has had in him an able exponent and he takes a special interest in Housing and the Milk question. He is a Justice of the Peace for the County of Devon.

A Visit to a Factory. Members who attended the last meeting at Bristol had an opportunity of visiting a factory, the products of which are probably as familiar all over the world as those of any factory in existence. "Woodbine" and "Gold Flake" Cigarettes were being made and packed under our eyes with almost incredible rapidity by machines of extraordinary ingenuity. Here, too, were hundreds of men, women and girls, working under conditions which not only lack nothing that the care and foresight of the directors can reasonably be expected to provide, but ensure many advantages which only a minority of workers at the present time can hope to possess. Medical and dental attention whenever required, generous treatment as regards wages during illness, profit-sharing bonuses, what is virtually a non-contributing pension scheme, ventilation and sanitation on the most approved methods; these and many other things are provided by Messrs. Wills and Co., with a liberal hand. We saw industrialism at its best—but to one member at least it really seemed an open question whether any system of civilisation which compels such a large proportion of its members to be employed as human automata in the mass production of so many of its commodities, does on the whole justify its existence.

Reviews.

SEWAGE TREATMENT IN THE UNITED STATES: A report on the study of 15 representative Sewage Treatment plants. By H. H. WAGENHALS, E. J. THERIAULT, and H. B. HOMMON.

This report, which is Public Health Bulletin No. 132 of the United States Public Health Service, contains the result of an independent inspection of 15 typical American Sewage Disposal plants. The report gives engineering details of each scheme and the analytical results of the sewage, tank effluent, and final effluent of each installation. It should be in the hands of every expert called upon to advise on modern methods of sewage disposal.

The standard of work in this report is at a high level, and is only approached in this country by the local investigations of the larger Corporations with regard to the purification effected at their own plants. We have no body in this country which in the past made such accurate, detailed investigation.

The investigators have had great difficulty in making comparisons of the different works owing to the variation of the gallons of sewage per head per day. In one instance the gallons per head per day was as high as 246. It is still more difficult to compare the data contained in this report with the data relating to sewage disposal works in this country.

In reading the report the difference between the psychology of the Englishman and the American is plain. We read that owing to the septic tank principle being patented there has been considerable litigation in the States, while in this country English engineers soon gave up using patented septic tanks, having come to the conclusion that practically the same results could be obtained without infringing patent rights. In most of the American plants investigated the Imhoff tank has been installed. This also is patented, and we read that the attitude of the promoters is such as to win the approval, instead of the enmity, of American engineers. The attitude of English engineers would be to obtain the same results without the necessity for placing themselves in the hands of a commercial syndicate.

The methods of dealing with sludge are gone into very fully. Dehydrating after the addition of a small quantity of acid, drying of the sludge on filters under glass, processes, unknown in this country, are common in the States.

Activated sludge processes are obtaining good

results and the almost unanimous verdict of American engineers is in favour of air diffusers of porous tile, wood blocks, and filtros plates, especially the last named. Apparently no attempt has been made in the States to carry out this process on the lines of Haworth. Haworth's process is dismissed with a reference of three lines, but many in this country believe that the future of activated sludge treatment will be in the development of Mr. Haworth's paddle wheel combined agitator and aerator.

It may be rash to give a criticism without local knowledge but many of the difficulties of dealing with sludge might possibly be got over by providing a larger area of land and ploughing the sludge into the land as is done in many of the larger towns in this country.

TUBERCULOSIS AND SLEEPING SICKNESS IN EQUATORIAL AFRICA.

An expert committee, the members of which were Dr. Andrew Balfour, C.B., C.M.G., Dr. E. van Campenhout, Professor Gustave Martin and Dr. A. W. G. Bagshawe, was appointed in 1922 by the Health Committee of the League of Nations to report upon tuberculosis and sleeping sickness in Equatorial Africa. The interim report² which has just been issued is a most valuable work of reference. It deals with British, Belgian and French territories; it is hoped that at a later date information will be forthcoming from Abyssinia and from the Spanish, Italian and Portuguese colonies.

In most districts tuberculosis was found to be not of recent introduction but that it has been carried for hundreds of years across Sahara by caravans and wandering Arabs. Tuberculin tests have been extensively carried out in the French and Belgian colonies. At Dakar in French territory, 49 per cent. of children from ten to fifteen years of age gave a positive von Pirquet reaction though they had only rarely been in contact with Europeans. The test was found to be unreliable in lepers. In some districts the disease is increasing and measures to prevent its spread have become important. Where alcohol is easily obtained the increase is more marked. Accurate investigation is impeded by the difficulty in obtaining sputum for examination. Differences in virulence were noted, for example the native Madagascar bacillus gives rise to a benign disease but this is not the case with imported infections.

(2) "Tuberculosis and Sleeping Sickness in Equatorial Africa." The League of Nations Health Organisation, pp. 122. 11 maps.

Cockroaches were found greedily to devour tuberculous sputum and subsequently to excrete virulent bacilli; flies also presented serious difficulty.

Sleeping sickness presents a grave problem especially in the French colonies. In some districts 50 to 90 per cent. of the inhabitants are infected while in others the entire population has been wiped out and deserted villages alone remain. Many interesting observations are recorded. A tsetse fly, *glossina palpalis*, seems to be the chief agent of infection, especially in French territory, but elsewhere *glossina morsitans* may be culpable and is the chief agent, while in the huts other biting insects serve as intermediate hosts. Where cattle and game are scarce, a cattle fly may take to biting humans and it seems likely a trypanosome found exclusively in animals may in time become modified to form a danger to man. It has been noted by English observers that some strains of trypanosome have little virulence and natives may be found infected without serious disability resulting while severer forms of the disease may undergo spontaneous cure. A fly becomes infective 18 to 26 days after biting a patient but different strains of the same fly vary in their susceptibility, some being very hard to infect, others easy. This may account for the observation that one tribe may be found grossly infected while an adjoining tribe remains free. Some humans also are more vulnerable than others. Apart from the bite of a fly, virulent blood in contact with slightly scarified skin may cause a direct infection and this often occurs in native communities. Fortunately we have now, in atoxyl and tartar emetic, remedies which can be safely relied on to cure a patient, if perseveringly administered.

All nations concerned in this report are tackling the problem vigorously, especially the French. Several French medical officers are appointed whose duty it is to travel round their very extensive districts, under conditions of considerable hardship, there to examine and inject patients, and advise as to prophylaxis. A medical officer may examine 10,000 to 50,000 patients in a year, make 2,000 microscopical examinations, and some 1,000 injections. Among the difficulties encountered it may be mentioned that the whole population of a village has been known to fly on the approach of the Belgian medical officer. There are three French hospitals which also serve as training schools for the staff; at these certificates of efficiency are given. The death rate has been much reduced, in some cases already by 45 per cent. The Belgians are acting rather similarly to the French, and the English have appointed

Dr. Hale Carpenter as Sleeping Sickness Officer (like our tuberculosis officers) with a roving commission to investigate and abolish the disease as his initiative may suggest. He wisely decided first to investigate personally the conditions prevailing in each area, then to act as seemed best for the localities concerned. Before the war an agreement had been made with the Germans and a joint attack on the disease was organised.

Measures of *prophylaxis* may be considered under four headings:—

(1) Clearing the blood of patients from parasites, "atoxylisation," and so preventing the infection of flies. A stiff dose of atoxyl will keep the blood clear for some months and the French aim at visiting each community every two to six months to inject all those affected with the disease. Two one-gram doses are given at an interval of seven days (0.05 gr. per kilogram of the patients weight). The first dose is given by the doctor himself, the subsequent ones by assistants.

(2) *Medical passports* which prevent patients from carrying the disease to free areas; *sanitary cordons* have also been established in several districts.

(3) *Clearing the bush and undergrowth*, and especially reeds, which harbour the flies. This is not a simple undertaking as will be understood when it is realised that the margins of the water-course must be cleared 50 metres beyond high water mark, and for an area one kilometre above and below the point to be protected; and that, to be effective the clearing must be repeated monthly. This measure has often failed because it either could not be completed, or persisted in.

(4) *Resiting villages*. This appears to have been the favourite method in British territory. Whole communities are removed elsewhere. The administrative difficulties of such a step can well be imagined and there is always the risk that the flies of the new area may become infected unless the measure is accompanied by atoxylisation.

Attempts are made to isolate infective patients, and in French territory there is an isolation village—a sort of trypanosome Davos. As concerns cure, just as in syphilis, different methods of dosage are advised; one may be cited. Weekly intravenous injections are given, 6 atoxyl injections, 0.02 per kilogram in 1/10 solution, alternating with 5, 0.06 to the kilogram, tartar emetic injections, in 1/100 solution. Those who cannot be kept under observation should receive a course every six months.

Although the account is incomplete the authors are to be congratulated on a valuable contribution.

to our knowledge of the subject, and their wisdom in issuing an interim report without waiting, several years perhaps, to complete the story is to be commended.

FRIMLEY SANATORIUM RESULTS.

There has been issued by the Medical Research Council (special report series No. 85, price 1s. 6d.) the results of an inquiry into the after histories of patients treated at the Brompton Hospital Sanatorium at Frimley during the years 1905-1914 by Sir Percival Horton Smith Hartley, Dr. R. C. Wingfield and Mr. J. H. R. Thompson. During the period of the survey 3,738 patients were treated in the Sanatorium but of this number 338 are omitted because they stayed under 4 weeks, or because the disease was too far advanced to be fair to the statistics.

The 2,393 males concerned followed 105 different occupations; clerks provided 399 patients and shop assistants the next highest number, 158. The 1,007 female patients followed 30 different occupations; domestic servants, 216, head the list, and married women, 185, come next. Cases were very carefully selected, nearly all after a preliminary stay at Brompton; their occupation before admission and the possibility of re-employment were taken into consideration when deciding their suitability for admission. The American classification is adopted. The treatment was on modern sanatorium lines; it will be remembered that Frimley under Dr. Marcus Paterson was the pioneer institution as concerns graduated labour. Tuberculin was little used.

The main results may be tabulated thus:—

	Males.	Females.
Discharged 1905-1914	2,393	1,007
Died	1,207	398
Lost sight of	209	134
Living	977	495

For every death expected under the normal mortality tables 17 occurred among the discharged patients. The results are similar to the Midhurst figures, but show more success with early cases, and better results all round than the figures of the London Insurance Committee compiled by Bardswell. As in other investigations the mortality was much higher among cases with a positive sputum, but the figures do not support the view commonly held that the mortality is higher among younger patients.

The influence of the type of onset is considered under three headings (1) haemoptysis, (2)

Pleurisy, (3) cough or loss of weight, and it was found, contrary to expectation, that the mortality in all three groups was substantially the same. The annual percentage mortality among discharged patients was highest during the second year after discharge, then diminished each year until the 11th and 12th when there was a rather remarkable rise, which needs explanation. Early cases naturally gave much the best results; and the same applies indeed to all forms of treatment.

The Sanatorium authorities are perhaps too optimistic in classing cases as "arrested." Quiescence and arrest need clearer definition and it would be useful if the definition already suggested elsewhere were adopted in future publications: *Quiescent* cases are those which have no symptoms of tuberculosis and no signs of tuberculous disease, except such as are compatible with a completely healed lesion, and in which sputum, if present, is free from tubercle bacilli. The term *arrested* should be applied only to cases which have been quiescent for a period of at least two years. Moreover when such a careful selection of cases is made it seems a little unfair to exclude some from the survey because they were too advanced.

The authors are to be congratulated upon their very careful and painstaking statistical study, though we agree with them that no proper estimate of the direct value of sanatorium treatment can be made without a control series of non-sanatorium cases; they are now seeking a method of procuring comparable figures concerning patients who have not been to a sanatorium. Such an investigation has already been attempted by Dr. Lissant Cox, tuberculosis officer for Lancashire, and others.

The Director of the New York Public Library is anxious to complete the series of "Public Health" which is filed in that institution and he would be grateful for copies of the following issues, which are out of print: Volume 3, Nos. 8, 9, 10, 11, 12, 13; Volume 5, No. 1; Volume 12, No. 3; Volume 13, Nos. 10, 12; Volume 14, Nos. 1, 2, 3; Volume 16, No. 8; Volume 18, No. 12. Copies should be forwarded to the Executive Secretary, Society of Medical Officers of Health, 1, Upper Montague Street, W.C.1.

THE Society of Medical Officers of Health is co-operating with the British Medical Association in opposing the appointment of a part-time Medical Officer of Health for Chelsea.

Public Health

THE JOURNAL OF

The Society of Medical Officers of Health.

No. 2.

NOVEMBER, 1924.

VOL. XXXVIII.

Subscription price, 31s. 6d. per annum, post free in advance. Single copies, 2s. 6d., post free.

Editorial.

PUBLIC EDUCATION IN HEALTH.

Sir George Newman is to be congratulated upon his comprehensive statement on Education in Health.* It comes at a most opportune time and may well mean the inauguration of a new era in public health work. It is quite true that this education has of recent years formed a part of most of our public health schemes, but it has not been put forward as a great duty of health authorities and as the principal way in which health can be improved. It has only in recent years been fully acknowledged that health depends primarily upon knowledge and conduct—knowledge of the individual as to how to live a healthy life and knowledge on the part of the community which will result in the demand for facilities for healthy living. These in their turn depend upon research and education.

Sir George Newman very wisely says the seeds of special education must fall on prepared soil and not on stony ground, and that there must be an advance in general education and social aspiration as well as in special health education. He might also have said that the scheme of continuation classes still postponed would have made public health education a fairly simple matter.

The memorandum deals very comprehensively with the personal aspect of preventive medicine and what is already being done to educate the public in health by the Ministry of Health, the Board of Education, local authorities and voluntary bodies and in the final section suggestions are made for future development. This main part of the memorandum will prove most useful to the Ministry of Health and to local authorities

*"Public Education in Health." A Memorandum addressed to the Minister of Health by Sir George Newman, K.C.B., M.D., F.R.C.P., Chief Medical Officer of the Ministry of Health and Board of Education. H. M. Stationery Office. 35 pp. Royal 8vo. Price 6d.

CONTENTS.

EDITORIAL—

	PAGE
Public Education in Health	41
The Supervision of Mentally Defective Children	42
The Health of Gibraltar	44
The International Health Board	44
Cancer of the Breast	44
Sanitation at the British Empire Exhibition	61
Housing Conditions on Barges (Illustrated)	62
Idleness in Public Health—Presidential Address of Dr. R. A. Lyster	46
The Etiology of Phlebotomous Fever (by Wing Commander H. E. Whittingham)	56

OBITUARY—

Sir Charles Cameron, Bt.	62
Dr. J. A. Gibson	45

CORRESPONDENCE—

Women in Public Health Appointments	71
-------------------------------------	----

SOCIETY OF MEDICAL OFFICERS OF HEALTH—

Council Meeting	63
Annual Meeting	64
Annual Dinner	65
Midland Branch	69
North-Western Branch	60
Northern Branch	70
Yorkshire Branch	69

in drawing up and developing their schemes, but for the moment it is the conclusions that we are mostly concerned with:—

Sir George Newman says:

"My submission is that the educational functions of Local Authorities and voluntary societies require, at the present juncture, fuller and more careful consideration and more effectual organisation.

- (a) All Local Authorities are indirectly engaged in educational work inseparable from the effective discharge of their statutory duties under the Public Health Acts, and this aspect of their services is paramount. It is on the whole the most important and universal form of public education in health.
- (b) Some Local Authorities, in addition, are undertaking supplementary educational work of a more direct nature, though others are, or deem themselves to be, debarred or at least restricted in this more direct sphere of education. It seems to me desirable that any ambiguity on this point, or in the law itself, should be removed as soon as possible, so that upon all Local Authorities there should be imposed a power or a duty of direct educational work.
- (c) Then I think the time will have come for the Government to consider whether such educational work is of sufficient importance and value to be assisted financially by an Exchequer grant under the Ministry of Health, which would naturally take the form of a provision available to Local Authorities for certain approved types of educational work in hygiene.
- (d) Lastly, these two steps in re-defining the powers under which educational work is undertaken by a Local Authority and encouraging its development, will inevitably raise the question of the extent to which, and the terms on which, voluntary societies should also officially participate in the more direct form of such instruction (as distinct from the indirect educational work inherent in an efficient sanitary service). On this subject it would not be appropriate for me here to say more than that, in my opinion, it is the Local Authorities who must be directly responsible for undertaking educational health work, direct as well as indirect, suitable to their own district, circumstances and needs, with such supplement-

tary, special assistance as the voluntary societies concerned may find themselves able to afford."

Most of us will probably agree generally with these conclusions as forming a satisfactory basis for a scheme, although, considering the present position, perhaps they might have been stated more emphatically and with less hesitation.

It is somewhat beside the point to say that our present schemes are the most valuable means of educating the public in health. The educational effect of these schemes is at present only a small fraction of what it might be. Local Authorities, speaking generally, do not understand the value of it and are not prepared to extend the services sufficiently for this purpose. The general adoption of a scheme of public health education placing the duty upon Local Authorities would undoubtedly not only provide for 'direct' education, but would greatly stimulate education throughout established schemes.

The two principles in the memorandum, that local health authorities should be responsible locally and the Ministry of Health responsible centrally, must be agreed to as fundamental. There are however, many central functions which need not be detailed here, essential to a complete scheme which cannot well be carried out by a Government Department. For this purpose it seems eminently desirable that a body should be established in intimate association with the Society of Medical Officers of Health (who after all know best what is wanted and how it can be done) and having representatives from all main voluntary bodies now carrying on propaganda work. Health propaganda is one entity and should not be carried on in compartments.

The Society, having pressed for a scheme of Public Health Education, must feel gratified that an important step has been so promptly taken to bring this within the range of practical politics.

THE SUPERVISION OF MENTALLY DEFECTIVE CHILDREN.

Various causes have conspired to curtail the rate of progress in dealing with mental defectives which it was confidently expected would result from the passing of the Mental Deficiency Act, 1913. The Board of Education have therefore issued to Local Education Authorities a circular [1341] inviting them to institute a more active campaign and containing suggestions as to the means of accomplishing this end. Though the

ostensible cause of the slackening of effort in this direction is the prevailing financial stringency, yet other and deeper causes are probably to be found at work in bringing about a hesitancy to embark upon schemes for dealing with the problem.

In the first place, while it is admitted that a complete and thorough ascertainment of all those children who shew mental abnormality is essential, yet it must also be admitted that, before this can be done, it is necessary to determine with more accuracy than can be done at present, the upper limit of mental capacity which forms the dividing line from the "merely backward." So far as the idiots and imbeciles are concerned, their mental incapacity is so apparent that ascertainment is easy and is probably complete even in the less progressive areas. These however constitute a social and not an educational problem, the solution of which is likely to be long deferred by the dearth of suitable institutions for their reception. The case of the higher grades of mental inefficients is very different. The social disabilities which inevitably accrue to the unfortunate individual by certification on a mistaken diagnosis are such as raise the question whether the special school to-day offers the best and most advantageous solution of the problem. It will be remembered that when Dr. Cyril Burt reported upon his survey in a Representative Borough he came to the conclusion that "Special School children are distinguished from those in ordinary schools by educational deficiency in general intelligence. They are primarily to be regarded as 'school failures' and not always as mental defectives in the narrower sense."

This state of affairs cannot be said to be satisfactory. It is to be kept in mind that much of the rough work of the world will always have to be done by persons whose Intelligence Quotient falls below that demanded by the keen educationalist, and that so far from constituting a danger to the community, as is urged with such insistence by the eugenic enthusiast, the presence of such persons is in reality one of the safeguards of its welfare. But there is another disadvantage which may be attributed to the stigma of social inferiority, inseparable from certification to a special school, which does not appear to have received the attention which it deserves. The relationship between feeble-mindedness and the commission of misdemeanours has been greatly over-rated, and statistics prove that a very small proportion of the total volume of crime can rightly be attributed to this

cause. But it is at least probable that some of the misdemeanours committed by persons of inferior mental capacity are due less to their feebleness of mind than to the sense of inferiority and injury engendered as a reaction to their environment, which gives them a grudge against the society which has earmarked them as inferior. In other words their anti-social actions, though the form and type which they take may depend upon their imperfect powers and lack of judgment, have their origin in the growth of an inferiority complex, which is intensified, if not initiated, by compulsory attendance at a Special School. It must be remembered that these Special Schools were originally established when the problem of mental deficiency was but little understood, and was considered from a purely educational point of view. They have served a most valuable function as a scaffolding for the building of a more complete scheme for dealing with mental deficiency as a whole, based upon wider knowledge and less incomplete understanding. But the time is now ripe for a consideration of the question, how far the present system of Special Schools has a value to the community commensurate with the heavy monetary outlay which they involve. There is some truth in the criticism that we are ready to spend too much on those who can never become efficient citizens and to leave the sound and healthy, who will have to bear the burden of the future, to get along as best they can.

One of the disadvantages which arises from our present confusion of the educational and the social problems presented by the mentally deficient is that we classify by educational capacity rather than by character and psychological make-up, forgetful of the fact that it is the degree of capacity to conform to the dictates and inhibitions of the community which should be the true criterion. A seemingly short cut is always tempting, and there is an unfortunate tendency to look upon the so-called intelligence tests and the resulting "Intelligence Quotient" as a kind of easily applied ready-reckoner in the diagnosis of mental defect. Half-truths are always more dangerous than falsehoods, and such tests, though valuable adjuncts, do not by any means do away with the necessity of prolonged observation and repeated examination before the step of certification, so serious to the future welfare of the child, is finally taken. As the Board of Education itself states in the circular: "The exact boundary between Special Schools and ordinary Schools is difficult to fix and this is one of the factors that must affect an Authority

in deciding in which institution to place an individual child."

It is, in our belief, to the extended provision of Backward Classes that we must look for a solution of the problem of the subnormal child, rather than to a further extension of Special Schools.

THE HEALTH OF GIBRALTAR.

The population of Gibraltar is about 17,000, and the area of the territory is 1,387 acres. In his annual report for 1923, the Medical Officer of Health, Lieut-Colonel W. C. Smales, D.S.O., R.A.M.C., records a birth-rate of 22.5 per 1,000 of the population and a death-rate of 16.9 per 1,000. The infant mortality rate was equal to 109 per 1,000 births. Nearly one-third of the infant deaths were due to developmental and wasting diseases, and one-fourth were due to diarrhoea and enteritis. For some years, with the exception of 1912 and 1913, a high rate of infant mortality has prevailed, but it is hoped that the educational influence of the recently established Welfare Centre will result in a lessening of the rate. Since 1914 there has not been a single year in which cases of diphtheria have occurred; in 1923 there were 21 cases. During the same period there have been very few cases of scarlet fever and no deaths. In 1923, however, there was an epidemic of the latter disease in which 218 cases were notified and five terminated fatally. Typhoid fever appears to be endemic. The average number of cases in the past ten years was 25, and in 1923 there were 19 cases. Small-pox was at one time very prevalent, but in 1887 primary vaccination of children was made compulsory, and in 1906 the law required all children to be re-vaccinated on arriving at the age of twelve. In 1923, among the 365 children born, none were unsuccessfully vaccinated, ten were unaccounted for, and in eleven instances, vaccination was postponed. There were no cases of the disease in 1923, and in previous years only very few, in spite of the readiness with which it can be introduced from adjacent areas.

THE INTERNATIONAL HEALTH BOARD.

The world-wide activities of the International Health Board of the Rockefeller Foundation are passed under review in the tenth annual report of the Board which has recently been issued.

A large part of the work of the Board is Pioneer work carried out in areas where the State activities are as yet limited. Such "private enterprise" in bulk constitutes public

opinion which is after all, the brake or the accelerator in Public Health progress. It is one of the axioms of the Board that the education of the community is the most important and fundamental duty of the Health Officer; so that one section of the report deals wholly with propaganda work of a practical nature in various parts of the world. The control of Hookworm Disease, Malaria, and Yellow Fever are dealt with and the decline in the incidence of the last of these diseases in the western hemisphere during the present century is graphically presented, though a warning note of its occurrence recently in West Africa is sounded. The danger of the introduction of Yellow Fever into the orient with its abundance of *Stegomyia*, its tropical climate and primitive sanitation is obvious.

The training of Medical Officers, and Health Visitors, including the interchange of Public Health personnel and the provision of laboratory facilities are also undertaken by the Board; while research work, which is so necessary to the development of sound practice, is carried out in many branches of preventive medicine. There is an interesting chapter in the report on the Larvicidal activities of fishes as a preventive measure against malaria carrying mosquitoes. The volume is illustrated by numerous photographic reproductions, including that of an anti-fly poster which, although its humour is rather elephantine, is nevertheless convincing.

CANCER OF THE BREAST.

Of all diseases dealt with by Public Health Authorities there is none in relation to which action has to be more judicious than cancer. We welcome therefore as of great practical value the publication by the Ministry of Health of Dr. Janet Lane-Claypon's enquiry into cancer of the breast.* The continuously increasing mortality from cancer has removed this disease from the sphere of purely medical interest and made it a question of national interest and importance.

In spite of the vast amount of research and work of all kinds which has been done on cancer it has to be admitted that our knowledge is practically entirely clinical. No form of treatment other than surgical operation is of any real

*Reports on Public Health and Medical Subjects. (No. 28) *Cancer of the Breast and its surgical treatment*. A review of the literature by Janet E. Lane-Claypon, M.D., D.Sc. (Lond.) H.M. Stationery Office. 156 pp. Royal 8vo. Price 2s. 6d.

practical use except in rodent ulcer, and we have no knowledge whatever which would enable us to take with intent actual preventive measures. The only public action therefore which readily offers itself to us is the improvement of the facilities for early treatment of cancer by surgical and other means, and the education of the public as to the need of immediate medical advice in cases where there is the slightest suspicion of malignant disease.

Dr. Lane-Claypon's monograph presents to us information for the purposes of this public action, the importance of which cannot readily be over-estimated. For at least 30 years there has been a general consensus of opinion in medical circles that the earlier the operation the likelier the complete eradication of a cancerous growth and the more probable the absence of recurrence, either locally or elsewhere, but in approaching the general public it is a matter of great difficulty to use effectively what, after all, is simply an expression of opinion, however weighty that opinion may be. Dr. Lane-Claypon has removed this difficulty inasmuch as her enquiry has brought together from practically all known sources of medical and surgical work in civilised countries actual fact, so that what has hitherto been opinion is now crystallised and shown to be a real truth.

It is quite impossible to attempt a comment on this work in a short paragraph. The enquiry is essentially a compilation for the purposes of reference and those who are interested in cancer of the breast can scarcely fail to find reference to any special aspect of this subject which they may wish to look up.

The types of operative treatment, "incomplete" and "complete," are fully dealt with. Age, occupation, marriage, the bearing of children and many other relationships to the disease are considered. It is of special interest to note that even where, owing to insufficiency of data, definite opinions could not be formed, the detailed facts which were obtained have been given.

The results of the enquiry are admirably summarised in the general conclusions and it is these conclusions which will be of especial value in propagandist work on cancer. It is most striking to have an authoritative demonstration that "complete" operation results in a survival rate of 43.2 per cent. at the end of three years after operation as contrasted with the "incomplete" operation and a corresponding survival rate of 29.2 per cent. and still more that the "complete" operation is nearly twice as successful when the disease is local and comes under the

notice of the surgeon early. The converse picture of the survival rate of only 8 or 9 per cent. in advanced cases three years after the operation is equally powerful argument. Without reference to the stage of the disease at operation, from two to three years is added to the expectation of life of the cancerous person by the "complete" operation, and in the best circumstances no fewer than ten years on the average is added to life.

The essential part in the education of the public in the treatment of cancer is to advise early consultation and treatment without giving rise to any undue fear of the disease. Dr. Lane-Claypon's enquiry makes our path in this respect very much easier. The publication by the Ministry of her investigation is undoubtedly one of the most instructive and valuable additions to the literature on cancer which has recently appeared.

OBITUARY.

DR. JAMES ALBERT GIBSON, M.D., C.M., D.P.H.

Although it was known that Dr. J. A. Gibson, Medical Officer of Health of the East Cowes Urban District, and the Isle of Wight Rural District, was in failing health, it came with a great shock to his friends to hear of his death on October 12th, following an operation at the age of 59. He was County Director for the Isle of Wight of the British Red Cross Society, and a prominent member of the British Medical Association, being at the time of his death Chairman of the Isle of Wight Division. He took a very deep interest in the Society, and was a very constant attendant at its meetings. He endeared himself to all with whom he came in contact by his uprightness and desire, at all costs, to do the right thing. All who knew him intimately cannot but feel that they have lost a friend and counsellor of the highest order. Our deepest sympathy goes out to his widow and daughter.

DR. A. A. MUSSEN has been elected Medical Officer of Health of the City of Liverpool in succession to Prof. E. W. Hope, O.B.E.

MEDICAL Officers of Health who are retiring at once, or in the near future, include Dr. Charles Sanders (West Ham), Dr. J. T. Wilson (Lanarkshire), Dr. Louis C. Parkes (Chelsea), Dr. F. J. Allan (Westminster), Dr. J. Wright Mason (Hull), and Dr. C. E. Paget (Northants).

IDEALISM IN PUBLIC HEALTH.

PRESIDENTIAL ADDRESS

by

ROBERT A. LYSTER, M.D., Ch.B., B.Sc.,
D.P.H.County Medical Officer for Hampshire, and
Lecturer in State Medicine, St.
Bartholomew's Hospital,
E.C.

It is usual for the new President in the opening of his address to express his appreciation of the great honour that has been conferred upon him by the Society of Medical Officers of Health, in electing him President, and I can assure every member of the Society that, although repeating more or less the phrases that have so often been used before, it is not to me in any way a mere empty form of words. Election to this position is the greatest honour that can be conferred upon any medical officer of health, and I am proud indeed to find myself as the humble and latest addition to the list of Presidents of this Society, containing as it does, the names of so many brilliant scientists, organisers, debaters, and workers, all with the common factor of a life given to the public service, and many of them possessing talents which, if devoted to more selfish objects, would have secured for their owners the concrete reward of considerable wealth. One characteristic at all events I can claim to share with those who have preceded me in this office, and that is that I am determined to do everything within my power to further the interests of this Society and its members, and to uphold the dignity and traditions of the office of President.

My appreciation of the honour which has been conferred upon me is, I believe greatly increased by the inside knowledge that I have acquired as to the working of and the possibilities for the future of this Society. After holding office in Branches for some sixteen years, and after eight years as a central officer, I am convinced that the Society possesses enormous possibilities of power and influence for the public good. This power and influence can, however, be acquired only by careful organisation and the inculcation of high ideals and loyalty and self-sacrifice among the members.

A respected member of the Council, and a former President of the Society, has frequently reminded us that once upon a time there was an attempt made by the Society to draft and issue a leaflet describing the proper way to disinfect a room, but that the attempt had to be abandoned because of the divergent views that members

were found to hold. Of course, this particular attempt may have been made at a specially difficult time, when views upon the subject in question were undergoing considerable change, but the incident serves to illustrate the fact that upon methods of detail, and minutiae of administration, we can quite healthily and properly differ until experience indicates the true solution. At the same time, there ought to be little or no difficulty in setting up standards or ideals upon which we can all agree, even while we may be pursuing different paths towards them, in the hopes of attainment. If the ideal is established and kept in view, then each and everyone will readily abandon his own particular path if, and when, he finds that it is not leading towards the desired goal.

Because the establishment of definite ideals by this Society is so clearly desirable I decided to devote my address to-day to this subject, and to try to indicate briefly the various subjects which should be crowned with ideals for our attainment. Without ideals our work must fail. The real incentive for most of our work is pure idealism, the medical officer of health being indeed his brother's keeper, and the protector and saviour of the "under dog."

It is obvious to most observers that a fervour of idealism, theoretical and practical, runs like a motif even through the present disordered life of Europe, and a great deal of progress can be achieved if this idealistic streak is used for the public good. Most people will agree that, during recent years, there has been a definite revival of idealism. The thought of some men of all conditions in most countries is coloured and enlarged by belief in idealism, and through them the actions and policies of nations become directly influenced. Methods based upon idealism continue to constitute the main hope of the world in attempting to solve the many problems of nations wearied and weakened by a disastrous war. Hardly a day passes in which we do not read of some form or another of idealism, constituting, as it does, the chief influence at work in almost every sphere of human activity against the purely materialistic attitude of life.

IDEALISM OR CANT.

In establishing and maintaining ideals we must be careful to separate them entirely from various cants or obsessions which are so ready to obstruct progress. One of the worst forms of cant posing as an ideal is the claim, usually made by men of assured position and substantial income, that the best kind of professional man cares little or nothing about the money he makes by the exercise of his

profession. This belief is based upon the well-known fact that a professional man such as a doctor is often so enthusiastic about his work, that he will do it supremely well, whether he is to be paid handsomely for it or not. In other words, he simply cannot do work with the sole idea of making money by it, and is self-compelled to do his best apart altogether from the subject of remuneration. It is not that he does not want money, but that he cannot allow himself to do his work badly. On the other hand, he is usually just as keen as any tradesman in selling his wares at the highest prices, and has at last realised that professional combination and collective bargaining constitute the only methods whereby he can command a fair deal. For its own protection the methods and practices at present denoted by the term, "Trade Unionism" must sooner or later be adopted by every profession. During the course of my remarks I shall have more to say about canting catch phrases masquerading as ideals. The alleged "undermining of parental responsibility" by providing treatment for a weakly child is one of these masqueraders and among others may be mentioned "the maintenance of the great voluntary principle" which is used as an excuse for handing over large sums of public money without adequate control. Similarly obstruction offered to great preventive measures in the alleged "interests of morality" by groups of persons who appear to be the victims of a form of sexual obsession, is by no means an uncommon hindrance.

I propose to discuss the subject of Idealism in Public Health under four chief headings, namely:—

- (1) Professional
 - (a) General.
 - (b) The P. H. Branch
- (2) Service Ideals.
- (3) Ideals for our Society.
- (4) Personal Ideals.

I am well aware of the fact that these four groups are not at all distinct, being, in fact, inextricably interlaced, but the classification may give some coherence to the discussion of a subject that offers many temptations for digression.

I. PROFESSIONAL IDEALS.

A. TRAINING.

Public health having come into its own to some extent and being recognised generally as a subject of outstanding importance, it is not unreasonable to suggest that the subject of preventive medicine should occupy an adequate proportion of the time of the medical student in training. The General Medical Council said, a few years ago,

"That throughout the whole period of study the attention of the students should be directed by his teachers to the importance of the preventive aspect of medicine." One wonders what effect this pious expression of opinion, without the slightest backing in the way of regulations, and without any suggestion on the part of the Medical Council as to how this desirable condition should be brought about, has influenced the courses of instruction in the medical schools. After many years experience as a member of the teaching staff of the medical schools, and as an examiner, I venture to say that that expression of opinion has not up to the present had appreciable effect, and that it is not likely to have much so long as the medical schools continue to be, as they probably always will be, governed almost entirely by clinicians. Clinicians as a general rule, will rarely be sufficiently interested in prevention to undertake any real teaching of it. In a few special cases clinicians have distinguished themselves by their interest and enthusiasm in prevention, but they are the exception and not the rule. Men who have for years devoted the whole of their attention to the diagnosis and treatment of disease are not likely to take up a fresh hobby and to become enthusiasts in prevention. By the time they become teachers in medical schools their interests have become established, and although they may make exceptionally able teachers in diagnosis and treatment, yet they are not likely to arouse in the average student any interest or enthusiasm for prevention.

If the prevention of disease and an increase in the amount of attention given to the public health is as desirable as seems to be generally admitted, then surely it would be worth while to carry out an experiment in some medical school, and to try to establish there a bias in favour of prevention. At the present time the average medical student leaves his school, a fully qualified medical practitioner without any real knowledge of, and without any inclination towards, the study of prevention. This is entirely wrong, and must be altered if we are to make such advances in public health as we all desire to see brought about.

B. PAY.

The general question of professional remuneration is undoubtedly a matter which can and should be guarded and controlled by the profession as a whole, and it is gratifying to be able to record that substantial advances have been made recently in the organisation of the profession for mutual defence. Still more satisfactory is the fact that there has been on the part of the profession generally a gradually increasing realisation that

the general subject of professional remuneration is inseparably bound up with the subject of the rate of pay of the public health service. Repeated warnings on this subject some time ago received scant attention, but the idea was driven home recently in an unmistakable fashion when the representatives of the medical profession, during the negotiations with the Ministry of Health concerning the subject of panel practitioners' pay, were confronted with a powerful argument in favour of gross underpayment in the form of a reference to the miserably inadequate salaries for which local authorities have during the past few years been able to secure whole-time medical officers with the consent of the Ministry. After this object lesson there should be no further difficulty in securing the whole-hearted support of the profession in the reasonable demands now being made by the public health service for an improvement in the scale of remuneration. If we can, in connection with this subject, bring about a general acceptance of the principle that underpayment of any branch of the medical profession constitutes not merely a danger to the whole profession, but also a danger to the public, then there should be no further difficulty in this matter. Under-payment of the public health service means a dissatisfied service which is as much a public danger as a neglected epidemic or a hidden plague. It also results in the entrance into the service of men who are incapable of succeeding elsewhere.

The salaries scale drawn up by this Society with the British Medical Association, will do a great deal in establishing the ideal of equal pay for equal work. Dr. Barlow, in his presidential address last year, called attention to the glaring anomalies which exist in various parts of the country with regard to remuneration and very reasonably suggested that we did not deserve the title of a "public health service" until we had remedied matters. There is every reason to believe that our salaries crusade at the present time has made a substantial commencement on those lines, but the system of promotion in the public health service can never be satisfactory unless, and until, a scheme of national medical service is created.

II. PUBLIC HEALTH SERVICE IDEALS.

A. TRAINING.

A matter which is immediately the province of the public health service and this Society is the special post-graduate training for the Diploma in Public Health, and the examinations to which such training leads. In the past the public health service,

as represented by the Society, has had an inadequate voice in the determination of the courses of training, and the kind of examination for the specialist in public health. Few will be able to contend that such subjects are a matter for a General Medical Council, or any small body of men, however able they may be in various other branches of medicine and surgery, who have had little experience, and in many instances, no training in public health matters. The time has come when the public health service must insist upon taking a hand in the matters relating to the extrants into its speciality. Everyone admits that it is more important to prevent disease than to cure it, and it is quite time that this important speciality played a more prominent part in influencing professional training in general, and for its own branch in particular.

There are too many portals of entrance to the public health service, and too many examining bodies granting the Diploma in Public Health. One of the ideals to be established by the service and fought for by this Society, should be a reduction in the number of qualifying bodies with a view eventually to establishing one portal. It is true that the new regulations in connection with the Diploma in Public Health recently issued by the General Medical Council may result in a diminution in the number of bodies offering courses of training for this examination, and possibly in a decrease in the number of examining bodies, but it is the opinion of many experienced members of the public health service that the whole subject already needs entire revision, and it is to be hoped that this Society will take an active part in pressing for such a revision and also in assisting to carry out the desired changes.

B. CONDITIONS OF WORK.

(i.) Lay Control. Perhaps the greatest of all the causes of comparative failure on the part of certain medical officers is the fact that their conditions of work are unsatisfactory. It should be laid down as an important ideal that the public health department must control all the medical work of the local authority. The medical officer of health should be the real as well as the nominal head of that department, and he should not be subjected to interference or supervision on the part of any other officer, and should deal only and directly with the local authority and its committees. In some areas the interference with medical work by directors of education and clerks of councils amounts to a public scandal, and this is a matter about which the public health service as a whole, through the Society,

should take active steps. From the point of view of the public interest, lay interference with, or lay control of, the medical officer invariably leads to deplorable results.

(ii.) Security of Tenure This has long been one of the ideals of the public health service, and great were the rejoicings when it was proclaimed that security of tenure had been obtained at long last. A later examination of the position, however, showed that what was called security of tenure meant merely that the appointment could be terminated only with the consent of the Ministry of Health, who in its turn, proved to be ready in certain cases to agree to reductions of salary without regarding such changes as a violation of the principle of security. The present position is that we have no security at all, as a security of office without security of salary is merely a farce. We must, therefore, still retain security of tenure as an ideal to be obtained on some future occasion when our organisation is perfected, and when we are in a position to demand such a moderate concession.

(iii.) Superannuation. This is an ideal partially attained. In some areas a fairly satisfactory scheme of superannuation is in force, but there are two improvements of the position which we must maintain as ideals. Those are:—

(a) The adoption of the Superannuation Act should be compulsory all over the country, and it is encouraging to note that only a month ago the Prime Minister said that although he was not sure, that Providence had given the Government enough leisure to do anything in the direction of making the 1922 Superannuation Bill compulsory, yet if the Bill for that object were successful in the ballot, he thought that it would have a good chance of getting through as a private member's bill.

(b) We must insist upon special concessions for medical officers of health. No local government officer requires by law anything like such a long period of training and apprenticeship as is required from the medical officer of health. This must be allowed for in all schemes of superannuation and should be resolutely insisted upon by this Society.

(iv.) A Specialist Service. Our expectations of a continuous improvement in the personnel of the public health service by the gradual replacement of the untrained medical officer of health by the specialist officer have not been realised owing to the weakness of the Ministry of Health in granting their approval to the appointment of men without the D.P.H.

qualification. The Order itself needs revision, but the Society should press for its rigid administration in the meantime; at present the Ministry are sanctioning the appointment of unqualified men. Personally, I believe that an organised crusade for a clear cut Order forbidding the appointment in future of any officer engaged in private practice or without the specialist qualification, would be successful.

(v.) Research Work. Great possibilities for research work surround every medical officer of health, and every member of his staff, and one of our ideals should be that this vast field for research should be no longer neglected, but that we should demand opportunities for investigation. The present conditions of work are in most instances prohibitive. The average medical officer of health is overworked in carrying out his onerous duties, and has no time to give to research. Opportunities for research should be demanded by the service.

Dr. Robertson, in his presidential address, 1916, expressed the view that a small committee should be appointed to suggest subjects into which research is urgently needed, and perhaps also to suggest the lines along which this should be carried on generally, in order to promote the objects of the Society in this direction. I should like to repeat this suggestion, and to express the hope that during the coming year it will be adopted. It is our duty to insist upon the intimate association of the whole public health service with research work. The allocation of public funds for the purpose of research was a brilliant idea on the part of Mr. Lloyd George, and it raised hopes in all of us that some organised effort was about to be undertaken. Unfortunately, our expectations have not been realised, and so far as the public health service is concerned, the establishment of the Medical Research Council has been a great disappointment. That body appears to have no sympathy with, and no desire to co-operate with, the public health service, and such attitude is to the detriment of the public health. The present policy of concentrating essentially upon purely laboratory investigations may lead to success, but I am, personally, convinced that general investigations in co-operation with medical officers of health would lead much more rapidly to the solution of many of our difficulties. Bacteriology has undoubtedly secured many brilliant successes, but it is matter of common knowledge and regret that it has apparently failed up to the present to help us to the extent we anticipated with regard to many of our common infectious diseases.

Considerable sums of money are now being spent upon research in connection with cancer, but probably about 95 per cent. of that expenditure is upon research work conducted on lines which have been

followed for the past ten or twenty years without leading to anything definite. Cancer research appears to be fascinated by the cancerous processes and the reactions of the healthy tissues to such processes. It has also allowed itself to be monopolised largely with the surgical aspects of the subject, together with purely laboratory and microscopical investigations.

It may be that a careful and complete study of possible general factors might lead to more satisfactory results, and a study of the recently published statistical inquiry of Dr. M. Hindhede seems to indicate that at the present stage we might learn more from such general conditions than from purely laboratory investigations.

Probably on account of the curiously restricted sphere of the present researches concerning cancer the field is now being steadily invaded by interested amateurs, who are undoubtedly bringing a great amount of enthusiasm and intelligence to bear upon the subject, but who, on account of the fact that they have not received any medical training, are liable to make amusing and sometimes rather dangerous "howlers."

(vi.) *Propaganda.* In connection with our work we should at all times be ready to organise extensions, and to allow no limit to be set to the sphere of the health officer. The recent wave of enthusiasm with regard to public health should enable us to organise and carry out schemes of public propaganda without hesitation, and there is no doubt in my mind that the public health service is the proper centre for such work, and that the central body in control should be this Society. No other body possesses the necessary experience and scientific knowledge without which propaganda work may at any time become a great and serious danger, and even a scandal. Small wonder that Dr. Barlow, in his presidential address last year, expressed amazement that outside bodies are being seriously suggested by medical men as the proper organisers of propaganda work in connection with public health.

C. IDEALS OF LOCAL GOVERNMENT.

(i.) *Unification.* Unification of the health services is another ideal. The Ministry of Health Act, establishing the Ministry, seemed on paper to have secured central unification to a considerable extent, but experience has shown that our sanguine expectations in this direction have not been justified. The separation of the medical work of the Board of Education from the Ministry of Health is just as complete as ever, and any alleged unification in that direction is merely make believe. It has long been an established ideal of this Society that practical unification in this direction is urgently necessary,

and I have no doubt that during the coming session the prosecution of this campaign will be continued.

Local unification of medical services is still a pressing need. All public medical work should be combined in one department, under one head, and as far as possible controlled directly through one committee of the local authority. Perhaps the most important unification, very many years overdue, is the absorption by the public health authority of the medical work under the Poor Law. For many years the Poor Law has hampered and hindered public health work to an extent which is by no means fully appreciated by the public. The central body (originally the Local Government Board and now the Ministry of Health) has always been clogged and fettered by its association with the Poor Law, while locally all kinds of easily possible improvements are held up by the same obstructive influence.

(ii.) *Areas for Local Government.* Medical officers of health, as local administrators, have obtained valuable experience in local government, and as the result of that experience, we should be in a position to advise the public as to the alterations that are desirable in the structure of local government. If we have definite ideals it should not be impossible for us to come with practical unanimity to decisions upon this difficult subject, but it is only by means of ideals that we can, as a body, express a united opinion. Members of this Society represent every kind of local governing unit, and if each Group is to fight for its own imagined vested interests, and insist that they, at all events, must be left undisturbed, then as a body we must fail to win the respect of the public, and we shall be ignored when changes become inevitable.

The vital problems of local government structure have remained virtually untouched for 30 years in country districts, and for more than 40 years in the towns. Governing bodies have remained unaltered while the work of the local authorities has developed almost beyond recognition, and during the same time various and technical changes have rendered many of the old areas obsolete. The time is overdue for a vigorous attempt to fit local government organisation to the new opinions and changed conditions of to-day.

The problem is obviously difficult, and involves a vast mass of technical adjustments. Any reform that goes to the root of the matter is bound to disturb an immense number of vested interests, established customs, and institutions, as well as all those influential persons who feel that they are the embodiment of those institutions.

Any government which attempts a thorough reform of local government is certain to arouse

widespread opposition and it is owing to this fact that we have the extraordinary position that all political parties admit the urgent need for reform and yet all are afraid to tackle it. This is the reason why the Poor Law has remained so long unaltered. During the past 15 years one government after another has considered the matter, made promises to reform it, and allowed the matter to end there.

Pending the reorganisation of local government areas very great reforms could be brought about by the simplification and cheapening of the means of obtaining fresh powers. Private bill legislation is ridiculously slow and costly and can only be undertaken by comparatively wealthy areas, and it has been recently suggested that a standing committee of the House of Commons should be empowered, without special legislation in each case to sanction the granting to local authorities of fresh powers for which precedent already exists. Such a suggestion should receive the active support of this Society.

(iii.) *Voluntary Associations.* An administrative ideal is that public money should be spent only under the direct control of the local authority. The practice of the Ministry of Health in giving direct grants to local voluntary associations is opposed to the public interest. The result is to encourage the voluntary association to disregard the local authority and to act independently, and in such circumstances a properly co-ordinated scheme, with adequate care and control of expenditure of public money, becomes impossible. At the present time the Ministry of Health and the Board of Education are paying large sums of public money direct to county nursing associations, district nursing associations, welfare centres, and all kinds of voluntary associations, with results that are deplorable from the point of view of efficiency of organisation, and the economic expenditure of public funds.

The stranglehold of the big voluntary associations upon public health work has become one of the dangers of health work. No one appreciates or values more highly than myself the valuable work accomplished by small local associations for after-care of tuberculous persons, and defective school children, and also by those voluntary workers attached to maternity and infant welfare centres all over the country. These deserve the highest praise and every possible encouragement, but the big associations and "national councils," with whole-time paid officers (a curious kind of "voluntary" work), invariably attempt work which, in my opinion, is far better done by officers employed and controlled directly by local authorities.

The point of view of the unfortunate recipient of

the attentions of voluntary associations rarely receives any attention, but the deputation which attended recently upon the Ministry of Health had very definite opinions upon the subject, and pressed for the abolition of the voluntary system in connection with the welfare of the blind, and the establishment of direct municipal and state control.

Everyone with experience of work amongst poor people knows quite well how bitterly they resent the inquisitorial visits of the average voluntary worker, and how differently they regard the impartial and tactful whole-time officer of the local authority.

The ideal that public administration should be carried on by public officers, and not by voluntary associations can only be departed from with grave danger to the state, and to the individual. This is specially the case in connection with the administration of the Mental Deficiency Act. The result of the influence of voluntary associations and voluntary workers has been that the scope of the Act has been strained so as to include within it cases that are not really covered by any definition in the Act. The public as a whole would probably be amazed to know exactly what has been done under the Mental Deficiency Act in this direction, and I feel sure that the public exposure of a few cases would lead immediately to a demand for an expert revision of every case now in an institution.

The best "voluntary worker" is the popularly elected representative of the public upon the various local authorities. His services are purely voluntary and every medical officer of health is the expert administrative officer of a body of *genuine* "voluntary workers" who are in their turn responsible to the public. It is a curious mentality which puts a halo round self-appointed members of so-called "voluntary associations" and their (usually unqualified) officers.

D. CENTRAL CONTROL.

Owing, perhaps, to the association that has always existed between the central health authority and the Poor Law, there has been a constantly increasing public danger due to a growing inclination on the part of the central authority to make rules and regulations for all sorts of detailed conditions, and to exercise a supervision over minutiae of administration which, if successfully established, can only result in a degradation of local government. This pernicious tendency has undoubtedly become aggravated during the past few years, and is the cause of an increasing irritation on the part of local government officers and local authorities. On this ground it is gratifying to be able to record the fact that recently the Prime Minister, and also the Minister of Health, (Mr. Wheatley), expressed decided opinions that the powers of local authorities should be greatly increased,

and that there should be greater freedom in local government.

The Premier, (Mr MacDonald), said :—

"We must develop the powers of local government bodies; I think they are too circumscribed. I feel perfectly certain that if, when other things which cannot be neglected are once settled, the Government would spend a considerable time in inquiring into the present position of the machinery of local government, they would do the country a great service indeed."

Most of us will agree with the words of Dr. Robertson, M.O.H. for Birmingham, which he used in his presidential address a few years ago :—

"I feel that the local control should be really local control, and not semi-control, as there is a tendency to make it at present. My experience is that if you give a local authority sufficient power and responsibility, there will be no need for a large amount of central control, and that all that will be necessary will be the smallest amount of co-ordinating power from the centre."

III. IDEALS FOR THE SOCIETY.

A. MEMBERSHIP.

The first of our ideals with regard to the Society should be that it should secure as members every medical man in the employ of local authorities. I propose to make a special effort during my year of office as President, to stimulate enthusiasm in the Branches which will I hope result in a very substantial increase in our numbers. I know that some Branches have been extremely energetic in this respect during the past few years, but there still remains a great deal to be done, and no Branch should rest satisfied while there is a single eligible member of the Public health service in its area who is not a member of the society.

B. POLICY.

It is our duty to develop fully the policy of the Society, and during the coming year I hope that we shall begin by enunciating certain policies or ideals and in connection with each policy, commence a campaign in order to achieve progress. The Society should lead the way in public health, and not allow others who really stand in need of our guidance to try to lead the way. It is amazing how many lay people with no training in public health will attempt to try to lead public opinion in such subjects. Not long ago, a certain voluntary association, whose work had no connection at all with the subject of infant mortality, issued broadcast a circular claiming to have been largely responsible for the recent gratifying decrease in the mortality among infants,

It should be one of the policies of this Society to issue from time to time manifestoes to the public upon subjects of public health importance. I believe that such expressions of opinion would be welcomed by the public, and that in this way an improved condition of things could be secured. Our influence was recently illustrated in connection with the notorious milk circular issued by the Ministry of Health which in the opinion of most of our members was against the public interest. A very moderate amount of organisation on the part of the Society resulted in such an outburst of protest that the offending circular was withdrawn. If such a result could be secured by very little effort, how great would be the results if we concentrated upon any given policy! Once formulated, this policy could be incorporated in every report issued by every medical officer of health throughout the country, and the effect in influencing public opinion would be immense.

C. PUBLICITY.

Personally, I have felt for some time that it is necessary for the Society to make itself more articulate. It must cultivate a public voice, not merely a professional technical voice through our Journal, and must organise means whereby the public ear can be secured. I am confident that the public generally is ready for such guidance as this Society can, and should, give.

D. THE PROTECTION OF THE PUBLIC.

Another of our ideals for the Society of Medical Officers of Health should be the protection of the public from the extremist, whether the extremist be the alleged economist at one end of the scale, or the faddist who wants public money spent on all kinds of fantastic and hare-brained schemes at the other. The councillor who recently charged certain economists on the council with having "economy on their tongues, but meanness in their hearts" described people whom we all know, and it is our duty as a Society to fight this attack upon the public health service with all our strength, not because it may affect us individually and personally, but because such policies are bound to weaken and lower the public health service, and prevent the attainment of our ideals. It is bad enough when damaging and degrading policies are suggested by ignorant and mean-souled laymen, but it is surely heart-breaking to read the remarks recently made by an eminent medical man, to the effect that if the raising of the standard for the D.P.H. examinations should continue to result in an insufficient number of medical men entering the service on account of the inadequate salaries paid therein (the salaries obviously

making "the game not worth the candle"), then it might be necessary to reduce the standard of the examination in order to increase the supply. We do not believe that the public would allow such a betrayal of their interests. As the *Medical Officer* points out, "to modify the Regulations because the essential training required for the position of a medical officer of health is too long and too expensive to induce promising young medical graduates to embark on the course, having regard to the salaries they will subsequently receive, would be just as sensible as to revise the medical curriculum so as to reduce the fee payable to the panel practitioner." It will be this Society's own fault, after such a plain hint, if it is caught napping in this respect.

As an illustration of the fact that the ideal solution often lies between the proposals of the extremists we may point to the opposing theories propounded by the extreme eugenists on the one side, and the sanitarians (as we might call them) on the other. The extreme eugenicist is supposed to believe in selection and the elimination of the unfit as the essential means for racial improvement, while the extreme sanitarian has alternative "panaceas" in the form of sunlight, housing, welfare centres, and such like. Both these opposing bodies are right, and both are wrong. The scientific and thorough application of the eugenic principle is unthinkable in the present state of civilisation, but the necessary scientific principles which underlie the control of racial developments are perfectly sound, and will have to be followed sooner or later if the race is to be saved from unnecessary deterioration. The sanitarian's proposals must be applied to existing individuals, and the application of their methods will undoubtedly result in improvements. Without eugenic methods, however, there is grave reason to fear that the increase of insanity, the numbers and prolificacy of the feeble-minded, the survival of the weakly, and multiplication at the wrong end, will overload the race, and will drag it downwards.

The solution seems to be the adoption of both principles, i.e., the development of all members of the community by means of careful control and protection of the circumstances of life generally, accompanied by a sane and scientific elimination of the unfit of the future. We are trying at the present time to carry out this in a costly and stupid way. Our institutions for the mentally defective are overcrowded and local authorities all over the country are being urged to spend immense sums in building more. Large numbers of unfortunate people will be condemned to lifelong imprisonment in these institutions, and will never know the blessings of a free and ordinary existence,

or of ordinary family life. One often hears it said that lifelong imprisonment is a far more serious punishment than a sentence of death, and yet there are fanatics, at present in control of the situation, who insist upon these unfortunate people being subjected to this life sentence instead of carrying out the very simple process of sterilisation, which would enable a considerable proportion of these people to lead more or less ordinary lives, at little or no cost to the community.

IV. INDIVIDUAL IDEALS.

Personal ideals should, of course, have the first place. Unless, as individuals we concentrate on our essential ideal of the prevention of disease, then we must fail. The public relies upon us to place prevention above all other considerations, and if we allow personal fears or prejudices to interfere with that work, then we are betraying the trust.

The main ideal to be cultivated as individuals is that of self-sacrifice. We must be ready to sacrifice our personal prejudices in favour of the crusade against disease. At any time we should be willing to sacrifice our own advancement and advantage for the benefit of the service as a whole. Every occasion where selfishness causes an individual member to sacrifice the needs of the service for his own advancement represents a set back from which recovery will be slow and difficult.

Our constant fear should be lest our methods become stereotyped, and our minds inelastic. Perhaps the greatest danger of all is that our individual views on religion and politics, which in most instances have grown up with us, and have become part of us, should govern our public health views and bias our work in preventive medicine. Sir George Newman said recently, "The purpose of the science and art of preventive medicine is to apply human knowledge to the prevention of disease," and he might have added the words, "and to the improvement of the race." If we could only agree to set this up as an ideal, and to cast aside our prejudices on other subjects, then rapid progress could be made in many directions, in which we are at present merely marking time. The elucidation of such problems as the prevention of venereal disease, is simple if stripped of the prejudices which surround them, and if the purely scientific aspect, or what Sir George Newman calls, "The science and art of preventive medicine," alone guides us. Similarly the thorny subject of birth control loses many of its difficulties and its contentions if the subject is considered from the point of view of the improvement of the race. Mental deficiency, another subject of rapidly increasing importance, if we are to consider the ultimate goal of the race, becomes a

comparatively simple matter if we establish an ideal of viewing it solely from the point of view of racial improvement. Incidentally the scientific view in most of these cases coincides with the utilitarian point of view, for if the purely scientific or preventive aspect is adopted there would be a vast saving in public expenditure, and a successful prevention of disease and disability. If we can establish a supreme ideal, *i.e.*, the public health and the prevention of disease, and turn away from other ideals which we may have followed for many years, but which now obviously interfere with the greater ideal, then many of our present difficulties would disappear.

TESTING RESULTS.

Among our personal ideals we must place the attainment of scientific accuracy, coupled with a determination not to accept easily tested statements without careful verification. Our progress in the past has been cumbered with the unfortunate results of false scents and false doctrines which have been followed, or accepted, without due criticism or investigation. I am not in any way an advocate of a policy of hesitation, and I am aware of the fact that if we are to progress we must run some risk, and must live the water of experience with the wine of audacity and imagination, but fallacies should always be exposed, even if they are popular, without hesitation.

For instance, the establishment of a midwifery service in 1902, and the gradual elimination of the untrained midwife, together with the substitution of her services by those of midwives whose training has been subjected to continual improvements, two necessary and desirable reforms, has been the subject of all kinds of extravagant claims which no one has troubled to investigate. Midwives, through their associations, have not hesitated to claim a considerable proportion of the credit for the wonderful reduction in the infant mortality from 154 to 69 during the past 23 years, but when the records are examined, the astonishing fact emerges that the deaths immediately due to confinements (*i.e.*, the actual work of the midwife), have kept fairly constant for more than 20 years, and that, although there has been some reduction in the number of deaths from puerperal septicaemia, the total number of deaths directly associated with childbirth has not been lowered.

In other words, the practical death-and-damage-preventing effect of the working of the Midwives Act for 20 years has not been obvious, the deaths following confinements having continued without diminution. It is fair also to conclude from this fact that the suffering and ill-health among those women who are fortunate enough to escape

death, but who are damaged at the confinement, has not been reduced either, and it is a fact also that the stillbirth rate and the death rate during the first month of infancy have been scarcely affected.

This comparative failure of the Midwives Act is, in my opinion, due to the fact that it has not been administered properly. The Act was obviously intended to create a body of licensed midwives to work under strict local and central inspection and supervision, a state of affairs which does not exist and never has existed in any part of the country yet. Conditions vary in different parts of the country, but in no area, so far as I know, is the supervision and inspection of midwifery practice adequate, while in many districts the supervision is merely nominal.

I suggest most emphatically that it is the duty of this Society to break down the barrier of pretence that has been built up by powerful voluntary associations around the practice of midwifery and other branches of medical work in this country, and to put before the public in the clearest possible terms the fact that improvements are almost impossible so long as any part of the service is practically a monopoly of self-appointed voluntary bodies locally, while the central body is dominated largely by bodies representing the private interests of the midwives.

LEADING PUBLIC OPINION.

So much has the general policy of the Society of Medical Officers of Health been hampered and hindered by members whose views upon the subject of public health, and particularly concerning the prevention of disease are modified by outside considerations, such as political or religious views, ideas with regard to sexual questions, etc., that I have no hesitation in saying that at the present time the Society, instead of leading public opinion, is actually lagging behind it in many respects. In fact, we stand in considerable danger of being classified with what Bernard Shaw calls, "Respectable England," who has, so he says, "The principles of a governess in a cathedral town." It is more than time that we cast off these hindrances and encumbrances, and that we devoted ourselves entirely to leading public opinion in the vital matters concerning public health and the prevention of disease.

While our wheels are being clogged by the prejudices of the prejudiced few, people outside the profession are overtaking us, and will soon be in advance of our opinions as a Society. As an example one may mention the fact that the Bishop of Birmingham, at a recent interview, said:—

"It is the duty of the Christian Churches to work for a smaller and better population—that is to say, we want the healthier strain in the community to be preserved,

and the degenerate one to be eliminated. That ideal now must also be combined with the Christian principle that if human beings are brought into existence they must be given such opportunities of living wholesome lives as the community can possibly afford."

While welcoming this statement from the new Bishop, we must deplore the fact that it enunciates principles considerably in advance of those of some of our members.

Another striking fact is that, at a recent meeting of the Council of a certain large town, there was the amazing spectacle of a majority resolution in favour of birth control in the face of an antagonistic statement by the medical officer of health.

SEX MANIA.

As Medical Officers of Health it is our duty to protect the public from the hindrances due to various forms of fanaticism which cause people to prophesy all kinds of evil results and warn us about all manner of imaginary dangers which they say will arise if we venture a step forward.

One of the most insidious obstructions to which public health advancement is liable is due to that body of persons who are obsessed with the idea of sex. These people view everything through a kind of sexual vision and offer opposition to the scientific prevention of venereal diseases because, they fear, that as soon as the public are fully aware of the fact that venereal diseases are easily prevented, they will immediately indulge in an orgy of immorality. These same people have recently discovered an argument against sterilisation of mentally defective persons as opposed to perpetual imprisonment, their suggestion being that mental defectives thus treated and allowed their freedom might indulge in sexuality on account of the removal of fear of the consequences.

This sex mania breaks out in various ways. Recently it has taken the direction of an attack upon the healthy and hygienic mode of dress of the modern girl, while some little time ago it took the form of a crusade which led to the limerick which probably many of you have heard:—

There was an old man who declined
To believe any good of mankind,
Some said his remarks
Showed the state of the parks,
And others, the state of his mind.

ENCOURAGING RESULTS.

We should derive considerable encouragement from the experience of our past ventures which have had even greater effect than we anticipated when they were being planned. For instance, the big reduction in infant mortality that has recently

taken place is, in my opinion, due essentially to the entrance of the medical officer into the schools. This, instead of decreasing parental responsibility, set up an entirely new health ideal, which soon had a profound effect in increasing both parental and public responsibility, resulting in a rapid fall in infant mortality. Talk of interference with, or lowering parental responsibility in connection with help given to poor people in order that they and their children may be kept healthy should not be tolerated by medical officers of health. It might just as reasonably be urged that the provisions of first-class roads at the public expense has lowered the moral tone of the motorists, or that free education had weakened the national backbone.

CONCLUSION.

Let us take courage. We are fighting against great forces of evil which threaten to damage or destroy the human race, but we are winning, and we know that we should be winning at a much greater rate if we concentrated on progress and disregarded those clutching hands which seek on all sides to hinder our progress. Let me remind you of one of the most vivid pictures of "The Pilgrim's Progress." You remember how Christian had got to the top of the hill and was making good progress, when two men named Timorous and Mistrust, met him. Timorous warned him generally of dangers ahead, while Mistrust referred to two lions which lay in the way. Christian announced his decision, however, in these memorable words:—

"I must venture; to go back is nothing but death; to go forward is fear of death, and life everlasting beyond it. I will yet go forward."

We are constantly in Christian's predicament. We see a road straight ahead that seems to lead to the promised land, but we are constantly warned by the modern "Timorous" and "Mistrust" about lions in the way, and about vague dangers ahead. If we keep our ideals before us, we shall be like Christian, who "went on his way" while "Mistrust and Timorous ran down the hill."

Individually, as medical men in the service of the State, and collectively as this Society, let us say with Christian, "I must venture... I will yet go forward."

Dr. A. T. Paterson is resigning his appointment as Deputy School Medical Officer of Durham County for the more profitable occupation of private practice.

The salary of Dr. A. H. G. Burton as Medical Officer of Health for Ilford is being increased by two further increments of £50 to a maximum of £1,200 in 1925.

THE ETIOLOGY OF PHLEBOTOMUS FEVER.

BY

WING COMMANDER HAROLD E. WHITTINGHAM,
M.B., D.P.H., D.T.M. & Royal Air Force
Medical Service.*

"Phlebotomus" or "Sandfly fever" is an acute specific fever, common in tropical and sub-tropical countries, caused by a virus, possibly a leptospira, conveyed to man by the bite of a small midge, called Phlebotomus or the Sandfly. Incubation period is about five days. The disease is characterised by three days' fever, flushed face, suffused eyes, rheumatic-like pains in back and legs, and severe frontal headache. There is no mortality, but convalescence is often prolonged and accompanied by considerable nervous depression. The seriousness of the disease lies in the fact that whole communities may be affected at the same time. These epidemics delay trade, and are a source of danger to forces guarding various outposts of the Empire, especially as the natives in these regions are more or less immune to the disease.

It is interesting to note that the earliest reference to this fever affecting British forces was closely connected with the history of France and Britain. This was in 1799 during the Napoleonic Wars. Sir William Burnett's¹ description of the incident is worth quoting:

"In the year 1799, while employed in the Goliath of 74 guns, in the blockade of Malta, the ship's company were attacked with a Fever, similar to one then prevalent in the island. Our boats had been employed in watering at Marsa Scala, a small harbour to the S.E. of La Valetta, when, from blowing weather coming on, a boat's crew, with her officer, were left on shore all night. A few days after this, the officer was attacked with fever, and several of the boat's crew soon followed. . . ."

His description of the fever shews that it was Phlebotomus fever.

Phlebotomus fever is one of the chief causes of inefficiency due to sickness, in the personnel of the Royal Air Force serving overseas.² The overseas sickness rate remains very constant throughout the year, except for a marked increase during the months of May, June, July and August. This increase coincides with the incidence of phlebotomus fever. When the sickness rate due to this

fever is plotted and the graph superimposed on the total sickness rate graph, the accentuation of the latter curve and the phlebotomus fever curve are found to be practically identical. This fever accounts for about 50 per cent. of the cases of sickness in our service overseas. It is of the utmost importance, therefore, that we should have a clear conception of the etiology of this disease.

Etiology embraces the true cause and the predisposing conditions. Unfortunately, the true cause has not been definitely proved, but many of the predisposing conditions have been verified beyond doubt. Phlebotomus papatasi has been shewn to be the true carrier of the disease, not simply an intermediate host.

Phlebotomus fever is endemic wherever the Phlebotomus papatasi can breed, that is in an area where for eight consecutive weeks the mean daily temperature lies between 65° and 90° F. This temperature requirement, and the presence of sufficient moisture and organic debris for the fly to complete its life-cycle, explains the geographical distribution of the disease, and its occurrence in the summer months. Thus in relatively dry areas it is confined to the coast line, rivers, or oases, that is proximity to water, or to places where there is a marked drop in the atmospheric temperature at night and consequently a heavy fall of dew. Moreover, in humid areas, such as Malta, there are two waves of fever coinciding with two broods of flies, because the conditions necessary for the life-cycle of the fly reach or approach the optimum, whereas in the less humid Baghdad area only one wave of fever and one brood of sandflies are seen.³

Epidemics of the fever depend on:

- (1) the number of infected phlebotomi, and
- (2) the number of susceptible people (non-immunes).

The Prime factors in the etiology are:

- (1) Virus (Leptospira).
- (2) Vector (Phlebotomus papatasi).
- (3) Recipient (Man).

There are a number of conditions which may modify the above prime factors needed for the natural production of the fever.

- (1) Virus
 - (a) Temperature.
 - (b) Humidity.
 - (c) Reaction of soil.
- (2) Vector
 - (a) Species.
 - (b) Sex.
 - (c) All flies are not infected.
 - (d) Infection is not hereditary.

(e) Infection is handed on in breeding grounds by larva ingesting dejecta or dead remains of parent flies.

(f) Non-infected flies can be infected by feeding on man with fever.

(g) Habits—distance of flight,
length of life,
number of feeds.

(h) Climate—temperature and humidity (dews, rains, floods, rivers and irrigation).

(i) Geographical distribution.

(3) Recipient
Susceptibility.

(a) Intrinsic factors—natural immunity, good or bad health.

(b) Extrinsic factors—atmospheric temperature, atmospheric humidity, fatigue.

1) The Virus.

Doerr (1909)⁴ and Birt (1910)⁵ have shown that, in phlebotomus fever, the blood of man is infective by direct transmission to other men only in the first day of disease. Kilroy⁶ in 1909, allowed himself to be bitten by phlebotomi, contracted the fever and then blood withdrawn from his vein during the first day of fever was inoculated into a non-immune man and reproduced the disease.

Birt (1910)⁵ shewed that the virus could pass through a Pasteur Chamberland filter "F".

Couvy (1921)⁷, working in Beirut, reported that a spirochaete was isolated from cases of Dengue.

In 1921, the R.A.F. Sandfly Fever Commission⁸ shewed the presence of leptospira in six cases of so-called Sandfly fever in Malta.

In the Dutch East Indies, Vervoot (1922)⁹ and Van de Velde (1922)¹⁰ have found spirochaetes in the peripheral blood of 3 to 5 day types of fever. The cases closely resembled phlebotomus fever. It should be noted that one of the cases reported suffered from jaundice.

The leptospira isolated in Malta were obtained by blood cultures in Wenyon-Noguchi medium.⁸⁻¹¹ Their presence was revealed by dark-ground illumination after 5 to 6 days incubation at 27° C., and morphologically they were indistinguishable from Leptospira ictero-haemorrhagiae, the average length being 10 to 15 μ , and width about 0.3 μ . Cultures showed the most abundant growth about $\frac{1}{2}$ to 1 inch below the surface of the medium. In fact, after about ten to fourteen days, in some cultures a fine but distinct white haze formed a ring about an inch below the surface of the medium; this ring consisted of masses of leptospira.

The leptospira differed from the Leptospira ictero-haemorrhagiae by its non-pathogenicity to guinea-pigs. It has been found, however, that the pathogenicity of cultivated spirochaetes may be quickly lost. Griffith (1919)¹² states: "A culture grown at 37° C. which, when a fortnight old produced typical spirochaetosis in a guinea-pig, lost its virulence within the next fortnight. In another experiment with spirochaetes grown at 25° C., a fourteen days' old primary culture produced fatal haemorrhagic jaundice, while the same culture when three and a half and four months old was completely non-pathogenic." Moreover, spirochaetes have been isolated from cases of jaundice in France and Albania, which are non-pathogenic to guinea-pigs.

The point to consider is, were all the cases investigated at Malta true cases of sandfly fever? The varying types of fever met with in Malta from year to year and even during different stages of the hot weather have been commented on by many authorities, including very old residents. There have been outbreaks of sandfly fever varying from mild influenza-like attacks, to severe forms termed "yellow fever." In fact, yellow fever was reported in Malta in the autumn of 1822, while the fever during the summer was of a milder type. Dr. Lightbody remarked on the absence of the buffy coat (i.e., leucopenia) during the summer, and its presence (i.e., leucocytosis) in the autumn epidemic. Some of the cases investigated in the summer of 1921 showed a slight leucocytosis, some relapsed, one even developed jaundice. It is possible that the leptospira isolated was a modified form of that which causes epidemic jaundice—modified by passage and perhaps atmospheric conditions. That atmospheric conditions affect the virus was seen when transmission experiments with infected phlebotomi were undertaken in England. Volunteers who were bitten by these infected phlebotomi when the atmospheric temperature had fallen below 60° F. did not contract the fever, whereas those bitten by the same flies when the temperature was above 65° F. developed the disease.

It was decided that the only feasible way to attack the problem was to endeavour to establish definitely the mode of transmission of sandfly fever and to reproduce it in an area free from that fever. Under such conditions any leptospira found would be associated with the disease. With this end in view attention was chiefly centred on the vector of the disease.

(2) The Vector.

*A Paper read before the Society of Medical Officers of Health, in London, on 27th June, 1924.

Formerly, many points in the etiology of this disease have, without full confirmation, been accepted as correct. Doerr (1909)⁴ and Birt (1910)⁵ claimed that *phlebotomus papatasi* which had fed on cases of phlebotomus fever were capable of transmitting the disease, but only seven to ten days after sucking virulent blood. Negative results were obtained with flies which had been infected under a week. Doerr made the suggestion that the infection was probably passed by hereditary transmission from the adult female phlebotomus to the succeeding generation. This suggestion was not compatible with his previous findings.

Little knowledge was to be gained from transmission experiments along these lines. The phlebotomus, rightly accused of transmitting the disease, had never had its life-history fully elucidated, nor had it ever been bred in captivity from ovum to imago. Therefore, it was first necessary to re-study the habits of phlebotomi and to attempt to rear these flies in captivity; fortunately, this was accomplished in 1922 and in 1923 in Malta and England, and now several hundreds of the flies have been bred through to maturity.¹³

Briefly, the findings of the R.A.F. Sandfly Fever Commission were:—

(a) That *Phlebotomus papatasi* was the most common species found indoors and to feed on man. All the observations in this paper concern this species.

(b) Only the female insects sucked blood. This held good for the four species—*P. papatasi*, *P. perniciosus*, *P. nigerrimus* and *P. minutus*—found in Malta. On rare occasions a male was found to ingest blood, but only by sucking up the excess of blood which exuded from a puncture made by a female fly. There was no act of biting.

(c) That all phlebotomi were not infected with the virus of sandfly fever was suggested by the failure of some flies, which had never had a feed of blood, to infect volunteers in Malta. This failure was not due to natural immunity, for some of the volunteers were infected by other flies at a later date. These results were verified by numerous experiments performed with phlebotomi bred from washed ova (vide infra).

(d) That the infection of the insect is not hereditary was proved in the following manner. Phlebotomi were bred in specially prepared earthenware pots, which were lined and covered with sterilised butter-muslin. These

pots were placed in soup plates containing water, so that the lower half-inch of the pot was immersed. The water saturated the butter-muslin lining at the bottom of the pot; above this level varying degrees of moisture were obtained, depending on absorption by the muslin. Moreover, by evaporation of the water, a high degree of humidity was obtained in the air in the pot. The flies chose the level suitable for ovulation. After ten days, when most of the flies were dead, the lining was removed and examined with a lens. The ova were collected, washed quickly in sterile water and placed on moist sterile filter paper. Thereafter, the eggs were triple-washed in sterile water to get rid of any surface contamination. The washed ova were transferred to sterile breeding cages, and, ultimately, adult flies hatched out. These flies were allowed to bite men in England, but they failed to infect any of these volunteers with Sandfly fever.

Five volunteers were bitten by phlebotomi that had never partaken of a blood feed. The number of flies that fed varied from 6 to 18, and the number of bites received varied from 15 to 63 in each case. In one instance the bitten area was scarified afterwards.

It was considered that the virus might require to pass through a cycle of several days in the fly before full infectivity was reached. To ascertain this point further volunteers were bitten by phlebotomi that had fed on other men from one to eight days previously. These volunteers were divided up into eight batches, two men being in each batch. The first batch were bitten by flies that had fed on the previous day, the second by those that had fed two days before, and so on. In each instance one member of each group had his bites scarified.

To test the effect of being repeatedly bitten, one person was bitten daily for 5 days, a second was bitten weekly for 4 weeks, and a third was bitten every three to four days for two months by flies that had fed on other people previously. The last mentioned volunteer received 328 bites from 41 different phlebotomi.

Every one of these experiments proved negative. In all 198 flies inflicted 692 bites. These results showed:

(1) That the virus of the fever was not inherited by *Phlebotomus papatasi*,

(2) that the saliva of the phlebotomus was not the cause of the fever,

(3) that the fever was not due to the phlebotomus injecting into man some altered

product of blood digestion, as had been suggested by Woodcock,

(4) and, naturally, that all phlebotomi were not infected with the virus of the disease.

(e) The infection is transmitted to phlebotomi in their breeding grounds by the larvae ingesting the dejecta or dead remains of parent flies was proved by the following experiments:

Phlebotomi were bred in special boxes, made of wood with a front of glass. A tightly fitting aluminum tray was fitted to the bottom of each box to prevent moisture being absorbed by the wood. The actual breeding grounds were constructed from small pieces of Maltese limestone varying in size from that of a pea-nut to that of a walnut, with imported garden earth or ordinary Maltese earth, and nitrogenous organic matter in the form of the faeces of lizards, crushed insects, or dried human blood. Before being placed in the boxes all these constituents were sterilized for two hours at 140° C. Water was added to each box daily after sunset, sufficient to moisten the lower levels of the mounds; the exact amount varied with the stage of the life-cycle. For oviposition the soil was kept well moistened, but throughout the non-motile stages of development (maturation of the ovum and pupal life) less moisture was added. During the motile stage (larval life) the water content was increased, for then the larvae could move about, and select a level holding the necessary amount of moisture. The cages were kept in baby incubators at a temperature of 80° F.

The phlebotomi bred in these cages were reared under sterile conditions, except that the larvae may have ingested the dejecta or dead remains of the parent flies. If this food supply were to contain the virus of phlebotomus fever those larvae that ingested it would thus become infected.

The first three volunteers who were bitten by some of these flies did not contract sandfly fever. However, these same flies were allowed to bite two other volunteers five days later, that was five days after their first blood feed, and both developed typical sandfly fever. The incubation period was five days in each case. None of these volunteers had ever been out of the United Kingdom.

It should be noted that the phlebotomi were apparently not infective until after they had had a feed of blood. This may have been due to a period of time being necessary for the virus to

develop in the fly, or perhaps the amount of saliva inoculated (dose of virus) was insufficient to cause fever when the previously unfed fly bit. The latter cause was suggested by the fact that two of the first volunteers suffered from malaise, but no fever.

In order to eliminate the question of natural immunity as far as possible, twin brothers were used in these experiments. One twin was bitten by 14 phlebotomi that had not had a previous feed of blood, but he did not contract fever. The other twin was bitten by the same flies five days later and contracted the disease.

(f) Non-infected flies may become infected by feeding on man with fever, but this point was not fully elucidated.

(g) The habits of the phlebotomus were shown to be intimately associated with the spread of the fever.

The distance of flight of the insect was found to be limited to about 50 yards from its breeding haunts. Moreover, the flight was so feeble that the fly avoided all currents of air, natural or artificial. There was a definite relationship between the force of the wind and the number of flies found indoors, roughly speaking, they were present in inverse proportion to the force of the wind. Upstairs rooms, which were more exposed to air currents, were less infested with phlebotomi than those on the ground floor, and the inmates of these upper rooms were relatively free from sandfly fever.

The average female phlebotomus was found to live from 10 to 14 days. Some flies fed daily during this period, but most partook of a blood feed every three to four days. The time taken for a blood feed by a previously unfed fly was about two minutes, whereas a fly that had fed previously, especially if pregnant, took five to ten minutes. These observations helped to explain the infection with phlebotomus fever of volunteers who were bitten by flies that had previously fed on other fever-free volunteers in England. As already stated the volunteers first bitten by previously unfed flies did not contract the fever.

(h) Each stage of the life-cycle of the phlebotomus was shown to be governed by such conditions as temperature and humidity.

The earth temperature was important. The insect hibernated when the earth temperature fell below 65° F., or if there was an excess of ground moisture. Hibernation took place in the fourth larval stage. The optimum atmospheric temperature for the hatching out of the

imago was between 70° and 90° F.

Excess of moisture was found to be injurious to all stages of the life of the insect.

(i) *The Geographical distribution of the phlebotomus*, and therefore of the fever, is limited to areas of certain temperature and humidity. For pupation the earth temperature (4 foot) must be maintained above 65° F. for at least ten consecutive days.

(3) Recipient.

(a) Intrinsic factors.

The recipient, man, was shewn to play an important part in the etiology of this disease. There were undoubted cases of natural immunity—four men who had never been overseas before proved immune to the fever, although they were bitten by infected flies in Malta on several occasions. The percentage of Europeans who escaped infection was not great, about 10 per cent.

A decrease in the resistance to phlebotomus fever was observed in some cases. There was a recurrence of the fever in 15 per cent. of the cases, after a period varying from 25 to 46 days. Two cases had three attacks of the fever in the same year. It was difficult to say whether they were instances of relapse or reinfection.

(b) *Extrinsic factors* such as atmospheric temperature and humidity were found to affect the development of the virus in man. Thus flies that had produced fever in man in England when the atmospheric temperature was above 65° F., failed to infect other men, during the following week, when the temperature fell suddenly to between 50° and 54° F.

From the foregoing it is obvious that the *P. papatasi*, the insect vector, plays the chief role in the etiology of this disease. To prevent phlebotomus fever, it is most important to understand the mode of development of this insect, and to know its breeding places.

REFERENCES.

1. Burnett, W., "A Practical Account of Mediterranean Fever," 1814.
2. Report on the Health of the Royal Air Force, 1922, p. 32 and 33.
3. Whittingham, H. E., and Rook, A. F., "The Life-history and Bionomics of *Phlebotomus papatasi*," British Med. Journal, December, 1923, pp. 1144-1151.
4. Doerr, R., "Das Pappataciefieber," 1909, p. 101.

5. Birt, C., "Phlebotomus Fever in Malta and Crete," Journ. Roy. Army Med. Corps, March, 1910, pp. 238-260.
6. Kilroy, L. and Adshead, G. P., Statistical Report of the Health of the Navy, 1910, p. 171.
7. Couvy, Bull. Soc. Path. Oxot., Paris, 1921, xiv., p. 447.
8. Whittingham, H. E., "Demonstration on a Spirochaete isolated from cases of Sandfly Fever in Malta," Trans. Roy. Soc. Trop. Med. and Hygiene, November, 1921, Vol. xv., pp. 149-152.
9. Vervoort, H., "Spirochaeten bij acute Koortsige ziekten van onbekenden oorsprong in de Tropen," Gen. Tijdschr. v. Ned.-Indie, 1922, No. 6.
10. Van de Velde, E., "Spirochaetosis in Tropical Fevers," Gen. Tijdschr. v. Ned.-Indie, 1923, No. 1, pp. 63-74.
11. Whittingham, H. E., "Observations on Sandfly Fever in Malta," Proc. Roy. Soc. Med., November, 1922, Vol. xvi. (War Section), No. 1, pp. 1-14.
12. Griffith, A. S., "The Cultivation of Spirochaeta icterohaemorrhagiae and the production of a Therapeutic Anti-Spirochaetal Serum," Journ. Hygiene, 1919-20, Vol. xviii., p. 63.
13. Whittingham, H. E., and Rook, A. F., "Demonstration of the Life-History of *Phlebotomus papatasi* and its maintenance in Captivity," Trans. Roy. Soc. Trop. Med. and Hygiene, November, 1922, Vol. xvi., No. 5, pp. 262-266.

The Council of the Royal Borough of Kensington have unanimously resolved to increase the salary of Dr. James Fenton, Medical Officer of Health, to £1,300 per annum, with annual increments of £50, to £1,500.

The Members of the North Western Branch of the Society of Medical Officers of Health have been invited to a Joint Meeting of the Institute of Chemistry, the Literary and Philosophical Society, and the Societies of Chemical Industry, Dyers and Colourists, to be held in the Textile Institute, St. Mary's Parsonage, Deansgate, Manchester, on November 7th, 1924, at 7 p.m., when a lecture entitled "The Influence of Chemical Research on Medicine and Forensic Medicine," will be delivered by Sir William H. Willcox, K.C.I.E., C.B.E., M.D., F.I.C., etc.

SANITATION AT THE BRITISH EMPIRE EXHIBITION, 1924.

From notes supplied by

CHARLES E. GODDARD, O.B.E., M.D., Medical Officer of Health, British Empire Exhibition, Wembley and Harrow Urban Districts.

Sanitary precautions were very necessary even from the commencement of the preparations of the ground for the erection of the palaces and buildings when 7,000 or 8,000 men were constantly employed. Every morning four sanitary men were told off to disinfect latrines with chloride of lime and a gang was always covering over excreta and digging new trenches. As time went on it was found necessary to provide screened pail accommodation inside the largest buildings and the strictest supervision was necessary to prevent fouling of the grounds and even of the interior of the buildings. The Exhibition authorities were urged to provide more permanent accommodation. Early in 1924 the number of employees increased to about 20,000 and what with the wet weather and the clay soil the difficulties of the sanitary staff were appreciably increased but no serious nuisances occurred.

The architect provided for 768 water closets, 539 lavatory basins and urinal accommodation for over 1,000 persons in the exhibition and a proportional number in the Stadium. The Wembley District Council appointed a woman sanitary inspector, who inspected daily the sanitary accommodation provided for the female staff and visitors. The "sanitaries," to use an American expression, were managed throughout the Exhibition by a firm of contractors, who paid a considerable sum for the concession.

Early in June the sanitary accommodation generally was found to be insufficient, notwithstanding that it was relatively double that provided at the White City. The principal difficulty arose from the immense crowd discharging from the Stadium and not using the accommodation there. Increased accommodation both for men and women are provided in spite of which however on certain crowded days there was unavoidable overcrowding especially on the women's side.

Collection and disposal of refuse. During the construction of the buildings refuse was gathered up and burned by the contractor and bread, broken food, etc., was specially collected to prevent infestation of rats. After the exhibi-

tion was opened the exhibition authorities undertook the collection of refuse. The quantity of refuse made by the public was enormous. Three cleansing superintendents were employed and twelve Watson incinerators were in use. During the first six weeks of the exhibition the refuse from the restaurants was collected from a central dump by the Wembley District Council between midnight and 6 a.m. The work was carried out smoothly and without any difficulty and it was taken over by the restaurant contractors who instituted a system by which the refuse was taken by them direct to the place of final deposit.

Water supply. The Colne Valley Water Company supplied many millions of gallons of water daily for all purposes. It was of good quality. Careful supervision was found necessary to secure the covering over of the tanks for domestic water.

Food stuffs. All kitchens were regularly inspected, especially those attached to Hong Kong, and where necessary cautions were given. Frequent visits were made to the Cold Storage where the whole of the meat was kept and to the "Institutes" restaurants used exclusively by the staff and officials.

Native Quarters. At the end of February the first party of Chinese had arrived and they were followed by a further batch in March. A few days later twenty-five Burmese arrived. Their quarters were good and sufficient. The ground was well drained and the sanitary accommodation of native type was well constructed. Later quite distinct sanitary accommodation had to be provided for those who came from Palestine. During the first few weeks frequent blocking of the drains occurred owing to the Burmese making use of wood instead of paper. They were subsequently induced to adopt western methods. Natives from Sierra Leone, Nigeria and the Gold Coast numbered 70. They were housed in native huts in their own compound and sanitation was well maintained. For the Malay, Chinese and Burmese it was necessary to provide an English labourer to ensure cleanliness. Even with the daily visits of an inspector it was no easy matter to secure a satisfactory standard.

Animals. Constant inspection was made of the quarters housing animals including elephants, camels, Rodeo horses and steers, goats, sheep, monkeys, cows, bears, and ostriches and many other birds.

Adequate arrangements were made to deal with any case of infectious disease arising among the staff or visitors but no such case occurred.

Major-General Guise-Moore, C.B., was appointed Director of Medical Services in the

Exhibition and was responsible for the medical staff and for all medical work including that carried out by the St. John Ambulance Association and the British Red Cross Society.

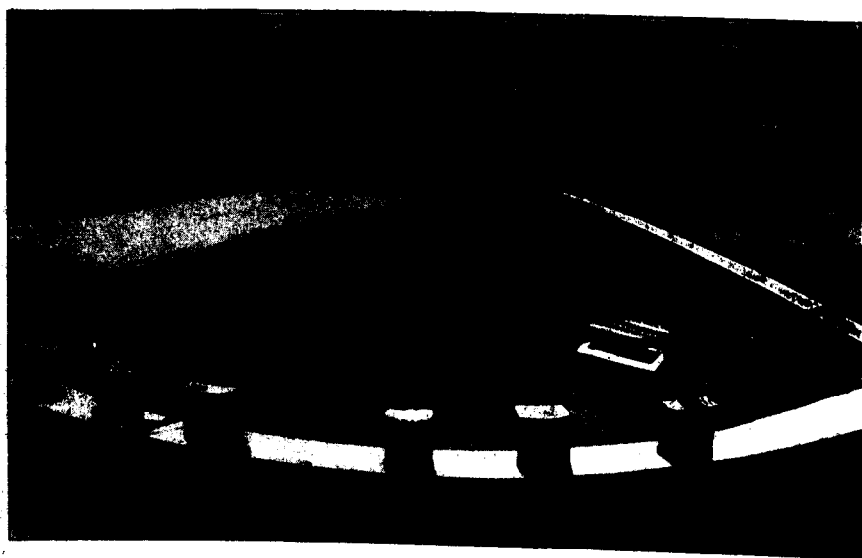
THE LATE SIR CHARLES CAMERON.

We record with great regret the death on October 2nd, of the Senior Hon. Fellow of the Society, Sir Charles Cameron, Bt., of Englefield Green,

Surrey. He was born in Dublin in 1841, and graduated in 1863. From 1874 to 1895, and again in 1897, he represented Glasgow in the House of Commons. He led a busy parliamentary life and was active in securing the passing of several Acts of Parliament. His services were always willingly given to the Society in connection with public health legislation, and he was looked upon as a very valued adviser. His addresses on matters concerning public health were sound and convincing, and he had a well-merited reputation as a popular teacher.

HOUSING CONDITIONS ON BARGES.

The medical officer of health to the Manchester Port sanitary authority, Dr. W. F. Dearden, J.P., has for some time concerned himself with obtaining improved conditions for men who work flats and barges. He considers that one of the very bad features of the accommodation usually provided has relation to the matter of ingress and egress by means of the old-fashioned scuttle which is nothing more than a square hole cut in the deck, surrounded by shallow



weather boards, and provided with a hinged or sliding cover as in the upper picture which also shows a bad type of ventilator. When the cover is up rainwater and even the wash from the river gets into the cabin and saturates the bedding. When the cover is on there is often neither light

nor ventilation in the cabin. The improvement which Dr. Dearden has persuaded many owners to make is shown in the lower picture. It is in shape like a quarter drum, one flat side fitting over the opening, the other flat side being vertical from the deck and providing the main part of the opening, whilst the top side is the quarter round. The uprights of the entrance are slotted for the reception of weather boards and the front part of the round will turn or slide back. In good weather the weather-boards can be out and the top turned back while in bad weather all except the top weather-board can be placed in position thus affording adequate protection against rain or wash without undue interference to ventilation and light.

Society of Medical Officers of Health.

A meeting of the Council was held at the House of the Society on Friday, 17th October, 1924, with the retiring President (Dr. T. W. Naylor Barlow) in the chair. There were present Professors Kenwood, Kerr and Wynne, Lt.-Col. Herbert Jones, Drs. Porter, Pearce, Scurfield, Clements, Sanders, Ridley Bailey, Flemming, Frederic Thomson, Beard, Greenwood, Banks, Snell, E. Ward, Eustace Hill, Jolly, Garstang, J. T. C. Nash, G. F. Buchan, Wheatley, and the President-Elect, Dr. R. A. Lyster.

The Minutes of the last meeting having been approved and signed, the President extended a cordial welcome to the new members of Council. Messages of apology for absence were then received from Lt.-Col. F. E. Fremantle, Drs. A. K. Chalmers, H. J. Milligan, T. Evans, and P. H. Stirk.

Correspondence. (1) From the Obstetrical Section of the Royal Society of Medicine suggesting a combined meeting of themselves and the Section of State Medicine, R.S.M., with representatives of the Society to discuss the Notification of Puerperal Sepsis, on November 6th, at 8 p.m. It was agreed to accept the invitation and that Dr. R. A. Lyster and Dr. Cates should take part in the discussion as representatives of the Society. (2) From the Ministry of Agriculture inviting the Society to nominate a representative to attend a conference on November 4th in reference to the proposal that an International Dairy Congress should be held in England during 1926 or 1927. It was agreed that Dr. Thomas Orr be asked to attend the conference on behalf of the Society. (3) From Dr. J. Howard-Jones certifying that the minutes of the Annual Provincial Meeting as published in "Public Health" (August, 1924, p. 294) were in his opinion a correct record of the proceedings over which he presided. The Executive Secretary was directed to forward a copy of Dr. Howard-Jones's letter to Dr. Cecil L. Williams who had questioned the accuracy of the Minutes.

"Public Health." Dr. R. A. Lyster having reported on his editorial duties during the past session, he was cordially thanked for his long services as Editor of the official Journal.

Council Vacancies. Lord Dawson of Penn and Lt.-Col. F. E. Fremantle having accepted nomination, they were duly elected Members of Council under No. 19 (f) of the Society's Articles of Association. A letter was read from Prof. John Robertson expressing sincere regret that his

official duties made it impossible for him regularly to attend meetings in London on Fridays and he therefore felt obliged to decline the honour of election to the Council under Article 19 (d). It was agreed that the Committee of Officers of the Society should submit nominations for the vacancy to be considered at the next meeting of Council.

Neech Prize Assessors.—Prof. Kerr and Dr. T. W. Naylor Barlow were elected to serve with the President and Editor as assessors for the Neech Prize, 1923-24.

B.M.A. Representatives.—On the proposal of Prof. Kerr it was agreed that representatives of the B.M.A. on the Central and Branch Councils should rank as *ex officio* members of the Society and should receive the Journal and Notices.

Handling and Preparation of Foods.—On the nomination of the Special Committee on Foods, the following were elected to serve on a joint committee representative of the Society and the Royal Sanitary Institute to consider methods of preparation, handling and storage of foods in this country, *viz.*—Prof. H. R. Kenwood, Drs. Wheatley, Barlow, Orr and Fenton.

Election of Committees.—The following Committees were appointed for the Session 1924-25:—

SPECIAL COMMITTEE ON REMUNERATION OF MEDICAL OFFICERS OF LOCAL AUTHORITIES.

The President, Dr. G. F. Buchan (Chairman), Prof. H. R. Kenwood, Drs. Howarth, E. Ward, Barlow, Sanders, Joseph, Peirgrave Johnson, A. F. Cameron, Stocks, C. J. Thomas, Mr. Grantley Smith and the Editor.

SPECIAL COMMITTEE ON FOOD PROBLEMS IN RELATION TO PUBLIC HEALTH.

The President, Dr. James Wheatley (Chairman), Profs. Kenwood and Robertson, Drs. Scurfield, Porter, Veitch Clark, Orr, Barlow, Snell, Ernest Ward, and the Editor.

LEAGUE OF NATIONS' COURSES FOR FOREIGN HEALTH OFFICERS.

The President, Dr. W. J. Howarth (Chairman), Prof. Kenwood, Drs. Barlow, Porter, Snell, Veitch Clark, G. F. Buchan, Cates, D. C. Kirkhope and the Editor. For Tuberculosis Courses: Dr. F. J. H. Coutts and Dr. Ernest Ward. For School Medical Courses: Dr. Eichholz and Dr. C. J. Thomas.

SPECIAL JOURNAL AND FINANCE COMMITTEE.

The President, Drs. Barlow, Herbert Jones, Garstang, G. F. Buchan, Kenwood, Sanders, Porter, Snell, Cates, and the Editor.

SPECIAL COMMITTEE ON NATIONAL HEALTH INSURANCE ACTS.

The President, Drs. Howarth, J. J. Buchan, Fenton, Ward, Clements, and the Editor.

SPECIAL COMMITTEE ON MIDWIVES ACTS.

The President, Dr. J. Cates (Chairman), Drs. Eustace Hill, Barlow, Clements, and the Editor with Drs. Flemming and Bone (B.M.A. representatives).

Report of Hon. Treasurer.—Dr. G. F. Buchan submitted his report as Hon. Treas. for the Session 1923-24, as follows:

I am pleased to be able to report a credit balance of £141 19s. 8d. for the year 1923-24. A provision for doubtful debts of £47 3s. 6d. has also been made. This compares with a credit balance of £22 17s. 2d. without provision for doubtful debts in the previous year. The credit balance is the largest I have been able to trace in the annals of the Society.

INCOME.

During the year our income has increased by £90 5s. 2d. due to an increase in the amount of subscriptions received.

EXPENDITURE.

No exceptional expenditure falls to be recorded during the year.

ARREARS IN SUBSCRIPTIONS.

Many members do not pay their subscriptions within a reasonable time from the commencement of the session and many have failed to pay during the current session. Arrears of subscriptions for two or more years have also accrued in some cases. Altogether at 21st September, 1924, 286 members were owing £603 15s. 0d. These members have been communicated with on several occasions and some of this money has been collected since the date mentioned. The names of those still in arrears have been forwarded to Branch Secretaries. In the event of continued default I propose reporting the names of the members concerned to the Council with a view to further action. The trouble and expense of collecting overdue subscriptions is very considerable and I hope the Council will take a serious view of this matter.

I desire to record my thanks to the Executive Secretary for the very able and willing manner in which he has assisted me in all my duties during the year.

It would be quite impossible for your Honorary Treasurer to supervise all the work that has to be done in connection with the accounts without the invaluable assistance of the Executive Secretary.

G. F. BUCHAN.

Hon. Treasurer.

The report having been adopted a unanimous vote of thanks was passed to Dr. Buchan for his untiring efforts on behalf of the society both as Hon. Treas. and as Chairman of the Salaries Committee.

The Society's House and Journal.—Dr. G. F. Buchan reported certain suggestions submitted by the Special Journal and Finance Committee in reference to the premises occupied by the Society and the official journal. The Committee were asked to acquire further information on these matters and report at the next meeting of Council.

The retiring President.—A very hearty vote of thanks was accorded to Dr. T. W. Naylor Barlow for his able conduct of the Council's business during his year of office as President.

The Council then adjourned.

ANNUAL GENERAL MEETING.

The Annual General Meeting was held at the House of the Society on Friday, October 17th,

1924. At the commencement of the proceedings the chair was taken by the retiring President (Dr. T. W. Naylor-Barlow, O.B.E.), and there was a large attendance.

The minutes of the last annual meeting having been approved and signed, messages of apology were received from Lt.-Col. F. E. Fremantle, Drs. Chalmers, Mair (Harrogate), Milligan, Stork, McMaster and Stocks.

Dr. Barlow then invested Dr. Robert A. Lyster with the presidential badge, predicting that he would prove during his year of office well worthy of the honour conferred upon him by his colleagues.

On the motion of Dr. Kenwood a cordial vote of thanks was accorded to the retiring President, and Dr. Naylor Barlow briefly responded.

Annual Reports.—The annual reports of the Council, the Editor and the Hon. Treasurer, and the Auditor were received and adopted, and the President expressed the gratitude of the Society to the Council and officials.

Election of Auditor.—Mr. J. T. Harris was unanimously re-elected as Auditor of the Society for the Session 1923-24.

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

AS FELLOWS:—Blake, Thos. Frederick Hillyer, L.R.C.P., and S., Ed., L.R.F.P.S., D.P.H.; Brown, Charlotte Rhoda, M.D., Brux, L.R.C.P. and S., Ed., L.R.F.P.S.; Boyd-Mackay, Sarah Eileen Florence, M.R.C.S., L.R.C.P.; Buckell, M. Aston Cornwall, M.B., B.S., Lond., M.R.C.S., L.R.C.P., D.P.H.; Butt, Francis John, M.B., C.M. Edin.; Garden, Richard Ramsay, M.A., M.B., B.Ch., Aberd., D.P.H.; Haydock, William Stanley, B.A., M.D., B.Ch., Glasg., D.P.H.; Herbst, Margaret Barbara, M.B., B.S., B.Hy., D.P.H.; MacDonnel, John Joseph, M.B., B.S., Lond., M.R.C.S., L.R.C.P., D.P.H.; McKie, William, M.B., Ch.B., Edin., D.P.H.; Macpherson, Donald Aldridge, L.R.C.P. and S., Ed., L.R.F.P.S.; Massey, Arthur, M.B., Ch.B., Leeds, D.P.H.; Morison, John, Major I.M.S., M.B., Ch.B., Glasg., D.P.H.; Morison, John, M.C., M.A., M.B., Ch.B., Aberd., D.P.H.; Murphy, Jeremiah Joseph, M.B., B.Ch., B.A.O., N.U.I.; Ogilvy, Charles Stuart, L.R.C.P. and S., Ed., L.R.F.P.S.; Parry, Robert Hughes, M.B., B.S., Lond., M.R.C.S., L.R.C.P.; Polhill, Montagu Cecil, M.R.C.S., L.R.C.P.; Ross, Andrew Oliver, M.D., Ch.B., Edin.; Tomb, John Walker, O.B.E., M.A., M.D., B.Ch., Dub., D.P.H.; Wilkins, Edgar Henry, M.B., B.Ch., Dub., D.P.H.; Woodroffe, Henry Dobree, M.D., B.Ch., Dub.; Wright, Caroline Isobel, M.B., B.S., Lond.; M.R.C.S., L.R.C.P., D.P.H.

AS ASSOCIATES:—Khambatta, Sorab, M., D.D.S., (U.S.A.); Hagen, Frederick James, L.D.S., Eng.

A large number of nominations were received for the November elections.

Hon. Fellows.—On the nomination of the Council Mr. William Whitaker, F.R.S., Past-President of the Geological Society and Dr. William H. Welch, Director of the School of Hygiene, Johns Hopkins University, were elected Hon. Fellows of the Society in recognition of their distinguished services in the advancement of Public Health.

Presidential Address.—Dr. Lyster then delivered the address on "Idealism in Public Health," which is published in full in "Public Health," November, 1924.

Lt.-Col. Herbert Jones, in proposing a vote of thanks to the President for his fascinating and thoughtful Address, said that it seemed to have become a custom during the last few years for Presidents of the Society to put forward what might almost be called a King's Speech, that is to say, they had presented what they had considered to be the policy of the Society, and that practice had been of very great advantage. A few years ago Dr. Kenwood had put before them a policy, involving the formation of groups and sub-groups, which had been carried out to the benefit of the Society. In following the same line he ventured to think that Dr. Lyster had acted wisely. Rather than applaud the work that had been accomplished since the Society was formed, their President had taken the better step of telling them what they ought to do. Probably all were not entirely in agreement with the details of his idealism any more than they could agree, as he reminded them, on the matter of the disinfection of a room, but generally speaking he felt certain that they could agree with the ideals put before them by Dr. Lyster in phrases and language that had been a great delight to them.

The motion was carried with acclamation, and the President briefly acknowledged his appreciation.

ANNUAL DINNER.

The Annual Dinner of the Society was held at the Hotel Cecil, on Friday, October 17th. Members and guests to the number of 140 were received by the President and Mrs. Lyster, and the plan of the tables will be found on another page.

The President, having proposed the health of the King, the toast of "The Society" was given by the Rt. Rev. The Lord Bishop of Winchester, who said he felt privileged in being asked to do so, because its members were always proposing the health of the cities and districts committed to their

charge, not in tiresome speeches, but in those actions which spoke louder than words, and which constituted their life work. The members of the Society were continually proposing the health of the man in the street, and they followed it up not by the draining of glasses, but by the draining of towns or maybe, the regulation of a water supply, or the disposal of refuse. They were, in fact, the life preservers of the community, and fulfilled a task absolutely vital. Little use to boast of our education, science, commerce or religion unless they could ensure that men and women had a reasonable opportunity to grow both body and soul in circumstances in which their characters could properly develop. He had seen sentries walking up and down outside Royal buildings, but they were the guardians who walked up and down beside that treasure house, the health and wealth of the people; concerned intimately with every citizen and his career from the cradle to the grave. Prevention of disease rather than cure was their sphere. When the house was on fire they were not the persons to rush in and rescue the burning people at the last moment, but were those who prevented the fire from reaching the house. There was an old story of the Greeks of ancient days where a man who paid a visit to Sparta, a strenuous place which prided itself on the strength and welfare of its inhabitants, was anxious to see the fortifications of the city. In response he was taken into a school and invited to look at the boys and girls. He appeared interested, but still desired to see the defences. "But here they are," was the reply, "these are the city walls and every one is a brick." He ventured to say that the members of the Society were the defenders of the defences of the city of the commonwealth to which they all belonged. It was quite impossible to exaggerate the importance of the work to the community, and he only wished that a larger number of citizens were more keenly interested in the problems with which they had to deal. After all, a great deal depended on the attitude of the local authorities in these matters, and they were doubtless looking forward to the time when local authorities would be even better informed than they were at present. There ought to be a keener helpfulness on the part of the Christian Church in forming that kind of public opinion that keeps a public authority mindful of its duties and ensures that neither pains nor money should be spared in seeing that they are fulfilled.

The President, who on rising, was greeted with acclamation, said he felt proud to be for the time being the mouth-piece of the Society, and to be able to respond to the toast. No body of people in the world would welcome more heartily the powerful

aid of the Church than the public health service at the present time, and they hoped to see in the future a closer association between Medicine and the Church. Palmerston had defined the word "deputation" as a noun of multitude signifying many but not signifying much, and there was a great danger of a society priding itself upon its membership only and except for that membership not signifying much. For many years on this and similar occasions attention had been drawn, with justifiable pride, to increasing membership, and to the fact that a very large proportion of the medical officers of health of the country were members of the Society, but it was essential to be careful not to attach too much importance to mere membership. They must ask themselves what they were doing. Does the result of this powerful membership signify much? A few years ago they were what might be termed a comfortable society, but worried about little things, whether it might say or do by accident something indiscreet, and on account of that anxiety most of the members of the Society said very little except platitudes and did still less. Then a Fairy Prince came along, very largely in the person of Prof. Kenwood, and he stimulated the Sleeping Princess into life and began a campaign which had resulted now in a society which was signifying a good deal. They were beginning to feel their feet on the road, which it was to be hoped, would lead them towards, if not actually to, their ideals within a reasonable period. With the Society as it was at present they had a machine more or less perfected for defence of their principles, and ideal sand for attacking forces which prejudiced those ideals and which sometimes threatened to obstruct the way. Whatever political party might be in power—and perhaps the present was an opportune time to speak on that matter—they could say to that party that here was a Society that could give advice on health matters; that was anxious to be consulted about such matters: a body ready to give opinions that no one else could give from a specialised point of view, and that would never be found wanting in enthusiasm to help in any reasonable project put forward for the public. They had been forced to adopt certain practices of a trades union, not from any selfish motive, but for the maintenance of a reasonable standing and dignity for the public health service. If that were not fought for they would be letting down that priceless asset of the nation, the public health. Those who had been associated with medical schools and particularly post-graduate teaching, would find it a matter for regret that the proportion of entrants to the public health service was smaller than it had ever been before. The

highest instinct of humanity was the relief of suffering, but as a public health service they suggested that there was a higher branch than that, which might be called the retail saving of life. The surgeon saved lives one at a time; the public health service saved them by the thousand, and for that reason they might claim to be wholesale savers of life and the leading branch of medicine of the future. Many diseases had been completely wiped out, and they believed that other diseases could be got rid of in the same way. The service had suffered in the way of remuneration; students had been lured away from it to other branches of medicine, and on that account it had been necessary to adopt methods to save the service from degradation and starvation for lack of recruits. Prevention always came late in the ideas of the public; they desired to educate the masses, and the Society claimed to be the proper educating factor and was anxious to teach prevention in health matters a little earlier. The Society also sought a greater influence in the medical training of medical students, and in their post-graduate training. If they could bring about these things they would have accomplished a very great work in the world.

Dr. G. F. Buchan, in proposing "The Ministry of Health," remarked that Ministries in these days were created with such rapidity that he was not sure that the Ministry of Health was the latest creation. To all of those present it was the ministry of the greatest importance, touching as it did the lives and health of the people at many points. As a Society, they had hoped that with the creation of the Ministry of Health there would have been consolidated in one department all health activities. Unfortunately that hope had not been realised, and even in a recent Bill there had been a proposal to have factory inspection under some form of dual control. He would be told that all these things would be co-ordinated at one point, but he had to confess that he was not much struck by the word "co-ordination." They had the same difficulties locally as well as centrally, and in appreciating the difficulties of the Ministry of Health they desired to assure the Ministry that in any effort they might see fit to make they would have the whole-hearted support of the Society. They considered it a great tribute that Sir Arthur Robinson should honour them with his presence; he had his heart in his work, and was doing his utmost to improve the national health, and to make the British Public Health Service a shining light amongst the nations.

Sir Arthur Robinson, K.C.B., in reply, said that Dr. Buchan had spoken rather sadly of the fact that the Ministry of Health had not got enough

work. He had just finished perusing the Ministry's Annual Report for the year ending last March, which had sections on every conceivable subject, and recommended its careful study. He assured Dr. Buchan that if anything more were put on to the Ministry it would be the last straw to break the camel's back. When the Ministry was formed it was realised that the many problems to be tackled had to be got hold of by the health end, and he thought it could be fairly claimed that since its inception the Ministry had done that. Many principles were involved, public health the biggest principle of all, and a long view had to be taken to secure progress in a very big task. He desired to thank the Society on behalf of the Ministry for the way in which the toast had been received. The Ministry wished to support the medical officers of health; they knew the Society was doing a great and increasing work in educating public opinion, and appreciated that the medical officer of health was the greatest factor in that connection.

Prof. Harold Kerr, O.B.E., in proposing "The Guests," said that their distinguished guest list reflected the extraordinary development that had taken place in the work and aims of their Society. The man in the street nowadays began to appreciate the value of prevention as against cure of illness, and the general practitioner was beginning to realise the possibilities of preventive medicine. Only recently at a meeting of the British Medical Association he had been called upon to answer a strong attack upon medical officers of health for the work they were doing in taking the bread out of the mouths of the general practitioners, notably in the treatment of young children which was said to result in their having no babies to treat at all. They had been surprised at his statement that the medical officers of health had done nothing at all in the way of treatment, and one of the older men had remarked that a change was taking place with which many of them were out of touch. They in the public health service were anxious to work with their colleagues in other branches of medicine, who in their turn, he was sure, would wish to work with them. He gave a cordial welcome to their guests and coupled with the toast the names of Lord Dawson of Penn, Sir Humphrey Rolleston, Sir Francis Champneys, and Mr. H. J. Waring.

The Rt. Hon. Lord Dawson of Penn, G.C.V.O., K.C.M.G., who had that day been elected a member of the Council of the Society, said that it would be a privilege to him to give of his best in the sphere of work that might open out to him. The most striking evidence of the vitality of the Society was its growth, but in regard to its policy as to preventive medicine

he ventured the opinion that success would not be fully attained until the general practitioner had been brought in, and the only way to do that was by giving him responsibility. How this was to be brought about was yet to be discovered. The more they thought of early diagnosis the finer did the line of demarcation become, and in time the way would be paved for the bringing together, gradually and wisely, of the two sections. The part to be played by education in public health had been brought out in a very striking manner by Sir George Newman in his recent Memorandum on Public Education in Health. Anything in the way of approximation of education and medicine would need to take place in local areas and not at the centre. For the medical officer of health of the future he saw greater influence, more success, and an increasing part in the health of the community.

Sir Humphry Rolleston, Bt., K.C.B., P.R.C.P., expressed his appreciation of the honour of being invited to the Society's dinner. He could not but feel a great admiration of the work that medical officers of health were doing, and of their high ideals and aims.

Sir Francis Champneys, Bt., Chairman of the Central Midwives Board, said that his association with the public health service for twenty-four years had been increasingly intimate, and that it would probably be of interest to state that out of a board of thirteen, there were eight members who were connected with local health authorities. He wished to assure the Society that the Board desired co-operation with them so that as time went on they could become more helpful to one another.

Mr. H. J. Waring, C.B.E., M.S., F.R.C.S., Dean of the Faculty of Medicine, University of London, also expressed pleasure at being able to be present that evening. As Chairman of the Board of Governors of the London School of Hygiene, and its Treasurer, he had been associated with this new school of hygiene, which it was to be hoped would soon be called into existence. One point that had struck him had been that medical officers of health appeared to be a little too much associated with the Ministry of Health in looking after the 10 per cent. of unfit. There was always a great tendency to allow sentiment to play an undue share in these matters, and the things that might be done for the potentially fit were apt to be forgotten. He believed it was a biological fact that one could not get a first class dog out of a mongrel. In many ways the public health service had been trying to get an A.1 population out of a C.3 ancestry. He rather would like to see progress on the lines of the survival of the fittest, and not the survival of the unfittest.

1924.

YORKSHIRE BRANCH.

The Annual Luncheon of the Branch took place at the Hotel Metropole, Leeds, on September 26th, 1924. Colonel A. E. L. Wear, C.M.G., presided over a gathering of twenty-nine, which included the following guests: The President of the Society (Dr. T. W. N. Barlow), Mr. G. S. Elliston, Ald. D. Walker (Bradford), Ald. Stephens (Huddersfield), Ald. Milnes (Batley), Councillors Anderson (Wakefield), Milner and Roberts (Leeds) and Mr. E. H. Middlebrook, solicitor, of Leeds. Alderman Walker and Mr. Middlebrook replied to the toast of "The Visitors" which was ably proposed by Dr. J. J. Buchan. "The Society of Medical Officers of Health" was honoured by Councillor Anderson, and Dr. Barlow replied. Dr. Thornley (East Riding) in proposing the toast of "The Retiring President of the Branch" referred in happy terms to Colonel Wear's successful year of office, and Colonel Wear replied.

Very good feeling exists between members of local authorities and the Yorkshire Branch. In particular, no social gathering of the branch would be complete without Alderman Dr. Walker and Councillor Anderson. The luncheon provided an opportunity to cement old friendships, and Dr. Mitchell Wilson, who was elected to an Honorary Fellowship a year ago, gave pleasure to his colleagues by his presence.

At the subsequent business meeting a discussion arose as to the possibility of increasing the attendance at the monthly meetings, and it was decided to fix at least one evening meeting to see whether school medical officers would avail themselves of the opportunity to attend. The President of the Society and Mr. Elliston were fortunately able to encourage the branch members by their presence, and they discussed the affairs of the Society in an interesting manner. The Retiring President of the Branch (Colonel Wear) delivered an address and expressed his pleasure that the School Medical Service, through him, had been represented in the Yorkshire presidential chair. Subsequently he led Dr. J. Mair, of Harrogate, to the chair, which he is to occupy during the session 1924-5.

MIDLAND BRANCH.

Meeting held in the Council House, Birmingham, on Thursday, October 2nd, 1924, at 8 p.m.

There were 19 members present.

The induction of Dr. H. Woolsey Stocks as President for the Session 1924-25, was performed by Dr. Hamilton Wood the retiring President.

Dr. Lockhart Stephens, C.B.E., D.L., President of the Southern Branch of the Society, proposed the health of the President in felicitous terms, and concluded with a reference to the work carried out by part-time medical officers.

Hearty cheers were given for the President and Mrs. Lyster, and the former briefly returned thanks for the toast, adding in reference to Dr. Stephens' allusion to the part-time medical officer of health that none of them had ever heard any medical officer of health express any animosity or hostility to the part-time officer. They all knew what splendid work he had done and the tremendous difficulties under which that work had been carried out. They knew also that in many instances the difficulties were far too great for the individual, and were agitating for a remodelling of the conditions. There was no hostility against the individual.

Lt.-Col. Herbert Jones said he desired the privilege of adding one toast—that of the Executive Secretary. When reference had been made to that period of stagnation and smug satisfaction of the first decade of the century the speakers had in their generosity refrained from alluding to the fact that during the whole of that period he was their Honorary Secretary. Continuing in a playful vein, Col. Jones said that he and his audience had the satisfaction of knowing that he was not the last honorary secretary. The progress in the Society of the last few years was due in very great measure to the zeal of their Executive Secretary, Mr. Elliston, and they had done a very good stroke in getting amongst them the editor of *The Medical Officer*, whose valued services were a great asset to the Society.

The toast was received with applause, the Executive Secretary returning thanks briefly.

During the evening the President announced that several guests had notified their regret at being unable to be present, many on account of the demands of the political situation. Messages were received from Mr. James Wheatley, the Minister of Health, Sir Alfred Mond, and from the medical Members of Parliament. Two former Presidents of the Society, Dr. Bostock Hill and Col. Fremantle sent special messages, the former regretting that illness prevented his attendance at the dinner, and Col. Fremantle expressing the hope that the Society would increase its influence in all ways, and that if returned to Parliament he would hope to be the Society's spearpoint.

A very excellent musical programme, in which Miss Olive Sturgess and Mr. Norman Williams took part, contributed to the success of the function.

THE SOCIETY OF MEDICAL OFFICERS OF HEALTH.

ANNUAL DINNER, OCTOBER 17th, 1924.

PLAN OF TABLES.

Dr. Andrew Balfour, C.B., C.M.G.	1	Dr. J. S. Fairbairn	1	Lady Smith, J.P.	1	Dr. Frank B. Skerrett	1	Dr. W. A. Muir	1	The Times	1	The Executive Secretary	1	H. G. Westley, Esq., M.A.	1	Sir Bruce Bruce-Porter, K.B.E., C.M.G.	1						
Mrs. Balfour.				Dr. William R. Smith	2	A. H. Murry, Esq.	2	Dr. A. Middleton Hewat	2	The Daily Telegraph	2	Dr. R. C. M. Colvin-Smith	2	Norman Williams Esq.	2	Miss Colvin-Smith	2	Dr. F. J. Allan	2	Dr. J. J. Jervis	2	Major R. W. H. Jackson	2
Dr. J. S. Fairbairn	2	W. H. Savery, Esq., J.P., C.C. (Chairman, Housing Committee, City of London Corporation)	2	Dr. C. F. Pedley	3	R. Denison Pedley, Esq., F.R.C.S., L.D.S.	3	Mrs. Muir	3	The Central News	3	The Morning Post	3	Lt.-Col. F. Harvey	3	Dr. Livey Tong	3	Dr. A. Massey	3	Dr. Mary Kidd	3	Dr. Mildred Thymie	3
Dr. A. A. Mussen	3			Dr. H. P. Newsholme, M.D.S.	4	Dr. W. M. M. Jackson	4	Mrs. Ruddock-West	4	The Press Association	4	Public Health	4	Dr. Culbert G. Welch	4	Dr. Wansley Bayly, M.C.	4	Mrs. Massey	4	Dr. J. Fenton	4	Dr. Maud Cairney	4
Dr. H. B. Brackenbury	4			Dr. W. M. Ash	5	Dr. E. T. Holden	5	Dr. Kerr Simpson	5	The Sanitary Record	5	The Medical Officer	5	J. Brannwell Graham, Esq.	5	Miss Olive Haydon	5	Dr. E. Donaldson	5	Mrs. Porter	5		5
Dr. R. Veitch Clark	5			Dr. E. A. Freer Wilkes	6	Dr. Holden's Guest	6	Mrs. Kerr Simpson	6	Dr. W. J. Hart	6	Dr. R. H. H. Jolly	6	Dr. A. Hutton-Ashkeny	6	Dr. M. Donaldson	6	Dr. G. Lissant Cox	6		6		6
Sir Francis Champneys, Bart.	6			Mrs. Frear Wilkes	7	Dr. Rayner	7	Dr. E. H. R. Harries	7	Dr. T. Ridley Bailey	7	Dr. J. R. Bulman	7	Dr. C. S. Thomson	7	Dr. W. D. Chambers	7	Mrs. Lockhart Stephens	7		7		7
Dr. W. J. Howarth, C.B.E.	7			Dr. John Tate	8	Dr. Cates	8	Mrs. Harries	8	Dr. Jessie MacLachlan	8	Miss Dorothy Herbert Jones	8	Dr. A. F. Cameron	8	Dr. J. J. Buchan	8	Mrs. Chambers	8	Dr. Lochart Stephens, C.B.E., D.L.	8		8
Sir Arthur Robinson, K.C.B.	8			Dr. King, Esq.	9	G. A. Powell, Esq., C.B.E.	9	Dr. Melville D. Macenzie	9	Rev. E. W. Sara	9	W. G. Spencer, Esq., O.B.E., M.S.	9	Dr. N. G. Horner (British Medical Journal)	9	Mrs. Bostock Hill	9	Dr. C. W. R. Stans	9	H. G. Barcland, Esq., J.P.	9		9
Dr. T. W. Naylor Barlow, O.B.E.	9			E. King, Esq.	10	Mrs. Cates	10	Mrs. Kerr	10		10		10		10		10		10		10		10
Mrs. Lyster	10				11		11		11		11		11		11		11		11		11		11
The Rt. Rev. the Lord Bishop of Winchester	11																						
The President : Dr. Robert A. Lyster	12																						
The Rt. Hon. Lord Dawson of Penn. G.C.V.O., K.C.M.G.	13																						
Dr. T. Eustace Hill, O.B.E.	14																						
Sir Humphry Rolleston, Bart., K.C.B., P.R.C.P.	15																						
Dr. Charles Porter.	16																						
Sir Dawson Williams, C.B.E.	17																						
Dr. J. T. C. Nash	18																						
H. J. Waring, Esq., C.B.E., M.S.	19																						
Prof. F. E. Wynne	20																						
Prof. Waller S. Leathers (Vanderbilt Univ., U.S.A.)	21																						
Dr. T. W. Shore, O.B.E.	22																						
Dr. Alfred Cox, O.B.E.	23																						
Mrs. Sanders.																							
Dr. Charles Sanders.																							

Apologies for absence were received from Drs. P. A. Dormer, R. J. Cyriax, C. Killick Millard, John Robertson, C.M.G., and P. W. Edwards.

A letter was read from the President of the Society, Dr. T. W. Naylor Barlow, regretting his inability to visit the Midland Branch during his year of office.

The Branch Council submitted a report on the Methods of House Disinfection advisable in Cases of Tuberculosis. It was resolved that the consideration of this report should be deferred until the next Branch meeting, and that it should be printed and circulated with the Agenda papers.

Dr. Woolsey Stocks then delivered his Presidential Address on "Some Experiences of the 1919 Housing Act" in which he dealt in detail with the scheme of procedure laid down and the traps and pitfalls which it was necessary to avoid.

Dr. Gibbons Ward proposed, and Dr. Clendinnen seconded, a hearty Vote of Thanks to Dr. Stocks for his interesting address.

The hearty congratulations of the Branch were given to Dr. T. Ridley Bailey on being elected Chairman of the Public Health Committee of the British Medical Association.

NORTHERN BRANCH.

The Annual Meeting of the Branch, preceded by the Annual Meeting of the Branch Council, was held in the Medical Institute, Newcastle-upon-Tyne, on the 10th of October, 1924, there being present twenty members and one visitor. Dr. R. MacLeod presided.

Dr. W. H. Dickinson, Tuberculosis Medical Officer, Newcastle-upon-Tyne, was installed in the Presidential Chair, he being the first representative of the clinical service to have occupied it.

Sorrowful reference was made to the recent deaths of Dr. John Taylor, who was for fifteen years (1909-1918) Honorary Secretary of the Branch; and of Dr. Andrew Smith, Medical Officer of Health, Whickham U.D.C., an Ex-President and a member for about twenty years, and one who held in a unique degree the regard and affection of his colleagues.

Sympathetic reference was also made to the illness of the Ex-President and Ex. Vice-President (Drs. A. G. R. Cameron, and T. Horne), and of Dr. G. S. Dodgson.

The Annual Report of the Branch Council was received and approved. The Branch Council was elected for the new Session, and the name of Dr. Jas. Hudson, the direct nominee of the North of England Branch of the British Medical Association, was received and included.

Dr. P. A. Dormer, Medical Officer of Health, Jarrow (Ex-Midland Branch) was formally elected a member of the Branch.

Arrangements for the Annual Dinner were left in the hands of the President, Vice-President, and the Honorary Secretary, with the instruction that a warm invitation be sent to the President and the Executive Secretary of the Society.

The Honorary Secretary reported receipt of a letter from a well-known member of the North of England Branch of the British Medical Association suggesting a Conference between representatives of the Society and of the British Medical Association to afford further opportunity of explaining public health methods and administrative policy with a view to bringing about closer co-ordination. After discussion, it was resolved "That if the British Medical Association Branch considered it desirable to make such a proposal, the Branch of the Society should welcome it, and send representatives to discuss any matters that might be raised."

The Honorary Secretary drew the attention of members to the great difficulty he experiences in obtaining early, and sometimes indeed any, information regarding appointments pending, or probable, of an unsatisfactory nature, and in time to take any steps in the interests of the service, and asked that this be specially noted.

Further reference was also made to the urgent necessity for a speedy understanding with the Scottish Branch of the British Medical Association in view of the grave injustices that loyal members of the Society and of the association south of the border suffer through the regular applications by Scottish candidates for blacklisted appointments, especially in the North of England.

The President delivered his address on "The Outlook in Tuberculosis" for which he received a hearty vote of thanks, and upon request, agreed to submit it for discussion at the next meeting of the Branch.

Report of the Honorary Secretary and Treasurer for the year ended 30th September, 1924.

The membership at the end of last year was 189.

During the period under report 14 members were elected, and there were three transfers to the Branch. The Branch lost two members through death, and twelve through transfers and resignations. The total membership is now 142 (135 Members and 7 Associates). There are also three Honorary Members.

The Branch has to deplore the loss by death of two of its oldest and most valued members.

Dr. A. Smith, M.O.H. Whickham U.D.C., was one of the most interested and active members of the Branch, and of the Branch Council, until his death on the 1st of August, 1924. Dr. Smith was President of the Branch during 1908-09, and 1909-10.

Dr. John Taylor was Secretary of the Branch for 15 years (1903-1918), and a representative of the Branch throughout that time on the Council of the Society.

The Branch met six times, and the average attendance was 18, as against 16 in the previous year.

The Annual Dinner was held in the Medical Institute on the 7th December, 1923, and 27 members and 10 guests attended, and the latter included Captain G. S. Elliston, M.C., M.A., the Executive Secretary of the Society, and several prominent members of the Newcastle-upon-Tyne Division of the B.M.A.

The Summer Meeting was held at the Tyehside Golf Club House, Ryton, on the 20th June, 1924, and 17 members and two visitors attended.

At four of the meetings papers and addresses were given by Dr. George Foggin, Captain G. S. Elliston, Dr. C. R. Gibson, and Dr. W. H. Dickinson, and there was a special meeting to consider the best means of support to the B.M.A. in connection with the National Health Insurance Dispute, the remaining one being a Summer Meeting.

The Branch was represented at five of the nine meetings of the Council of the Society in London, and the Branch has been kept in intimate touch with the policy and proceedings at Headquarters.

The Branch presented a portrait of Dr. T. Eustace Hill for addition to the Society's Gallery of Ex-Presidents.

Other activities included the consideration of appointments in connection with the following:—

South Shields ...	(M.O.H. & M. & C.W.M.O.)
Sunderland ..	... (M.O.H.)
Gateshead ...	... (S.M.O.)
Darlington ..	... (S.M.O.)
Northumberland C.C.	(Asst. M.O.H.)
Middlesbrough ...	(S.M.O.)
West Hartlepool ...	(S.M.O.)

RELATIONS WITH BRITISH MEDICAL ASSOCIATION.

Good progress has to be recorded in relations with the British Medical Association.

In accordance with the recommendation of the Annual Representative Meeting of the British Medical Association in July, of the current year, two direct representatives (Drs. W. H. Dickinson and D. F. MacRae) of the whole-time Public Health Service, have been elected to the British Medical

Association North of England Branch Council, and this body has elected a direct private practitioner representative (Dr. James Hudson) upon the Society's Northern Branch Council.

The council of the North of England Branch, elected in July, includes for the current year four whole-time and thirteen part-time public health officers, in addition to the two direct representatives of the whole-time public health service.

Of special note also is the success of the Service in the election of the Executive of the Newcastle-upon-Tyne Division which, out of a total membership of about thirty, includes five whole-time and five part-time members of the Public Health Service.

In all the Divisions within the area of the Northern Branch of the Society there has been much activity on the part of Members of the Society.

GROUPS.

The Fever Hospitals' Medical Service Group of the Society held a meeting at the City Hospital for Infectious Diseases, on the 25th of April, 1924.

This was attended by, *inter alia*, Medical Superintendents of the largest Fever Hospitals in England and Scotland.

SUB-GROUPS.

The Tuberculosis Medical Officers' Sub-Group held one Executive Meeting and one General Meeting during the past Session, at which business matters were dealt with exclusively.

The General Meeting was followed by a Supper. The President for the year was Dr. S. K. Young, and the Executive Committee consisted of Drs. Goodwin, Dodgson and Leigh, together with the President and the Honorary Secretary (Dr. W. H. Dickinson).

The School Medical Officers Sub-Group met once, at which Dr. W. MacKenzie presented a paper on "Physical Deformities in Children." Seven members attended the meeting.

The President of the Sub-Group was Dr. J. McConnell, and the Honorary Secretary, Dr. R. F. Lunn.

H. KERR,
Honorary Secretary.

8th October, 1924.

CORRESPONDENCE.

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

WOMEN IN PUBLIC HEALTH APPOINTMENTS.

Sir,—Your correspondent "Woman Assistant Medical Officer" in the September "Public Health" (p. 324) evidently considers that the

paragraphs and letters which have appeared recently in the "British Medical Journal" and "Public Health" complaining of Medical Women "blacklegging" and undercutting, are very unfair.

She states: "It is not only women who accept these posts," i.e., underpaid posts, and nobody would think of disputing this statement, but if she will consider for one moment the comparatively small proportion of female members of the Medical Profession, she will immediately realise, I have no doubt, that the frequency with which they are found to undercut and accept underpaid posts, proves, without doubt, that a far larger proportion of women are ready to "blackleg" and lower the status of the profession than is the case with men.

She goes on to say that two of the "fair" candidates for the Moray Education Post were the daughters of medical men of good standing. Are we to believe then that these were the young, blameless, inexperienced women she defends in her opening paragraph, or are we to decide, as our experience has taught us, that it was only another case of the daughters of well-to-do parents, who, having taken up Medicine as a hobby or pre-marital occupation, were ready to accept any congenial employment with some further "pin-money" attached.

I would suggest to "Woman Assistant Medical Officer" that this attitude of eagerly accepting practically anything offered is engendered in single young women in Medicine by the inevitable difference between their outlook on life and that of men.

A married man has, of course, responsibilities and expenses which alone make it expedient that he should attempt to maintain to the utmost the rates of pay in the profession, and a single man has to look forward always to a time when he, too, may have these responsibilities, etc.

The majority of young women now in Medicine, however, have only the present and themselves to consider, and in most cases can look forward to a future in which their expenses will tend to decrease rather than increase.

I am,

Yours faithfully,

MAN ASSISTANT MEDICAL OFFICER.

From Dr. Frances Ivens.

Sir,—The attention of the Officers of the Medical Women's Federation has been drawn to various articles and references in your journal to the position of women in medicine and to the acceptance by some of them of posts which are

offered at a salary below that recognised as sufficient by the British Medical Association, the Society of Medical Officers of Health, and the Medical Women's Federation.

The first point was dealt with by Lady Barrett in a reply to the article published in your issue of February last.

The second point is one of much importance in the eyes of the Medical Women's Federation, which has always loyally supported the British Medical Association in its endeavours to insist on a minimum of £600 for Public Health posts, and has done its best to dissuade medical women from accepting such appointments. But until Local Authorities and the public generally are alive to the importance of such responsible positions being held by those who have had at least three years' experience in general or specialised medicine, it cannot be a matter of surprise that numbers of local committees consider £600 as a more than adequate salary for young medical men or women, or that these young people themselves apply for appointments at salaries which appear to many of them as sufficient.

In your pages you have given the names of medical women who applied for certain underpaid posts, but so far as we know you have not made public the names of the men who also made application or who have been appointed to these or similar ones. This course of action is manifestly unfair, especially towards the members of a profession which prides itself on equality. The Officers of the Medical Women's Federation therefore hope that in future all names, irrespective of sex, of applicants for blackleg posts will be published, or that the publication of those of women only will cease.

Yours, etc., FRANCES IVENS,

President, Medical Women's Federation.

27th September, 1924.

The Society of Medical Officers of Health has been exceptionally active in endeavouring to secure more adequate remuneration for public health officials whether they are men or women and has always recognised the support received from the Medical Women's Federation. The president of the Federation is well aware that the position was never more difficult than it is at present, but a recent conference between representatives of the Federation and the Society will have favourable results. Miss Ivens is mistaken in supposing that we mention only women candidates who apply for underpaid posts. Reference to our files will satisfy her that we publish all the names, regardless of sex, when they are obtainable. [ED. "P.H."]

Public Health

THE JOURNAL OF

The Society of Medical Officers of Health.

No. 3.

DECEMBER, 1924.

VOL. XXXVII.

Subscription price, 31s. 6d. per annum, post free
in advance. Single copies, 2s. 6d., post free.

CONTENTS.

	PAGE
EDITORIAL—	
The Minister of Health	73
Periodical Medical Examinations	74
The Prosecution of Dr. W. R. Hadwen	74
Health Work in the Federated Malay States	75
Public Health Administration in Austria	76
OBITUARY—	
Dr. A. Jasper Anderson, M.A., M.D., M.R.C.S., D.P.H.	78
The Outlook in Tuberculosis (By W. H. Dickinson, O.B.E., M.D., M.R.C.P., Ed., D.P.H.)	79
Travel and the Spread of Disease (By Arthur Massey, M.B., Ch.B., D.P.H., Assistant M.O.H., Surrey County Council, Late Assistant M.O.H., South- ampton C.B.	84
Municipal Wards for Mal-Thriving Children (By Grace H. Giffen Dundas, F.R.C.S.I., D.P.H., Camb., Medical Officer to Maternity and Child Welfare, Middlesbrough C.B.	88
SOCIETY OF MEDICAL OFFICERS OF HEALTH—	
Council Meeting	90
Ordinary Meeting	91
Report of the Honorary Editor, Session 1923-24	92
Metropolitan and Home Counties Branches	92
Eastern Branch	93
North-Western Branch	94
West of England Branch	95
Midland Branch	96
School Medical Service Group	96
Tuberculosis Group	97
REVIEWS—	
Pocket Handbook of Meat Inspection	98
An Introduction to Forensic Medicine for Medi- cal Students and Practitioners	98
CORRESPONDENCE—	
Assistant Medical Officers	99
The Supervision of Mentally Defective Children	100

Editorial.

THE MINISTER OF HEALTH.

The hazard of political turmoil has given the country a Minister of Health who has entered upon his duties as the head of the Central Health Department with the good wishes of all parties. The Prime Minister has fully recognised the importance of the Ministry of Health in appointing Mr. Neville Chamberlain as its chief, and in doing so Mr. Baldwin has made it quite clear that in his opinion the Ministry occupies a very important position among government departments. It is now for the Ministry to justify that opinion. It cannot be denied that since its creation this new central department has suffered from circumstances which could never have been anticipated, and which could not be prevented. We will refer to one only, namely, the frequent change of Minister. This cannot possibly have made for the smooth working of the Public Health service and not the least of Mr. Neville Chamberlain's qualifications as Minister of Health is the fact that he has returned to a position he has already held. He requires no introduction to the members of his permanent staff, and he is well acquainted with the machinery of the department.

The great and outstanding task of the new Minister is admittedly that of providing more and better housing accommodation for the working classes throughout the country. It is a task which he entered upon two years ago and it is one for which he is eminently fitted to perform. A less formidable undertaking, but one of great importance, is that of placing the Public Health Service upon a more satisfactory and contented footing. We have every confidence that Mr. Chamberlain will bring to bear on the question of the emoluments and terms of appointment of Public Health Officers that breadth of view with which it is credited as possessing and that he will impress upon all those concerned that if there is

to be secured the best and the most efficient service, those who are engaged in it must be contented. The Minister of Health will find that since he last held office in the Ministry great strides have been made towards securing that contentment, and he may be trusted to take advantage of the great opportunity afforded him of settling on equitable lines what has come to be known as the "salaries question" of Public Health officers, and also of placing all local government officers on an equality as regards superannuation.

PERIODICAL MEDICAL EXAMINATIONS.

The medical examination at stated periods of children attending the public elementary schools in this country has by its results fully justified its adoption. The continuation of these examinations in later years is becoming a practical proposition in the United States where it was introduced some years ago in the Army with respect to commissioned officers and was found to be of great value. At a later date some of the large life insurance companies in America came to the conclusion that it would be a paying proposition to arrange for the periodical medical examination of persons insured with them. One large company in seven years caused 95,000 such examinations to be made, and it is said that they were thoroughly justified by the benefit in added life expectancy to the policy holders examined.

In his presidential address to the section of Epidemiology and State medicine of the Royal Society of Medicine in October last, Dr. J. C. McVail urged that one direction in which progress might be made in the improvement of health was by the routine medical examination of individuals apart from illness. It is not the first time that Dr. McVail has made this proposal, for in his well-known report to the Poor Law Commissioners in 1907 on Poor Law Medical Relief in England and Wales, he recommended that at certain intervals but not too often, the family doctor should offer to make a medical examination of his patients. He considered that no sphere of medical work was more certain to be helpful than such a periodical examination of individuals in the preservation of health and the prolongation of life. There would be noted tendencies to general disease such as gout, rheumatism, diabetes, obesity, cancer, tubercle, alcoholism and insanity. Among women the doctor would see that due care was taken to prevent mischievous sequelae of childbirth and among men industrial diseases would be borne in mind and advice given as to the

suitability of certain trades to the individual. It is unnecessary to remind our readers that the Commissioners did not include the well-reasoned recommendation of their Investigator in their recommendations, but it is suggestive that before many months had elapsed the Local Education Authorities were required to make arrangements for the periodical medical examination of the school children under their charge.

Over and over again medical officers of health and school medical officers have deplored the fact that these examinations cease when a child leaves school and have recommended a continuance of them in adult life. In his very thoughtful address to the medical students of the Middlesex Hospital at the opening of the Winter session last October, Dr. Charles Porter urged his hearers not to devote all their time, energy and enthusiasm to the observation of the diseased and the study of disease, for there was much to learn of the healthy and of healthiness and it was going to be worth while learning it. He was certain that the benefit of regular and frequent medical inspection would soon be widely recognised, and that the medical profession would come to favour it and recommend it. He reminded his audience that since the time when it became fashionable to regard the teeth as the source of the bulk of all ills we had been preaching that everybody should visit the dentist once or twice a year, but as he pertinently added the teeth are not the only organs in the body that may be the seat of some trouble that can be readily stopped if recognised early and promptly dealt with.

The whole question of periodical medical examination of adults is ripe not only for discussion but for practical application.

THE PROSECUTION OF DR. W. R. HADWEN.

At the Autumn Assizes held in Gloucester, Dr. W. J. Hadwen, a general practitioner in that city, who is known as an anti-vaccinator, and anti-vivisectionist, was found not guilty of a charge of manslaughter brought against him in unusual circumstances. He had attended a child alleged by the prosecution to be suffering from diphtheria. He had not administered anti-toxin, and he had not submitted material from the patient's throat for bacteriological examination. The child died, in Dr. Hadwen's opinion from pneumonia and in the opinion of other medical practitioners concerned in the case from diphtheria. In his treatment of the case negligence was alleged on the part of Dr. Hadwen.

Considered in point of law the prosecution was faced with an extremely difficult problem. As Mr. Justice Lush, before whom the case was tried, repeatedly pointed out in his summing up, before a charge of manslaughter could be substantiated, the "negligence" alleged must be something more than mere carelessness, it must be of a wicked and culpable nature. Negligence in the criminal sense does not mean simply the not-doing of something that ought to be done, it must also embrace some positive element of vice or criminality. Now in such a case as this, it would appear impossible by the ordinary rules of evidence to bring home this essential element. Accurate diagnosis of disease cannot be compelled by law. Proof that the patient would have lived had antitoxin been administered could not be furnished, nor is there any statutory duty to pursue a recognised system of treatment. Blind prejudice alone cannot be construed as criminal in essence, although it may be productive of harm, and that being so, no other verdict was possible on the charge preferred. The essential difference between the Criminal and Civil Code is well illustrated in this case, for bearing in mind the fact that neglect to obtain a radiograph of an injured limb may be grounds for an action for damages, it is open to conjecture that had a civil suit for malpraxis been pursued in another Court, the result might have been very different.

HEALTH WORK IN THE FEDERATED MALAY STATES.

"Assuming that the population has increased at the same rate as during the intercensal period and judging from the sickness and death returns furnished to the Department, the health of the people during the year 1923 was better than that of any year under record." So writes the Senior Health Officer of the Federated Malay States in the annual report for 1923 on the activities of his Department. With unnecessary modesty, in the light of the large amount of work shown in the report to have been carried out by health officers during the year, he proceeds "the reason for this improvement must to some extent be ascribed to the efforts of the various authorities, public and private, past and present, who have been concerned with the prevention and abatement of disease; but how much is due to these sources and how much to nature it is impossible to say."

The Health Department suffered throughout the year from a shortage of staff. The sanctioned staff includes a Senior Health Officer, fifteen Health Officers, eight European Chief Sanitary

Inspectors and twenty-eight Asiatic Sanitary Inspectors. For the greater part of the year there were only four Health Officers, while six Medical Officers were lent by the Medical Branch to make up the deficiency. The Senior Health Officer is Dr. R. A. Wellington.

Perhaps the most important duty of the Health Branch is the investigation and control of Malaria and the undertaking of anti-mosquito measures. Malaria invariably heads the list of the principal cause of sickness and death. During 1923 there were 15,516 deaths certified as being due to malaria, but the rate of 11.17 per thousand is the lowest on record. Nevertheless the Senior Health Officer remarks "reckoned in dollars, there is no doubt that the annual loss of this country through malaria runs into seven figures and perhaps into eight."

The Government machinery for promoting proficiency in anti-malarial operations consists of the Malaria Advisory Board and the Mosquito Destruction Boards. The former is a central Committee formed for the purpose of collecting information with a view to advising generally as to the methods which should be adopted for the control of Malaria. The Mosquito Destruction Boards are local bodies vested with executive powers and appointed by the British Resident to deal with the mosquito situation in their respective areas. The anti-malarial activities of the Health Branch also include the teaching of mosquitology, propaganda, investigation and quinine distribution. During the year 1,179,400 tablets of quinine were issued for free distribution. A stock of cinchona febrifuge was also obtained on favourable reports of its efficacy in the treatment of malaria, this drug being cheaper to buy than quinine.

Other important duties of the Health Department include the record of vital statistics, inspection of schools and work under the quarantine and Prevention of Diseases, Sanitary Boards and Sale of Food and Drugs Enactments and the Labour Code.

There were no epidemics of infectious diseases of any magnitude, the number of cases reported being Smallpox, 32 with 9 deaths; Plague, 16 with 10 deaths; Diphtheria, 17 with 7 deaths; and Cerebro-Spinal Meningitis, 12 with 8 deaths. The death rate for pulmonary tuberculosis was 1.39 per thousand, the lowest on record for ten years. Ninety per cent. of the natives of Malaya are said to be infected with ankylostomiasis, but the death rate recorded is only 0.28 per thousand, and many deaths certified as due to this disease

immigrants at Port Swettenham now receive anti-ankylostome treatment.

A small outbreak of plague in Kuala Lumpur and the subsequent systematic examination of rats from the neighbourhood revealed the presence of *Xenopsylla cheopis*, the most efficient carrier of plague. It had been surmised that freedom from serious outbreaks of plague in the Federated Malay States might be due to the absence of an efficient transmitting agent, but this is now proved to be untrue. Nevertheless there seems little tendency on the part of this disease to spread and up to the present there has never been a real epidemic.

Public Health Education was carried out by articles sent to the Press, advertisements, pamphlets, lantern lectures and instruction in schools. The shortage of Health Officers interfered with the carrying out of a complete programme of propaganda.

The birth rate per thousand amongst Europeans and Americans during the year was 20.24 (126 births) and the death rate 5.46 (34 deaths).

In reference to the above, Prof. A. Bostock Hill writes:—

"Having spent four months last winter in the Federated Malay States and Straits Settlements, and having during that period had, and taken every opportunity of looking into the work of the Health Service in these States, I am in a position, perhaps, to add a few words as to the work done in safeguarding Public Health.

My first feeling was one of surprise at the large amount of work done and the results achieved, looking at the difficulties underlying Public Health work in the tropics. The various races there, with their prejudices and their ignorance, make the problem completely different to that which we as a Health Service have to deal with in this country. Many of the points to which we give serious attention do not materially affect their work, while the scourges of malaria and of ankylostomiasis completely change the problem of maintaining a good state of public health. The one great difficulty that occurred to me in the Federated Malay States was the fact that there has not yet arrived a proper appreciation of what Public Health as a science is capable. As is obvious, having regard to the evolution of the colonial medical service, curative medicine still holds the premier place, and as the preventive service is as yet only a branch of the medical service, of which, up to the present, the principal medical officer is a "curative" and not a "preventive" man, it is inevitable that difficulties must arise.

The perusal of the Report shows how shortness of staff during the year hindered the work of prevention, but for all this, the extraordinary results achieved under the greatest difficulties give ample evidence of what might be done, were the Public Health Service free to deal unhampered with its own problems.

Great efforts are being made in the way of Public Health propaganda. In fact, having regard to the accompanying conditions, the Malay States are in this respect almost as advanced as we are, and when the staff again becomes of proper size, it is reasonable to expect that even better results will be achieved in this direction.

I am in strong hopes that in the course of a short time Health work in the States will be further aided by the celebration of Health or Baby Weeks, or both, in the same way as these have been carried out in Great Britain, and which during the last two years have been so much appreciated in India and the Dominions of the Crown.

PUBLIC HEALTH ADMINISTRATION IN AUSTRIA.

The Health Department of the League of Nations has in contemplation a scheme for furthering the inter-nationalisation of health administration, and as a preliminary step has initiated the compilation of concise reports describing the public health services of various Countries. The first two publications of the series deal with the organisation of Health Service in Austria and in Germany, each of which in the compass of some 70 or 80 quarto pages gives an authoritative account of the nature and scope of the activities now being pursued in these two countries. Practically the whole of the health organisation of the old "Austro-Hungarian Monarchy" which came to an end on November 12th, 1918, has been carried over to the new "Republic of Austria," so that the former hierarchy of central and provincial Boards of Health, divisional, communal and district medical officers has been maintained. The principal change to be noted is that the Health Department in the Ministry for Internal Affairs has been abolished, and a special section of the Federal Ministry the "Public Health Office" is now the supreme authority on health matters, but education, care of deaf mutes and blind children, remain in the hands of the new Federal Ministry for Internal Affairs and Education. The actual administration is carried out by means of authorities classed as of the first, second, and third grade, the last (and highest) being the Public Health Office. Authorities of the second (or intermediate)

grade comprise the provincial government authorities who have at their disposal a staff of doctors under the direction of a Public Health expert, while the first (or lowest) grade include the district Commissionerships, and the Councils of towns possessing their own statutes. In addition to the supreme control in general of Public Health work, the Federal Government is in particular responsible for the keeping of records and statistics, the supervision of hospitals, asylums and similar institutions, vaccination and pharmacy, the application of laws relating to communicable diseases, to disposal of the dead, and to certain dangerous and offensive trades. The provincial and communal authorities are principally concerned with the more detailed work in connection with dwelling houses, thoroughfares, drains, water supply, foodstuffs, and matters pertaining to the preservation of life in cases of emergency. Legislative action proceeds from the Office of Public Health by way of ministerial decrees or, when necessary, special laws are promulgated in accordance with constitutional practice. The chief officials of the central office number about 42, of whom 32 are doctors. In 1922, the expenditure on staff amounted to 415 million crowns (say £1,300), and the general expenditure on national public health administration, 115 million crowns (say £360). It is to be noted that the National Health Department is a branch of the Political Organisation of the Country, so that the medical officials are subordinate to their political chiefs, and that there is no legal guarantee that the views of the former will prevail in the event of dispute.

Doctors, pharmacists, dentists, and to a small extent, midwives, come under the purview of the central authority so far as their general training and licence to practice is concerned, but especially in the case of midwives further control is secured by provincial law. There is no uniform law relative to Midwifery in Austria, nor is there any State Midwifery Service. There are six instructional institutions where a woman who wishes to qualify as a midwife may take out her ten months course, at the end of which, if she passes the examination, she receives a diploma entitling her to practice anywhere in the Republic. She must notify to the local authority her intention to practice, and abide under the supervision of the district medical officer. The autonomous administrative bodies (communes, towns), are obliged to provide midwives for women in confinement who are without means.

The Law relating to Hospitals was codified in 1920, and certain supplementary provisions have been added since. Hospitals are classified as of two kinds: public and private. The former include general and special hospitals, homes for convales-

cents, and for incurables, and maternity institutes. The conditions are that the institution should be useful to the community, in a position to fulfil its legal obligations, its establishment certain, and its administration conducted by a public legal officer, or a recognised corporate body. The income of such institutions is derived from fees (according to scale) donations and endowments, but when the income does not meet the expenditure, the deficit is made good as to two-eighths by the district served, three-eighths by the Province, and three-eighths by the State. For private hospitals, a licence must be obtained from the Provincial Authority, which may be revoked for infringement of the regulations relating to such places. There is one public maternity institution in each of the six large towns, but only one private maternity home in the whole of Austria, however, most hospitals and sanatoria have special maternity wards. There are only two large hospitals exclusively for infectious diseases, both in Vienna, but nearly all institutions for the sick have isolation sections and besides, in most towns and districts, there are buildings which are available as temporary hospitals in times of emergency. All kinds of hospitals, asylums, sanatoria, etc., number 479, and provide about 17,000 beds, or roughly, six to seven beds per 1,000 inhabitants. There is an abundant supply of doctors, there being over 7,000 for a population of six-and-a-half millions, or say, one per 1,000. Corresponding figures for nurses and midwives are not given.

According to present regulations, the religious committees are called upon to record births and deaths in the parishes. Every quarter an official summary is sent to the authority of the district (or municipality), then passed to the Provincial Authority, and finally to the State Public Health Office. Birth entries are much more elaborate than ours, comprising no fewer than 15 items, and including such details as creed, age of father, and of mother, duration of wedlock, obstetric aid by midwife or doctor, etc. Similarly, the death entries comprise 19 items. Coroners' inquests are held in every case. The Coroner is almost invariably a medical man. His duty is to examine the "certificate of treatment" from the practitioner in attendance, and by autopsy or otherwise, verify the stated cause of death, and that the death was not of unnatural origin. The findings of the coroners form the basis of the mortality statistics. Stillbirths are also registered.

The list of notifiable infectious diseases corresponds closely to our own, but does not include tuberculosis nor syphilis. Provision is made for extension of the list as occasion may demand in certain localities. Vaccination is not compulsory,

in general, but all applicants for official posts and services must (as a rule) furnish evidence of vaccination and again, special provincial decrees have been promulgated from time to time for compulsory vaccination of certain sections of population in cases of emergency. (e.g., Smallpox in Switzerland, 1928). Since Vienna is now particularly exposed to invasion by infected persons from the East, extensive arrangements for quarantine and disinfection have been made in that City, and by operation of the Epidemic Laws, doctors may be drafted from other parts of the Country to assist in epidemic work at the frontier. As already mentioned, tuberculosis is not notifiable generally, but all heads of institutions where people live, e.g., hospitals, boarding schools, prisons, barracks, must notify to the local authority any cases coming under their care and by various other means, a knowledge of existing cases is obtained. The general measures adopted are instruction, isolation at home, removal of children exposed to infection, supervision and removal of patient to a sanatorium. There are now several well equipped sanatoria in the country providing about 4,500 beds, of which half are in Vienna, and 600 in private hospitals. After care is now being actively carried on, and about 52 centres are now open.

State efforts to combat venereal diseases date from the pre-war period. The demoralisation resulting from the War, and the impoverished state of the country added enormously to the problem. At the end of 1922, about 40 treatment centres were in operation, and maintained out of Federal Funds, since when, seven have been closed on account of insufficient attendance.

No uniform regulations or State administrative measures have yet been applied to school hygiene. Certain of the larger towns, e.g., Vienna, Graz, Salzburg, and some of the industrial villages, e.g., Berndorf Metal Works, have a well-organised school medical service, while for the rest there are school medical officers responsible for various school districts. Child Welfare work is also in an undeveloped condition on account of lack of funds. Much the same applies to general sanitation. Vienna, for instance, has an excellent water supply, and an efficient system of sewerage and the same applies in a lesser degree to the more important provincial towns, but much that is essential is beyond the resources of the smaller districts. Disposal of refuse is on much the same footing, the methods adopted in the poorer areas being extremely primitive. Housing is also a very acute problem. Lack of funds has prevented the newer Housing Laws (1921) being carried into operation. Insurance

against sickness and disablement is compulsory for most classes of workers, and sick funds are subject to State control. Speaking generally, the Report indicates that Austria possesses the nucleus of an effective Public Health Service, but that its extension in detail, and in the direction of the more sparsely populated areas, has been sorely hampered by the impoverished state of the country, and the precarious state of its finances.

OBITUARY.

Dr. A. JASPER ANDERSON, M.A., M.D.,
M.R.C.S., D.P.H.

It is with very sincere regret that we record the death on 2nd October last in Capetown, of Dr. A. Jasper Anderson. When he was in England about three years ago his friends found he still retained that enthusiasm for his work which characterised his labours in this country. He had overcome difficulties in Capetown as successfully as in Blackpool and he will long be remembered as a pioneer in his particular calling of the first rank. He was best known in the Society to the North Western Branch, at the meetings of which he was a very regular attendant. In 1895 he was president of the Branch, in which capacity he delivered an address on "The Past, Present and Future of the Medical Officer of Health." It appeared in full in Vol. VI. of "Public Health," page 304, and a perusal of it at this date proclaims Anderson as a far-seeing administrator and explains in great measure his success in later years. Reforms which he advocated in the Vaccination Acts and Education Acts have long since become accomplished facts. Improvements in death certification and the codification of the public health laws were among his proposals, and although little advance has been made in either his well-reasoned arguments in their favour, have lost none of their potency.

The amount of work accomplished by Anderson in Capetown was phenomenal. In addition to the executive work connected with the public health department of a large city he acted as medical superintendent of the isolation hospital and in his later years was a member of the Colonial Medical Council and was the first Professor of Hygiene in the Capetown University. In 1922 he was retired and succeeded by Dr. T. Shadick Higgins formerly medical officer of health of St. Pancras.

THE OUTLOOK IN TUBERCULOSIS.*

By W. H. DICKINSON, O.B.E., M.D., M.R.C.P., ED.,
D.P.H.

During the past fifty years great advances have been made in our knowledge of the pathology, diagnosis, treatment and prognosis of tuberculosis, and we are beginning to understand its aetiology more or less clearly.

Knowledge is power, and it is our duty to apply that knowledge, gained after much brilliant but arduous research, to the control of this disease which is not only one of the most important causes of mortality, but also results in greater loss of wage earning capacity and productivity than any other single disability.

PATHOLOGY AND DIAGNOSIS.

The ancient writers were very keen observers, and their remarkably good descriptions of phthisis can be read with profit by all of us to-day.

Their methods of investigation were, however, very restricted, and there is no doubt that they confused empyema and bronchiectasis with tuberculosis.

Lacking the refinements of diagnosis now available to all, they only recognised tuberculosis in its advanced stages and so-called 'incipient phthisis' or, as we prefer to call it 'minimal pulmonary tuberculosis,' was practically unknown to them.

Little progress was made for very many centuries; Thomas Cullen who was regarded as one of the foremost exponents of practical medicine in Europe, and whose book entitled "The Practice of Physic" published in 1786, was a standard authority for many years, defined "Phthisis Pulmonalis" as "An expectoration of pus or purulent matter from the lungs attended with a hectic fever."

However, with the more general practice of post mortem investigation, the morbid anatomy of the various diseases of the chest came to be differentiated until at the beginning of last century Laennec established "the unity of phthisis."

In spite of great opposition his views prevailed and the foundations for the scientific study of pulmonary tuberculosis were securely laid.

Though much has been done since the days of Laennec there is still much to learn, and here I may say that great confusion has resulted from the classification of pulmonary tuberculosis into first, second and third stages.

It is only in recent years that we are beginning to realise that extensive lesions may exist in the

*Presidential Address to the Northern Branch of the Society of Medical Officers of Health, 10th October, 1924.

lungs, practically from the onset of recognisable pulmonary tuberculosis.

To gain a proper outlook on the disease all clinical tuberculosis workers should avail themselves of every possible opportunity of investigating their cases post mortem.

In this connection I am reminded of the inscription printed in large letters on one of the walls of the post mortem theatre of a large hospital in Amsterdam, "Mortui vivos docent"; I think that the argument contained in these three words still requires to be driven home.

A few visits to the dead-house might subdue the optimism of some of those who claim that they are able to cure tuberculosis in all its forms, and in all its stages, not forgetting those practitioners who cheerfully recommend Sanatorium Treatment for far advanced cases telling them that in three months time all will be well.

The practical application of Auenbrugger's discovery of the value of percussion in the diagnosis of chest conditions and the introduction of mediate auscultation by Laennec gave a tremendous impetus to the accurate clinical study of pulmonary diseases.

It is a lamentable fact that these valuable arts are not sufficiently taught and practised at the present day, with the result that the practitioner is apt to depend too much upon the laboratory for a ready made diagnosis.

While bacteriology provides us with the only certain proof of the tuberculous nature of an illness, we want something more than a bald diagnosis; to obtain a correct idea of any case we must be able to form a true estimate of the lesion both qualitatively and quantitatively.

Close observation of the clinical course of the disease especially as regards the temperature curve and the pulse rate give us valuable information as to the type, but for the determination of the extent of the lesions we must seek assistance from the X-rays. The value of Röntgen's discovery in the investigation of diseases of the thoracic organs cannot be over-estimated, and it is becoming recognised, only slowly perhaps in this country, that radiological facilities are absolutely indispensable for every Tuberculosis Dispensary, Sanatorium or Hospital.

Everyone will admit, I think, that in recent years many patients have been diagnosed as suffering from tuberculosis on quite insufficient grounds.

In some instances too much importance has been placed on symptoms, in other cases the fault has been due to an incorrect interpretation of the physical findings.

To avoid the needless dissipation of our limited

financial resources on the treatment of non-tuberculous subjects the introduction of some definite diagnostic standards is essential.

Here I would like to draw attention to the scheme evolved at the Trudeau Sanatorium whereby subjective symptoms are largely disregarded and attention is focussed on five "diagnostic points" namely:

1. A history of a definite haemoptysis.
2. The occurrence of pleurisy with effusion.
3. The persistence of moderately coarse râles in the upper half of the chest.
4. A definite parenchymatous X-ray lesion in the upper half of the chest.
5. The finding of tubercle bacilli in the sputum.

The last is taken as the only certain factor in making a diagnosis; in its absence two of the remaining four "points" must be positive before a diagnosis of pulmonary tuberculosis is justified; a case presenting one of them should be regarded as a suspect and subjected to close observation either at home or in a sanatorium.

When there are signs of extensive lesions of the lungs, tubercle bacilli will almost certainly be present in the expectoration if the condition is tuberculous; but of course the investigation must not be limited to a single examination.

It may be objected that a basal lesion is apt to be overlooked if one adheres to these standards; in my experience a purely basal tuberculous lesion is extremely rare and, in any case, repeated sputum examination will clinch the diagnosis, practically invariably, if the disease is active.

If every patient is carefully examined along these lines few mistakes will be made in sorting out those who are suffering from pulmonary tuberculosis from those who are not.

Now this is all very simple, and it will be seen that these diagnostic standards can be applied by any medical practitioner of average competence; if they were, the number of notifications of pulmonary tuberculosis would show an amazing drop, and fewer patients would be seeking admission to our sanatoria.

In case you are beginning to think that our work is not very exacting and that after all the tuberculosis service, when unmasked, is only the proverbial "whited sepulchre," I must hasten to explain that the really difficult tasks demanding skill and experience are the assessment of the type of lesion present in the definitely tuberculous, and the close clinical study of the suspect cases and "contacts."

Time does not permit me to deal with the various serological and bio-chemical reactions which are of undoubted value, less perhaps from the points of view of diagnosis than prognosis, but I think that every tuberculosis physician should be encouraged to dabble in these side lines, even if only

to stimulate his interest in the subject.

Tuberculin has not proved of such great value in diagnosis in the case of adults as was hoped, but there is still much scope for the investigation of children, labelled tuberculous, by means of the von Pirquet test and its modifications.

TREATMENT.

Fresh air, exercise in the open, and change of residence were all advocated by the older writers as of value in the treatment of pulmonary tuberculosis, but until comparatively recently blood-letting was the principal method adopted owing to the fact that the source of the disease was thought to be some noxious "acrimony" circulating in the system.

At the present time the main lines of treatment are rest, tonics, sunshine, fresh air, hydrotherapy, etc.—everything, indeed, which will promote good appetite and proper assimilation of the ample nourishing and well balanced diet which is an essential.

Careful temperature records are necessary and once the disease has become stabilised, provided the patient remains afebrile, increasing amounts of exercise are permitted until full resumption of normal activities is attained.

For the most part these desiderata are only to be obtained in sanatoria; unfortunately these institutions are far ahead of the times, and more successful results in treatment will only be possible when sanatorium principles can be followed out in the homes of the people.

All are familiar with the excellent immediate results of sanatorium treatment; most of us are painfully aware of the disastrous failure of domiciliary treatment.

What happens to the average working class patient who leaves the sanatorium much improved in every respect? Thrown upon an unsympathetic world he is compelled to return to the same depressing and insanitary environment in which he contracted the disease, is only too often unable to secure suitable work and hence, unable to get adequate and proper nourishment, gradually drifts into pauperism and dies in misery.

At the very time when a patient stands most in need of assistance and guidance he is left to depend upon his own resources, and therefore it is not to be wondered at that the ultimate fate of so many ex-sanatorium patients is utterly gloomy and bereft of hope.

Well managed village settlements offer a solution to the problem but they are too costly and can only deal with a very small proportion of the people who need assistance.

Training colonies and centres have recently been advocated, but when run on present lines they must be regarded as simply an extension of sanatorium treatment; no provision is made for the employment of the "trainee" after he has finished his course, and I am convinced that they are doomed to absolute failure.

A healthy environment and plenty of food of the right kind are necessary for the tuberculous patient, and he should be able to provide these by engaging in suitable work; in other words workshops not workhouses should play an important part in the after treatment of the ex-sanatorium case.

Pensioners are proverbially a long lived class, but there is no doubt that the tuberculous individual whose disease has been held attributable to, or aggravated by, his war service has on the whole weathered the storm very much better than his civilian brother.

Proper "after-care" of the tuberculous must be introduced, otherwise the farce of domiciliary treatment will continue and more failures will be laid at the door of the sanatoria.

Reference must be made to collapse therapy whereby the more extensively diseased lung is allowed or compelled to contract.

Artificial pneumothorax is now a well established procedure and gives valuable results in checking the disease. By reducing the cough and the amount of sputum the quantity of infective material expectorated by the patient under treatment is greatly reduced.

Phrenicotomy to induce paralysis of the diaphragm, thoracoscopy to enable the surgeon to sever, by means of the cautery, thin and ribbon-like adhesions when these prevent complete collapse of the lung, and thoracoplasty, which is really an application and extension of Estlander's operation, are all likely to be much more exploited in the future than they are at present; my personal experience of them is limited but in certain circumstances they are capable of rendering great and lasting benefit to those on whom they are practised.

As pointed out by Gauvain it is a curious anomaly that operative measures are being increasingly adopted for tuberculosis of the lungs, which formerly rested entirely within the domain of the physician, whereas non-operative treatment is becoming the rule for so called "surgical tuberculosis."

With the introduction of conservative methods combined with exposure to sunshine, ultra-violet rays, carbon arc and other forms of light, in conjunction with the various means of increasing the assimilative powers mentioned earlier, great improvements have been effected in dealing with non-pulmonary tuberculosis.

Owing to the fact that the patients are able to see their lesions, or are in some other way sensible of their disabilities, they are usually willing to undergo much more prolonged treatment than is the case with those suffering from pulmonary tuberculosis, and the results are undoubtedly better.

There is, however, still a great lack of accommodation for patients suffering from the so-called "other forms" of tuberculosis, and more beds must be provided in specially equipped hospitals and sanatoria.

Although tuberculin has proved so disappointing in treatment, doubtless because the patient's system is overcharged with toxins at the time when assistance is most needed, I think there is still hope of an effective serum or anti-toxin being discovered which may be of value during febrile attacks and relapses.

PROGNOSIS.

The older physicians mostly regarded tubercle of the lungs as, for all practical purposes, an incurable disease.

In this connection I should like to quote a few quaint lines taken from the preface of a remarkable book entitled, "Theatrum Tabidorum" written by Bennet, in 1720:—

"Thou treatest of the phthisis, not only from the accounts of authors, but from thy own sufferings, and thou wast at the same time the patient and the physician. It is not easy to say whether thy disease was more grievous or thy recovery more glorious. This work was the anatomy of thyself wasting away, and almost reduced to a skeleton."

Many doctors still think that definite tubercle of the lungs, with Koch's bacilli in the sputum, is practically hopeless, but we have only to look round and see the numerous cases of lasting cure in our own ranks, and our own social class, to know that such a view is quite untenable.

I personally have frequently been accused of being unduly pessimistic. I do not doubt that pulmonary tuberculosis is often curable—that is an established fact—but I must admit a certain amount of pessimism concerning the ability of the methods hitherto in vogue to achieve a very much greater percentage of lasting cures, amongst the working classes, than those of the aforementioned Bennet and his contemporaries.

We have ample knowledge of how better results may be obtained, but the knowledge has not been applied.

It must of course, be clearly understood that I am not impeaching my colleagues—I am condemning a system.

AETIOLOGY AND PREVENTION.

So far I have only dealt with the pathological and clinical aspects of the disease; these are very important and deserve much more detailed study than is usually accorded to them.

Our ultimate aim, however, is to gain accurate information regarding the aetiology of clinical tuberculosis in order that we may be able to prevent it.

Hippocrates was of opinion that tuberculosis was due to a faulty state of nutrition, and later writers emphasised the importance of debilitating conditions and improper and insufficient nourishment as predisposing causes.

Long before the bacteriological era, many writers, especially in southern Europe, held that phthisis was a contagious disorder and the discovery of the tubercle bacillus by Koch in 1882 was at first thought to have settled the question beyond doubt, but, although the relative importance of "seed" as opposed to "soil" is still a subject of controversy, the pendulum is to-day swinging in the other direction. Infection is, of course, still acknowledged as a necessary factor, but we now know that it is very widespread and in civilised communities practically inevitable sooner or later.

It is only too frequently observed that several fresh cases of tuberculosis are liable to occur in affected families within a relatively short period, and as dormant tubercle infection has probably been present in the various members of such households for some considerable time it seems only reasonable to conjecture that some other factor, or factors, more formidable than the tubercle bacillus itself, determines the onset of the disease in those who were previously free from it.

Although the risks of even slight infection in infancy, and "massive" doses of bacilli at any age, are admitted, the present tendency is to regard clinical tuberculosis as the local manifestation of the activity of Koch's bacillus in a person suffering from a systemic disorder or dystrophy.

Recent experience particularly in Central Europe, has firmly convinced most observers that lack of adequate and suitable nourishment plays the most important role in breaking down the natural defences of the body, thus allowing a latent infection to develop into clinically recognisable disease.

Systemic exhaustion following other diseases, overwork, dissipation, etc., and unsatisfactory environment, especially as regards light and ventilation, are also allowed their part as contributory adverse factors.

While the influence of heredity is still disputed the tendency is to discount its importance; racial immunity, or rather the lack of it, is, however, held

to have a very definite bearing in respect of the type and curability of the tuberculous lesions in those affected.

The illustrious van Swieten, founder of the famous Vienna Medical School, who compiled the lengthy "Commentaries upon Boerhaave's Aphorisms" writing in his picturesque style said:—

"How frequently have physicians lamented to see this cruel disease snatch away, in the flower of their age, beautiful young persons of both sexes, as a storm beats down roses in their bloom."

At that time most of the attention of the physicians was directed to treatment; there was little thought of prevention.

In this enlightened age, although it is recognised that our therapeutic efforts have not been attended with a full measure of success, we realise that much can be done in the direction of prophylaxis.

The idea of organised preventive measures is only of recent date, and we are much indebted to Sir Robert Philip for the active part which he has taken in co-ordinating the administrative measures for the control and eradication of the disease.

Two courses of action are indicated, first to cut off the supply of tubercle bacilli, more particularly to prevent massive infection with highly virulent organisms, and second to raise the resistance of the people to the highest possible pitch.

As regards the first, sufferers from the disease must be diagnosed as early as possible and instructed in the proper disposal of their expectoration.

Every sputum positive patient should have a separate room if possible, the absolute minimum is a separate bed, failing which hospital isolation is indicated.

When an advanced case, coughing up large quantities of bacillus-laden sputum, is in the home, young children should be boarded out with healthy relatives or friends.

The "Oeuvre Grancher" and the allied system, introduced by Léon Bernard and Debré, of placing tiny babies in healthy homes are doing excellent work in France, but I doubt whether they could be satisfactorily transplanted in this country.

Another important source of massive infection is milk. The establishment of tuberculin-tested herds is very laudable, but more urgently required is some method, by inspection or otherwise, of stopping the sale of milk drawn from cows suffering from tuberculosis of the udder.

The problem of increasing the resistance of the people is a very large one, but is closely bound up with nourishment and assimilation; the methods to be adopted are similar to those employed in the sanatorium.

Since the beginning of the present century enormous strides have been made in our knowledge and the profound influence of sunlight, even diffused, upon the system and the beneficial effects of moving air upon metabolism have only been explained in recent years.

Of probably greater significance is the discovery of the importance of the "accessory food factors," or vitamins, in connection with nutrition and growth.

Cod Liver Oil with its relatively high Vitamin A content has stood the test of time as a useful adjunct in the treatment of tuberculosis and so-called "pre-tuberculous" conditions; its value has now been established on a scientific basis.

Nothing has so far been said with reference to vaccination; the experience of Calmette and his collaborators with tubercle bacilli modified by growth in media containing bile are very encouraging, for these workers have undoubtedly produced a certain degree of immunity to the tubercle bacillus in cattle.

Shiga and Raw have also prepared vaccines of attenuated tubercle bacilli, but we are not yet in possession of sufficient information as to results to be able to assess their real value.

Further research work along these and other lines must be encouraged for there is no knowing what further triumphs science will achieve.

From the administrative side all the various departments and organisations interested in social welfare, whether state, municipal or voluntary, must join forces, for the greatest safeguard against tuberculosis is the improvement of the general health of the people.

The Medical Officer of Health by keeping a close watch on the supplies of fresh food, particularly milk, meat and vegetables, by compelling owners of old and insanitary property to have defects remedied, by urging the demolition of unhealthy areas and the construction of new houses, preferably on the "Garden City" model, to relieve overcrowding, by supervising workshops, etc., will continue to play an active part.

The School Medical Service is also entering into the lists and I hope that the time is not far distant when all "contacts" of school age will be regarded as "special cases" and carefully examined, with a view to their admission to the open-air schools and preventoria, or the supply of free meals, in necessitous cases.

The value of physical exercises and respiratory gymnastics must not be overlooked.

I may be mistaken but I have the impression that our Maternity and Child Welfare colleagues devote their attention too exclusively to women, immediately before and after childbirth, and infants up to

twelve months of age. There is, I feel, great scope for the application of preventive measures in the later part of the pre-school life of the child.

Here again I think that some method of inter-departmental notification could be more widely adopted and would be certain to bear fruit in the future.

At present we are all working too much in water-tight compartments; we want occasional round table conferences between the various units of each Public Health Department in order to evolve a comprehensive attack on disease by combined action.

The Tuberculosis Care Committees will certainly play a more important role in the future, for, dealing, as they do, with the family unit, they are accomplishing a great work in prophylaxis. Their work is not spectacular, but we believe it to be of the highest value. They have in the past been greatly hindered in their activities by lack of financial resources, but it is probable that their work will be incorporated with that of the local authority at no distant date.

The Poor Law Authority exercises many functions which have a direct bearing on the health of the people; the whole position stands in need of revision and some at least of the activities of the Guardians of the Poor should be controlled by the Public Health Committee of the Local Authority, while in other respects there is need for closer co-operation than at present exists.

The Friendly Societies have not yet embarked whole-heartedly upon their "preventive" possibilities; Dental Benefit for all their members and more generous provision of convalescent homes are only two of the lines along which they can do much valuable work.

Our knowledge concerning tuberculosis is far ahead of actual practice. It is necessary, therefore, that the knowledge should be more widely disseminated.

To begin with, tuberculosis should receive more attention in the medical curriculum; Scotland and Wales each has its professorship in tuberculosis—the English Universities and teaching schools will have to follow suit.

The nursing profession which is the great intermediary between the general public and ourselves is, on the whole, lamentably ignorant on the subject of tuberculosis; this is a defect which can easily be remedied and must be attended to.

Lastly there is the great mass of the people; all classes are beginning to think more about health, and wisely directed publicity campaigns can do no harm, and are only likely to promote thought and interest in the subject of prevention of disease.

It is not sufficient to preach prophylaxis individually, *i.e.*, to the contacts of known cases, for at

least from 60 to 70 per cent. of the patients suffering from pulmonary tuberculosis give no history of the disease in their parents or collaterals.

The vital principles of the new science of nutrition and the simple rules of hygiene and health preservation should be taught in all our schools; there is no excuse for withholding instruction in these all important departments of knowledge.

Tuberculosis mortality is decreasing steadily, much more rapidly than the general death rate, but, as Sir George Newman recently stated in one of his Annual Reports, there is no short cut to the eradication of the disease.

There is every reason to believe, however, that the decline can be greatly accelerated by the mutual co-operation of the state, the medical profession, and an enlightened public.

TRAVEL AND THE SPREAD OF DISEASE.*

BY

ARTHUR MASSEY, M.B., Ch.B., D.P.H., Assistant M.O.H., Surrey County Council, Late Assistant M.O.H., Southampton C.B.

Mr. Chairman, Gentlemen,—In the first instance I was asked to make my paper brief. With this request, I have complied implicitly. Perhaps its brevity may be the most acceptable feature of the paper! The subject is a broad one, and no pretence is made of dealing with it, other than cursorily. The paper virtually resolves itself into two parts: (a) a look at the past, and (b) a look into the future.

Medical and hygienic science are international in origin, and in their application, recognise frontiers only as senseless obstacles. Travel to-day is not confined to a privileged few, but is almost an essential part of modern everyday life. Facilities for travel are becoming progressively increased, and barriers thereto are being gradually lowered. Mr. H. G. Wells gave an example of this latter fact, when he recently said: "A day will come when the only passports in the world, will be found alongside of Aztec idols in our historical museums." The free growth of travel must be encouraged; at the same time, such growth must be regarded as being significantly relevant to the scope of public health, for from earliest times, travel has been an active agent in disease propagation. Moreover interest in this subject is greatly enhanced by the advent of air navigation, whose birth and early growth, we, of this generation, have been privileged to witness.

*Read before the Southern Branch of the Society of Medical Officers of Health, Mar. 7th, 1924.

Brief historical survey: In the Bible, much mention is made of Leprosy. This term was then very comprehensive and vague, and probably embraced most skin diseases, and diseases with skin manifestations such as: leprosy as we now know it, lupus, syphilis, cancer and elephantiasis. Whatever the significance of the term might have been, leprosy appears to have been very common in ancient days; the disease was hereditary, and was largely propagated by inter-travel between different peoples and resultant intermarriage. The Greeks regarded leprosy as a scourge introduced to propitiate an offended deity, and they make mention of foreign forms of the disease imported by intercourse and inter-travel with Egypt and Persia. Pliny states that the disease was brought into Italy from Egypt during the time of Pompey the Great. Leprosy is recorded as having been brought to Europe by returning Crusaders and widely propagated by their means.

The fall of the Romans might be attributed to the spread of Malaria to Rome by travel. This interesting view was advanced some 20 years ago, in a small volume, with an introduction by Sir Ronald Ross, published by W. H. S. Jones, of the Cambridge School of History. This theory sought to attribute the ultimate decadence of Rome to the importation of Malaria into Italy by the soldiers returning from expeditions in malarial countries, and by the captives they brought back with them. It would appear that during their greatness, the Romans were free from malaria; howbeit no mention of the disease is traceable in the medical literature of these times. The Anopheles mosquito probably lived in their midst, its impotence being due to the absence of the malarial parasite. Subsequently, however, the members of victorious military expeditions returned, with much booty, but unfortunately also with much malaria. Owing to the importation thus, of fresh cases of malaria, the mosquitoes were able to commence their work of disease propagation; malaria became rife; the disease sapped the strength and ardour of the Romans, and their eventual decadence ensued. At least so states this original theory, which is mentioned at once by reason of its interest and relevance. These brief glimpses into early times, show that even then, travel, limited as it necessarily was, was a not unimportant factor in disease propagation.

The first 10 or 11 dark centuries were singularly barren of anything in the way of contribution to medical science, and having made passing mention of the Crusades, it is natural to turn to the Middle Ages to find facts bearing upon our subject.

"The Epidemics of the Middle Ages," three treatises written by Dr. J. F. C. Hecker, were condensed into one volume and translated from the German by Dr. Babington, and read before the Sydenham Society in London. Dr. Hecker was by far the most accomplished medical historian of his century, and his account of the Black Death which swept the world, carrying death and ruin in its dread train, provides vivid and convincing examples of the propagation of plague along the commercial routes of the world in the Middle Ages. After trying to attribute the spread of the disease to climatic and terrestrial disturbances, Hecker is bound to conclude that "far more powerful than the excitement of the latent elements of the plague by atmospheric influences, was the effect of the contagion communicated from one people to another, on the great roads, and in the harbours of the Mediterranean."

Constantinople was then geographically unique, and a point of conference for the important inter-continental trade routes. Asiatic, African and European lines of commerce largely converged on this city and the ports of Asia Minor. The caravan routes from China and the Far East pursued their long course through Central Asia, to the North of the Caspian Sea, to terminate in Tauris, whence ships carried the Eastern produce of silks, gums and spices on to Constantinople. The caravan routes from India ran South of the Caspian Sea, via Bagdad, through Arabia, to Egypt and the Mediterranean ports. The maritime communications across the Red Sea were of great importance at that time, and still more so, the sea routes from North Africa to Southern Europe. Constantinople and the ports of Asia Minor are pre-eminently to be regarded as the collecting and distributing centres of infection, while all the Mediterranean ports also played a part in this work.

The plague was brought to Constantinople along the trade routes from the East, and more immediately from the Northern shores of the Black Sea. From Constantinople the infection spread by local shipping to neighbouring ports; thereafter we see the systematic advance of the disease from port to port until the whole of Southern Europe was infected. The epidemic spread northwards through Europe along the established lines of travel, and eventually reached England in August, 1348, and Scandinavia early in 1349. It is to be noted carefully that the appearance of the dread malady in the various seaports and towns was not simultaneous, but exhibited definite progression from place to place at a speed depending faithfully on the rate of human travel.

In the country along the principal trade routes by which caravans from the East reached the Italian ports established in the Crimea, it is certain that the Plague was raging in 1346—the year before it appeared in Europe. Gabriele di' Mussi, a notary of Piacenza, who witnessed the initial outbreak of plague in Northern Italy, described the course of infection; he showed how the disease had been conveyed in trading ships from Caffa—an Italian settlement in the Crimea.

In the 15th century the "sweating sickness" is recorded as having been brought to England by Richmond's band of mercenary troops. The Earl of Richmond set sail from Le Havre, 25th July, 1485, to force his claim to the English throne. His army consisted chiefly of wandering freebooters, and Hecker goes on to say "and cooped up as they were for a whole week in dirty ships, they doubtless carried with them all the material for germinating the seeds of a pestilential disorder." This was the introduction of the "sweating sickness," which started in Wales where Richmond's army landed, and spread definitely along the line of march, ultimately spreading more generally, and causing heavy mortality.

In the 15th century, these wandering armies of mercenaries were a serious menace to the health of Europe, for the men who composed these armies were dirty of habit and lax of moral. Hecker refers in interesting strain to the "malignant and beyond measure noisome luës which at the end of the 15th century spread with the rapidity of lightning all over Europe." He says "It was not an importation from the innocent inhabitants of the New World, nor was it bred by the ill-treated Marrani" (Moors in Spain who turned to Christianity) "it was the mercenary army of Charles VIII. in Naples (1495) whose excesses gave to the already existing poison a malignancy till then unknown." It is noteworthy that Hecker does not agree apparently with the theory of the American origin of venereal disease.

There is no doubt that the severe epidemic of Syphilis in Europe at this time was directly associated with the military activities of Charles VIII. of France in 1494-5. Many authorities would attribute the actual origin of venereal disease in Europe to the gross excesses of the dissolute bands of mercenaries attracted to his standard. Be this as it may, the travels of these troops in Europe certainly propagated the disease, for the incidence of the latter faithfully followed the movements of these wandering soldiers of fortune. The disease reached Great Britain in 1496 from French and Spanish ports. It was carried to Holland in 1497 by the followers of a Spanish

princess. It reached Russia in 1499 having come by way of Poland. The latter country is recorded to have received its initial infection from an individual woman traveller, who had travelled from Rome to Cracow in 1495.

It is probable that Syphilis was brought originally to Europe from Hispaniola by the followers of Columbus. In 1493, when Columbus returned from the West Indies, there was practising in Barcelona a physician named Ruy Diaz de Isla. This Spanish physician, some twenty years later, wrote a book throwing important light on this subject. He described the origin of Syphilis in the island of Hispaniola, the first appearance of the disease in Spain at Barcelona in 1493, and the subsequent chaotic spread of the malady in Europe. Apparently when the island of Hispaniola was discovered by the Spaniards, the latter had intercourse with the natives of the island, who suffered extensively from a disease known to them as "guaynaras"—a disease subsequently only too well known in Europe as Syphilis. The disease began to appear on ships returning from the island, and by this means inevitably reached Spain. According to de Isla, many Spaniards infected with Syphilis joined the armies of Charles VIII. in the following year; hence the eventual infection of the French army in general, and the subsequent spread of the disease in Europe. Oviedo (author of the "General and National History of the Indies") adheres stoutly to the view of the American origin of Syphilis, and believed that disease not to be confined to Hispaniola, but to have been prevalent throughout the West Indies and on the American mainland. Las Casas bears out this view, and makes mention of the marked susceptibility of Europeans. Osler thought that the balance of evidence was in favour of its American origin. Shakespeare makes much reference to disease in his writings. Infectivity and the dangers of the spread of disease by the intermingling of peoples were well known to him, thus: "Sickness is catching" ("Midsummer Nights' Dream," Act I., Sc. I.). An interesting passage might be quoted, which indicates the atmospheric idea of infection which was so general in Shakespeare's time, and which refers to the general custom of persons attempting to avoid pestilence by fleeing from infected localities—thereby doubtless propagating the disease by their movements.

The quotation is from Richard II., Act I., Sc. III., reads thus:

"Suppose devouring pestilence hangs in our air
And thou art fleeing to a fresher clime."

In the 17th century, we see the first suggestion of the imposition of Port Sanitary restrictions. Pepys in his diary—a veritable mine of information about current topics of his day—shows us very clearly in his daily notes, the great fear entertained by people in this country about 1663-5, of the importation of plague to England by shipping. Thus an entry October 19th, 1663, reads:

"To the coffee house in Cornhill, where much talk about the Turks' proceedings, and that the plague is got to Amsterdam, brought by a ship from Argier; and it is also carried to Hambrough. The Duke says the King purposes to forbid any of their ships coming into the river. . . ."

Subsequent entries in a similar strain are numerous; the apprehension shown therein regarding the spread of plague to this country, was only too well justified, for the Great Plague of London very shortly afterwards wrought havoc in the land. We see clearly from a perusal of Pepys' Diary of these years, that the plague was first rife amongst the Dutch; the naval war with Holland about that time necessitated frequent goings and comings of British ships to and from Dutch waters, and significantly enough, the great epidemic of plague in London was a sequel.

Lady Mary Wortley Montague, in her letter from Adrianople, dated 1st April, 1717, and addressed to a Miss Sarah Chiswell, and famed throughout the medical world for its first reference to vaccination against smallpox, makes much mention of the prevalence of plague and smallpox in Turkey. Although she at first takes up an attitude of complete indifference to the danger of contracting disease, she is bound to admit later, that some members of her party contracted plague by travelling through an infected area.

Many writers in the 18th century refer to the appalling conditions as regards hygiene and accommodation, which obtained on ships in their day. Notable among these writers is Smollett, himself a doctor of medicine, who served for some time as a ship's surgeon. "The Adventures of Roderick Random," which appeared in 1748 gives perhaps the most graphic account in this connection. Small wonder then that shipping continued to be an active source of disease propagation! From that time, conditions on shipboard have consistently improved but even to-day they leave much to be desired.

The manner in which travel promotes the spread of various diseases is too well known to require any repetition here. We might however explore new ground, by speculating on the possibilities of the propagation of infection by air travel, and by showing how the scope of preventive medicine will

be widened by the growth of air navigation: A look into the future through the spectacles of a physician engaged in preventive medicine gives much food for thought.

A Look into the Future.

In the old sailing ship days, people never dreamed of the floating towns which now cross the Atlantic with precise regularity; but some of us to-day, who see the performances of modern aeroplanes, and the great strides made in regard to our airships, do not find it difficult to imagine a time when mammoth air-liners will traverse the globe and link up its uttermost parts. At the Imperial Conference held in London, October, 1923, the Air Minister stated that aeroplane services were gradually being put on a more economic basis. In the past 32 months, our cross-channel air service had met with no serious accident although 2,000,000 miles had been flown. The number of passengers was steadily increasing.

Sir Samuel Hoare explained to the Conference that the Burney scheme for an airship route to India was one comprising three stages. The first would be the construction of an airship capable of reaching India in 100 flying hours; the second stage would be the inauguration of a weekly air service to India; and the third stage the establishment of a bi-weekly service thereto. Sir Samuel claimed that if the scheme works successfully, it will be quite possible to travel from London to Cairo in two days (instead of 6 to 8 days as at present) and to India 5 days (as against 15 days at present).

The future development of universal air lines is certain. The International Air Navigation Commission, with headquarters in Paris, is preparing schemes, conventions, and maps, in the confident anticipation of the general linking up of all civilised peoples by regular air services. This Commission held its fifth session in Rome in October, 1923; it is under the direction of the League of Nations, and all the great states are represented therein. Among the various duties of this Commission, is the collection and communication to contracting states of all information in regard to Medical Science and Meteorology which may be of interest to air navigation.

A special medical sub-commission has been duly set up, to study the momentous problems in regard to medicine and public health, which will inevitably be occasioned by the future growth of air travel. This medical commission up to date appears to have busied itself chiefly with the drawing up of standard scales of physical fitness

for members of crews of international aircraft, and with the formulation of schemes of medical supervision of the aforesaid members, to ensure the due maintenance of that standard of fitness. This is proper and very necessary, but it would seem imperative that the future activities of such a commission should be directed principally along the channels of preventive medicine.

The menace of rapid spread of disease by air travel is one which will demand earnest attention. To take for instance, the question of the propagation of cholera from India; it has been shown how this disease invariably spreads at the rate of human travel. It would seem fair to presume, therefore, that in the near future, there is the real possibility of its rate of propagation being trebled.

The same remarks apply similarly to influenza.

Diseases like plague and smallpox, contracted for example in India (these diseases have usual maximum incubation periods of 5 days and 14 days respectively) which would manifest themselves on a sea voyage to this country, might be in a very early stage, or in a stage of incubation, on the completion of the journey by air.

It might be urged of course in this connection, that some sea voyages now, only occupy the same time as, or less time than, the air journey from India just instanced; and yet the completion of such sea trips within the limits of the incubation periods of certain serious infectious diseases, does not yield any untoward result. It must be remembered however, that such comparatively short sea voyages are not as a rule made from grossly infected countries. It is impossible, for example, to compare travel from India with that from Canada or the United States, in point of danger in regard to propagation of disease. India is specially mentioned for certain reasons:

1. It is a country where serious infectious disease is rife.
2. It is a British possession of the first importance, and consequently traffics very largely with this country.
3. It is a country which is shortly to be linked to Britain by an airship service (Burney scheme).

In view of these reasons alone, and many more might be adduced, India demands special mention when dealing with the potential medical problems of air travel.

The disposal of refuse and excreta from long distance airships, presents obvious difficulties when vast expanses of land have to be crossed. In the case of ships, nature has provided a ready and effective means of sewage disposal, that is, the sea. The voiding of sewage from aircraft is

not so easy, for land as well as sea must be traversed. It would appear that a conservancy system will have to be adopted on board airships, and due disposal effected on landing. This is by no means devoid of risk in regard to disease propagation, especially if the airship has come from a country where cholera, typhoid, paratyphoid, and dysentery are rife.

The ever-present rat problem will present itself in regard to large aircraft, carrying cargo. Periodical fumigation of holds and cabins will be necessary; sulphur will be useless for this purpose owing to risk of fire; hydrogen cyanide will come into more general use.

The evident risks attendant upon generalised air travel, will demand great vigilance on the part of health authorities. The complete medical examination of all passengers, both on embarkation and disembarkation would appear necessary. A careful record would be kept in respect of each passenger in regard to: Place of commencement of journey; Length of time spent on whole journey up to time of landing; and Address of destination.

It would be necessary to issue frequent bulletins at our air-ports, setting forth the geographical incidence of infectious diseases.

There might be mentioned here, an unusual example of the spread of disease by travel which appeared in the press in 1918. Unfortunately official details of this occurrence are not to hand. A woman traveller was said to have brought with her by aeroplane from France a favourite dog. The animal, having arrived by air, evaded the quarantine which would have been imposed, had it arrived by sea. Subsequently the dog was found to be suffering from rabies, and was reported to have bitten a person in this country and conferred hydrophobia. This is a rare but interesting contingency, and is not devoid of importance, seeing that hydrophobia had not occurred here for many years, prior to its importation thus.

In the future a new medical service may require to be inaugurated to deal solely with the medical problems of air navigation. The functions of such a service might be stated tentatively thus:

1. The examination as to physical fitness of intending members of crews of civil aircraft.
2. The periodical re-examination of all such members.
3. The medical inspection of all passengers travelling by air.
4. The inspection of aircraft in regard to general hygiene, including the direction and supervision of sewage disposal.

5. The fumigation of large aircraft and other measures for rat destruction.

6. The provision and maintenance of proper medical equipment on board all aircraft.

In addition, the problems of meteorology might well fall within the scope of such a service.

In a few years doubtless, great air ports will come to exist in certain parts of the country. Each of these will eventually necessitate the creation of an Air Port Sanitary Authority, on similar lines to the present Port Sanitary Authorities.

It seems fitting that apology should be made for this series of speculations. Cicero said "Time destroys the speculations of man, but confirms the judgment of nature." Howbeit the writer presumes to claim that the speculations made here are at any rate rational; and that nature, if she be represented by the elements, will be induced by man's ingenuity, to stay her hand, insofar as to render possible the generalisation of air travel.

In view of this, it will be admitted, no section of preventive medicine can show greater scope for development than that which has for its object the prevention of the propagation of disease by travel.

MUNICIPAL WARDS FOR MAL-THRIVING CHILDREN.

BY

GRACE H. GIFFEN DUNDAS, F.R.C.S.I., D.P.H.
Camb., Medical Officer to Maternity and Child Welfare, Middlesborough C.B.

A more or less successful endeavour was made at the meeting of the Maternity and Child Welfare Group of the Society of Medical Officers of Health held in the Caxton Hall, in July last, to ascertain the consensus of opinion of those of us who have had charge of wards for mal-thriving children as to their economic value. After three years' experience of such wards it seems to me that the economic value depends less on the feeding and other treatment prescribed by the medical officer in charge than on the following three factors:—

1. The variety of cases admitted.
2. Specialised nursing of mal-thriving babes.
3. The after-care of the children when discharged.

1. *The variety of cases admitted.*—Coming under the Public Health Service as municipal wards do, the treatment must be considered as belonging to the department of preventive medicine. No child may be admitted unless there is reasonable hope of sending out such child as a thriving unit. Hence the necessity of trusting

to one's acumen in making a prognosis before the child is admitted. If the prognosis is doubtful the child is admitted for observation. If a bad prognosis is subsequently made the child is discharged. There is no economic value in respect of the wards if dying children are admitted or if children are admitted simply to keep them alive a few months longer. Such children are provided for in poor-law hospitals. It is possible that to-day a higher infantile mortality figure represents greater economic value than does a lower figure. The variety of cases which I consider eligible for the wards are:—

1. Tuberculosis contacts.
2. Convalescents from broncho-pneumonia.
3. Cases of early rickets.
4. Infants mal-thriving from errors in feeding (either breast or bottle fed) or from environmental causes.

2. *Specialised nursing of mal-thriving babes.*—Any nurse will keep a babe warm and clean and give it feeds according to instructions. More than that is required in the nursing of mal-thriving babes. A great essential is the absence of hurry. To effect this a larger staff is required than in ordinary hospital wards. For 20 cots a staff of five day and two night nurses is wanted. The nursing of a mal-thriving babe is exactly the opposite to that of a premature babe who is handled as little as possible. The mal-thriving babe requires exercise and mental stimulation. It is to be handled, to be taken out of its cot to be fed, to be encouraged to move, to be talked to, and to have its attention drawn to the other children.

If the child refuses to make active movements the nurse is to perform gentle passive movements. No regard is to be had for the symmetry of the ward. The cots are to be pulled into every available patch of sunshine. The feeds are not to be hurried. Mal-thriving children often end with broncho-pneumonia, organismal or otherwise. Choking when feeding hurriedly or lying in a bad position is a commoner predisposing cause of broncho-pneumonia than is supposed.

If there are too many children for the existent nursing staff to do other than feed regularly, keep warm and clean, and for the remainder of the twenty-four hours leave severely alone in their cots the nursing of mal-thriving babes in wards is a failure.

The blunt question then comes to be this: even

supposing the wards are ideal as to the variety of cases admitted, and supposing the nursing staff is ideal as to number, are the results commensurate with the financial outlay?

3. *The after care of the child when discharged.*—It is a simple matter to see to this when the medical officer of the wards is also the medical officer to Maternity and Child Welfare. As each child is discharged the mother is instructed how to continue the ward regime at home. The health visitor recommences the visits which she had discontinued during the child's residence in the wards, and the mother recommences attending a Centre with the child.

The Middlesborough municipal wards are on the ground floor of the Maternity Home. There are sixteen cots with a nursing staff of five (including day and night), a sister and four probationers. Whether the cots are all occupied at any one time depends on the relative proportion of bottle fed babes and toddlers. The Medical Officer is dependent on advice from the Matron as to the maximum number of children in the wards at any one time to allow of each child having efficient attention paid to it.

Each applicant for admission is seen by the Medical Officer who admits if the prognosis seems at all fair. If after the child has been in the wards a week or two the prognosis turns out to be erroneous the child is discharged to be cared for by its mother, its cot being left free for the next eligible case on the waiting list. No mother is too depressed at such a discharge as each mother is warned when her babe is taken in that the child may not thrive so well under ward regime as it does in her own arms. Naturally one does not send out a babe who is actually dying.

During 1922 the deaths in the Middlesborough wards were 4.5 per cent. out of 60 cases admitted. During 1923 the deaths were 3.7 per cent. out of 108 admitted.

THE death is recorded of Dr. A. D. M. Macintyre, Medical Officer of Health for the Consett Urban District.

A full report of the Third English-speaking Conference on Infant Welfare held in London in July last has been published, price 2s., and can be obtained from the National League for Health, Maternity and Child Welfare, 117, Piccadilly, London, W. 1. There was an account of the Conference in PUBLIC HEALTH, for October, 1924.

Society of Medical Officers of Health.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on Friday, November 21st, 1924. The President (Dr. Robert A. Lyster) was in the Chair, and there were present, Professors Kenwood, Kerr and Wynne, Drs. Porter, G. F. Buchan, Cates, Wheatley, Pearce, Snell, Barlow, Ridley Bailey, Nash, Greenwood, Scurfield, Stirk, Frederic Thomson, Jolly, Joseph, Ernest Ward, Sanders, Wilshaw, and Pedley, Lt.-Col. Herbert Jones and Lord Dawson of Penn.

The Minutes of the last Meeting having been approved and signed, messages of apology for absence were received from Dr. T. W. H. Garstang, Dr. Cyril Banks, Lt.-Col. F. E. Fremantle, M.P., Dr. Joseph Beard, Dr. T. Eustace Hill, and Dr. H. J. Milligan.

The President then welcomed Lord Dawson's first attendance as a member of the Council, and expressed the belief that it would be a great advantage to hear the views of a teacher in clinical medicine on many matters which concerned the Society. Lord Dawson, in reply, thanked the Society for inviting him to accept a seat on their Council, and said that he would appreciate the opportunity of co-operating with the representatives of the Public Health Service in activities which meant so much for the well-being of the community.

On the proposal of the President, it was agreed unanimously that a message of regret should be sent to Dr. Eustace Hill, that his absence was due to ill-health.

The Society's House.—A Report was received from the special Journal and Finance Committee, in reference to the lease of the Society's house which expires in December, 1925. The Committee had ascertained that the leasehold could be purchased for a period of 15 years from December, 1924, for £2,250, the ground rent being £105 per annum. They had further ascertained that other and equally suitable premises could not be obtained on such advantageous terms, and they therefore recommended that the leasehold should be purchased at the price named, subject to the approval of the Society's solicitors. The report was adopted by the Council, and the Committee were authorised to make the necessary arrangements with the Society's bankers.

International Dairy Congress.—Dr. Thomas Orr

reported that as the representative of the Society he had attended the Conference at the Ministry of Agriculture on November 4th, when the following resolution was adopted unanimously:—

"That an endeavour be made to arrange for an International Dairy Congress to be held in this country during the next three years. That those present pledge the moral and pecuniary support of the Associations which they represent so far as they are empowered to do so; and that for the purpose of organising this Congress a National Committee be appointed at a subsequent meeting."

Dr. Orr advised that the Society should give all possible support to this proposal. It was agreed that Dr. Orr be asked to attend any further meetings in connection with the proposed Congress, and that he be authorised to promise the support of the Society, although it would not be possible for the Society to make anything more than a nominal contribution towards the cost of such a Congress.

International Congress on Child Welfare.—The Executive Secretary reported that at short notice he had asked Dr. Scurfield, as representative of the Maternity and Child Welfare Group to attend a preliminary meeting in connection with the International Congress on Child Welfare to be held at Geneva during August, 1925. Dr. Scurfield reported that the Committee were arranging for the organisation of the English Speaking Section, and that the plans were well advanced. The Council agreed that Dr. Scurfield, or another representative of the Maternity and Child Welfare Group, should attend further meetings called in connection with this Congress.

Formation of Overseas Branches.—The following report was received from the Committee of Officers of the Society:—

Your Committee have considered applications for the formation of Overseas Branches referred to them at the October meeting of the Council and they recommend

- that the Society of Medical Officers of Health of Malaya be incorporated as a Branch of the Society;
- that the Madras Provincial Assoc. of Health Medical Officers be incorporated as a Branch of the Society on the understanding that it and when there is constituted an All-India Branch, the Madras Branch shall become a Sub-Branch thereof;
- that the full annual subscription shall be payable by members of Overseas Branches, but that the capitation grant for such branches shall be fixed by the officers of the Society after considering the special local circumstances in each case.

The report was unanimously approved and adopted by the Council.

D. P. H. Training.—The Council considered the following letter from Prof. H. R. Kenwood:—

1924.

PUBLIC HEALTH.

91

Several of us who are connected with Training Centres find it very difficult to decide upon the best arrangements to make with reference to the six months' work with the Medical Officer of Health, under the *New Regulations*. There appears to be a good deal of difference of opinion upon the matter; and I am therefore writing to ask whether the Council of the Society would be so good as to nominate a small Committee to consider and report upon it. Those known to me who would much appreciate this assistance are connected with the London Training Centres; and so the Council may decide to nominate Medical Officers of Health to serve upon the suggested Committee who have previously taken candidates for the D.P.H. training, and whose Districts are either Metropolitan or within easy access of the Metropolis.

It was agreed that the Society being closely concerned in the training of D. P. H. candidates, should accept this invitation, and that the Committee who organise the Courses for Foreign Health Officers should be asked to consider and report on the points indicated in Prof. Kenwood's letter.

Disinfection of Premises Occupied by Tuberculous Persons.—On behalf of the Tuberculosis Group, Dr. Ward submitted a memorandum on this subject issued by the Derbyshire Public Health Department, with the enquiry whether the Council would be prepared to recommend a memorandum on the same lines for general circulation by local health authorities. After a prolonged discussion, it was agreed that the Society should make no pronouncement on the subject of disinfection until their recommendations could be based on thorough investigation and research.

Vacancy on Council.—The Committee of Officers of the Society reported that they were not yet agreed on a nomination for a member of Council under Article 19 (d). As it was feared that another vacancy would shortly arise by resignation, the Committee asked to be allowed to postpone their nomination until the next meeting of the Council. Dr. Snell protested that this was the second postponement, and submitted a nomination for immediate election. It was agreed by 10 votes to 9 to await a nomination by the Committee of Officers, until the next meeting of Council.

The Scale of Salaries.—Dr. G. F. Buchan reported that the Salaries Committee were awaiting the decision of the bodies representing Local Authorities in reference to the circular of the Ministry of Health recommending the acceptance of a revised Scale. When those decisions were known they would confer with the B. M. A., as to their future course of action. Dr. Ward pointed out that the revised scale has now been published by certain local government journals, so that it was no longer necessary to regard the matter as confidential. He must state frankly that the Tuberculosis Officers who knew the

terms of the revised scale were gravely dissatisfied. They felt that the concessions made by the Society and the B. M. A. had made the Scale of little value to medical officers in charge of departments, and Tuberculosis Officers generally. Dr. Buchan said he felt a good deal of sympathy for Dr. Ward's protest, but the concessions had been forced from them in the course of the negotiations as the only means of securing acceptance of the principle of a scale. He thought that the adoption of the revised scale would mean a definite advance even for Tuberculosis Officers, but he suggested that further discussion was undesirable until replies had been received from the bodies representing Local Authorities.

Dental Appointments.—On behalf of the Dental Group, Mr. R. Denison Pedley submitted proposals to secure increased efficiency in connection with the dental services of Local Authorities. Dr. Herbert Jones proposed that in view of the importance of the subject Mr. Pedley should publish his suggestions in PUBLIC HEALTH so that the matter could be discussed at length at an early meeting of the Council. Mr. Pedley said that he would be glad to accept Dr. Jones's proposal.

Committee Meetings.—Dr. T. W. Naylor Barlow gave notice that at the next meeting of the Council he would ask for a full discussion in reference to the days and times fixed for the meetings of Committees, in order to secure due consideration for the convenience of provincial members.

The Council then adjourned.

ORDINARY MEETING.

An Ordinary Meeting was held at the house of the Society on Friday, November 21st, 1924. The President (Dr. Robert A. Lyster), was in the Chair, and there was a large attendance.

The Minutes of the last meeting having been approved and signed, the following candidates were elected to the Society:—

As Fellows: Agnew, Henry Murray, L.R.C.P. & S., Ed., L.R.F.P.S., D.P.H.; Breza, Joshua Isidore, M.B., Ch.B., Edin., F.R.C.S., Edin., D.P.H.; Blake, John Churchill, M.B., B.S., Lond., M.R.C.S., L.R.C.P.; Brooke, Gilbert Edward, M.A., Cantab., L.R.C.P. & S., Ed., L.R.F.P.S., L.S.A., D.P.H., J.P.; Cameron, Elizabeth Pace, M.B., Ch.B., Glasg., D.P.H.; Collins, Francis Garland, M.R.C.S., L.R.C.P., D.P.H.; Cooke, Edward Robert Cecil, M.C., B.A., Cantab., M.R.C.S., L.R.C.P.; Creaser, Surg. Cdr. Thomas, R.N., M.D., B.Ch., Dubl.; Cronk, Herbert Leslie, M.A., M.D., B.Ch., Cantab., M.R.C.S., L.R.C.P.; Dugan, Alex. Mathieson, M.B., Ch.B. Aberd., D.P.H.; George, Richard Julian,

M.D., C.M. Edin., D.P.H.; Gray, John, O.B.E., M.B., C.M., Aberd.; Hitchins, Wm. Mayne, L.R.C.P. & S.I., D.P.H.; Holdbrook, Hubert George, B.A., M.B., B.Ch. Dubl.; Hoops, Albert Launcelot, B.A., M.D., B.Ch., Dubl., D.P.H.; Hunter, Peter Sinclair, M.A., M.B., Ch.B., Aberd., D.P.H.; Jackson, Robert Best, B.A., M.B., B.Ch., Dubl., D.P.H., D.T.M.; Jacques, Frederick Viel, M.B., Ch.B., Brist.; Johnson, E. Angus, M.D.; Kay-Mouat, John Richard, M.A., Oxon., M.B., Ch.B., M.Sc., Brist., D.P.H.; Mackintosh, Jean McIver, M.B., Ch.B., Glasg., D.P.H.; Moir, William John, M.B., Ch.B., Aberd., D.P.H.; Murdoch, Georgina, M.B., Ch.B., Glasg., D.P.H.; Philip, William Paton, M.C., M.B., Ch.B., Aberd.; Pou, William Oscar, B.A., M.D., Mich., M.R.C.S., L.R.C.P.; Sayers, Frederick Richardson, M.D., Dubl., D.P.H.; Scharff, John William, M.B., Ch.B., Dubl., D.P.H.; Spence, James Calvert, M.C., M.D., B.S., Durh., M.R.C.P., Lond.; Symes, Richard Norman Legge, M.B., B.S., Lond., M.R.C.S., L.R.C.P.; Thomson, John Erskine, M.B., C.M. Edin., D.P.H.; Vieyra, Peter, M.D., Ch.B., Edin., D.P.H.; Waters, Sir Harry George, M.R.C.S., L.R.C.P., D.P.H., D.T.M.; Watson, Sir Malcolm, M.D., C.M. Glasg., D.P.H.; Webster, Helena J., M.B., Ch.B., B.Sc., Wa., M.R.C.S., L.R.C.P.; Webster, John Sutton, M.B., Ch.B., Vict., D.P.H.; Wellington, Arthur Robertes, M.R.C.S., L.R.C.P., D.P.H., D.T.M.; Whittingham, Wing Cdr. Harold Edward, R.A.F., M.S., M.B., Ch.B., Glasg., D.P.H.

As Associates: Dixon, William John, M.B., C.M., Madras, M.R.C.S., L.R.C.P.; Lockett, Reginald Frederick, L.D.S. R.C.S., Eng.; Samuels, Wm. Frederick, Lic. Med., Lic. Ch., L.A.O., Dubl.; Skae, Fredk. Macpherson Traill, M.D., C.M., Edin.

A number of candidates were nominated for election at the next Ordinary Meeting.

Letters were received from Mr. William Whitaker, F.R.S., and Dr. W. H. Welch, Director of the School of Hygiene, Johns Hopkins University, U.S.A., gratefully accepting the Honorary Fellowship of the Society conferred upon them at the Annual Meeting held on October 17th, 1924.

Dr. Joseph Cates then opened a discussion on "The Provision of Midwives and the General Working of the Midwives Acts." Other speakers included Dr. C. E. S. Flemming, Dr. J. J. Jervis, and Dr. W. A. Bullough. By direction of the President, a full report of the discussion will be published in an early issue of PUBLIC HEALTH. The President having summed up the discussion, the meeting adjourned.

REPORT OF THE HONORARY EDITOR, SESSION 1923-24.

MR. PRESIDENT AND GENTLEMEN,

In my Annual Report presented to the Council a year ago I recorded a small increase in the average size of the Journal, and this year, again I have to report a still further improvement in that direction.

The amount of material which is now available from the various Branches and Groups is very considerable, and with a little encouragement it would be possible to get an ample supply of contributions for a Journal twice the present size. Of course, such an increase would involve considerable additional expenditure.

In many previous Reports I have called the attention of the Society to the fact that the actual nett amount spent upon the Journal of recent years compares very unfavourably with the amount spent in pre-war times. A still more unfavourable aspect becomes obvious when one compares the proportion of the total income which is now being expended on the Journal with the proportion of the total income which was spent in that direction in pre-war times. The economy with which the editorial work has been conducted may be illustrated by the fact that during the seven years that I have occupied the position of editor the total editorial expenditure for the whole of that period has been considerably less than was expended during the one year immediately preceding.

On the completion of seven years honorary editorship I desire to place on record the loyalty and active support of some of the Presidents and Officers who held office during that period, and the continuous help which I have received from the Executive Secretary, Mr. G. S. Elliston. Also I desire to express my grateful thanks to those numerous members of the Society who, both personally and by letter, during the past seven years have given evidence of their appreciation and support. Without this encouragement it would have been difficult at times to continue the work.

(Signed) ROBERT A. LYSTER.

METROPOLITAN AND HOME COUNTIES BRANCHES.

A joint meeting of the Metropolitan and Home Counties Branches was held on Friday, 31st October, 1924. There were present 77 members.

A visit was paid to the laboratories of the United Dairies Ltd., in Museum Street, also to the Manor Farm Dairies, where pasteurising and bottling plant was inspected. Later in the day, the Valley Road Dairies, at Streatham, were visited.

After lunching at Manor Farm, Mr. J. H. Maggs, Chairman of United Dairies, Ltd., addressing the meeting, said that co-operation between the producers of foodstuffs, and the Health Authorities, whose duty it was to supervise public food supplies, was probably the best means of effecting the purpose

for which those officials existed. There was room also for further help from the legislature of the country. At present, our legislation, so far as milk was concerned, did little more than assert that the "whitey fluid" which was sold as milk, should contain such and such a percentage of fat, if the cow happened to be in the mood to give it. An excellent opportunity existed for the new Government to show its enthusiasm for the better protection of the public food supplies, and to help those who were trying to make those supplies better. In this connection he instanced the value of the bottling of milk and thought that local authorities should be empowered to enforce it. A further direction in which legislation would be valuable would be in the granting of more ready powers to enable local authorities to refuse registration to milk vendors, and to revoke licences. He mentioned that there was no medical officer of health on the Milk Advisory Committee, and so far as he, as a member, was concerned, he would welcome any expression of views that came from so important a body as the Society of Medical Officers of Health. His Company would welcome legislation as to the purity of milk on a bacteriological basis.

Dr. Charles Porter, president of the Metropolitan Branch, thanked the Chairman for the opportunity of seeing the very great work which United Dairies are doing to-day. He had seen many plants in America and often wondered what we had in this country to show Americans in return. He was glad that among their number at that table was Professor Leathers, who had been sent to this country by the Rockefeller Foundation, for the purpose of studying public health questions generally. He would see that this country was at least doing something. "I do think," he added, "that United Dairies are doing a very great work for the cleanliness and purity of milk. Some say that combines are bad things, but I say that in relation to milk they are excellent things. It is the small man who has not the ample resources to establish these elaborate safeguards and protections in milk handling who is the drawback." He did not think that the troubles in regard to milk from the health point of view were at the distributors' end, so much as at the farmers' end. Medical Officers of Health, he added, agreed with Mr. Maggs, that there was need for better legislation and for simplified legislation, but if they could not have legislation they could at least get co-operation, and a spirit of helpfulness between the trade and the Health Authorities. Of this spirit that gathering was in itself a striking manifestation.

Mr. P. B. Tustin, Technical Adviser to the Company, outlined educational efforts which the Com-

pany was making to improve the milk supply, both in the field of production and in the field of distribution.

Dr. Alfred Greenwood, President of the Home Counties Branch, said that the Company's efforts were a striking contribution to the health problem in which every member of the society present was vitally interested.

EASTERN BRANCH.

A Meeting was held at The Bell Hotel, Norwich, on Saturday, 25th October, 1924, when there were present: Drs. H. H. Back (President), J. T. C. Nash, A. M. N. Pringle, L. Gibson, O. L. Appleton, K. T. Williams, Bernard Wright, and Morrison Smith.

After lunch, an interesting discussion on "Milk Production" was opened by Dr. Back, in which every member present took part. Dr. Back commented on the increased number of cows in Norfolk as compared with 40 years ago, farmers finding it profitable with increased travelling facilities to keep milch cows—but were in many instances using premises which were not specially erected for dairy purposes, but rather for producing beef and horses, turning stables, bullock yards and bullock sheds into cowsheds. Everyone was acquainted with the filthy conditions which existed in such cowsheds in the winter especially. A rural district Council, itself largely composed of farmers, felt great reluctance in trying to bring landlords to convert such into up-to-date cowsheds—with cemented and channelled floors, etc. He also instanced how occasionally refrigerators were improperly situated and neglected.

Dr. Williams noted that a considerable number of people were being influenced by Dr. Wright's advice and were keeping goats. After referring to the pioneer work of Holt and the Walker-Gordon Laboratories he supported the encouragement of large Dairy Companies with sufficient capital to meet necessary expenses.

Dr. Pringle referred to Mr. John Burns' difficulties in promoting legislation through opposition from persons representing agricultural interests. He thought the reduction in Epidemic Diarrhoea was largely due to more free use of dried milk in substitution for cows' milk. From his knowledge of farmers they had no wish to give up the dairy industry. In making comments on Tuberculosis among cattle, he remarked that country farmers were fond of sending their

"wasters" into towns. Touching on Délepine's researches and recommendations he emphasized the danger of leaving the process of pasteurisation to an unskilled labourer.

Dr. L. Gibson said farmers in his district (Mutford and Lothingland) were taking a more intelligent interest in milk production, and were taking steps to remedy defects, being "gingered" up by the Lowestoft M.O.H.

Dr. Appleton said that in Freebridge Lynn, R.D., the cowsheds had been transformed during the last two years. By increasing trade farmers are coming round to see the benefits of producing clean milk.

Dr. Nash said that he had pointed out in his reports years ago that milk was not a common article of food among Norfolk children—but milk is an important food produced largely in the country and transmitted to the big towns. What were Medical Officers of Health for if they were not to see that food for human consumption was properly produced, and not allowed to come as poison instead of food. It was particularly incumbent on Town Medical Officers of Health to see that the milk sold in their area was food and not poison through being grossly contaminated. They should take all necessary steps to prevent the sale of contaminated milk coming from elsewhere into the areas for the health of which they were responsible and should prosecute those who sold obviously dirty milk as revealed by bacteriological methods. This would assist the Rural District Medical Officer of Health because the rural farmer would be stimulated by threatened loss of business to effect the necessary repairs and cleanly methods so essential for the production of clean milk. All Medical Officers of Health as Guardians of Health should impress on their Councils the necessity for insisting on a clean milk supply. He instanced how an admirable clean milk was being produced in a Norfolk Dairy where the cowsheds were converted old Army Huts with asbestos walls and were erected on cemented concrete, properly channelled—flushed down every day and drained to a cemented cesspool which was emptied every day. The Dairy and Cowsheds were conspicuous for the absence of manure. The bacterial count was only 4 or 5000 bacteria per cc. and *B. coli* was absent from 1/10 c.c.

Although 1d. a quart more was charged for this milk (supplied in properly sterilised bottles) than the usual price of milk—the demand in the neighbourhood exceeded the present supply. The public are quite prepared to pay more for

milk which is a real food and not a possible poison.

Dr. Back in closing the discussion thought that people in the towns should decline to take dirty milk, and thus induce farmers to improve production.

A vote of thanks to the President concluded an agreeable and attractive meeting.

NORTH-WESTERN BRANCH.

At a meeting of the Branch which was held in Manchester on Friday, 10th October, 1924, there, were present: Drs. Beard, Wilkinson, Lissant Cox, Butterworth, Hitchon, Gebbie, Allan Young, Meredith Young, Morley Mathieson, Stallybrass, Wood, Barlow, Ferguson, Buchanan, Veitch Clark, Grahame, Gibson, Mulholland and Joseph (Hon. Secretary).

The President, Dr. Lissant Cox, before opening the business of the meeting, extended a hearty welcome to Dr. Naylor Barlow, on his return after his illness.

The Minutes of the last meeting were read and confirmed.

Dr. Cox introduced Dr. Joseph Beard as President, for the Session, 1924-25. After Dr. Beard had thanked the members for his election, a hearty vote of thanks was proposed by Dr. Wilkinson, seconded by Dr. Barlow, and unanimously accorded the retiring President for his work during the past Session.

The newly-elected President then introduced for discussion the subject of Cancer from the point of view of what Local Authorities should do (short of legislation) for its prevention. He pointed out that in spite of the great amount of research work which has been carried out, we were no nearer to a knowledge of its cause than we were 25 years ago, but on account of the number of deaths attributed to this cause, the public are so alarmed that they are beginning to call for something to be done. Dr. Beard quoted from the several Memoranda of the Ministry of Health, and showed that, whilst the general death-rate, the infant death-rate, and that from Tuberculosis had decreased very considerably during the past twenty years, the death-rate from Cancer had increased by 20 per cent., and he was of opinion that the question of endeavouring to reduce the mortality from Cancer was a matter for more active attention on the part of Local Authorities. He reminded his hearers that certain Local Authorities had associated themselves with the Cancer Movement, but he asked if a more uniform method of procedure could not be instituted whereby the activities of Local Authorities would be productive of a maximum amount of benefit without unproductive and unjustifiable expenditure. He viewed

the lines upon which the Ministry of Health are of opinion Local Authorities could build up a scheme for the diagnosis and treatment of Cancer, and also referred to the various papers and suggestions which have recently appeared relating to the schemes for diagnosis and treatment, and propaganda, and he was of opinion that Local Authorities should not make any contribution to the cost of Cancer Research. This he maintained is the duty of the Central Authority, but when circumstances warrant it a Local Authority should be prepared to arrange for the examination of specimens from suspected cases of Cancer, and to assist a sufferer by providing facilities for transport where necessary. With regard to propaganda, he agreed with an Authority who had recently stated that the public should be educated in the main facts of the disease, and although he was aware of the difficulties he was of opinion that the time had arrived when this should be the duty of every Local Authority, as there was evidence that in the short period during which the existing campaigns had been in operation good results followed in that it was considered the campaign had been the means of dispelling ignorance, and the number of early cases applying for advice had steadily increased.

Dr. Meredith Young, in thanking the President, stated that when first he endeavoured to issue a leaflet on the early symptoms of Cancer, he met with considerable opposition. He thought that the Portsmouth Programme was a good one, and worthy of adoption by all Local Authorities.

Dr. Veitch Clark mentioned that in any attempt to improve the facilities for treatment, a scheme for centralisation was essential, but this was an extremely difficult matter as the inertia of hospital and other existing organisations made it hard to take efficient action. With regard to propaganda work, he had not yet seen any leaflet *re* cancer, which he would like to issue. It was not easy to find one that was unlikely to scare the neurotic section of the population.

Dr. Wood stated that he had taken steps to provide leaflets for the relatives of any person dying of Cancer. He also thought that the elderly mothers attending the various Clinics should be supplied with these without undue risk of scaring them. Any improvement of medical education in regard to Cancer would have to be made by post graduate teaching. The question of discouraging periodical medical re-examination of the population was brought forward by Dr. Mulholland.

The President, in replying, suggested the advisability of steps being taken to ask the large Insurance Companies and Health Insurance Committees to circularise their policy holders, and insured persons,

respectively, of the importance of prompt attention to the manifestations of early Cancer. It was agreed that it was desirable to discuss this subject in its broader aspects, and Dr. Morley Mathieson offered to open a discussion at a later meeting on "The Relationship of Insurance Companies to the Public Health."

WEST OF ENGLAND BRANCH.

The meeting at Bristol on October 22nd may well prove to be one of the most important the Branch has held for a long time, since in effect it resolved itself into a conference on Heart Disease in Children. The proceedings began at the Royal Infirmary with a demonstration of the Electro-cardiograph and an address by Dr. C. E. K. Herapath. After an adjournment for tea in the Lord Mayor's Parlour at the Guildhall, the meeting was continued in the Old Council Chamber. Dr. George Adkins was thanked very heartily for his services as President during the past year and the new President, Dr. R. A. Askins, S.M.O. and Deputy M.O.H., Bristol, then took the chair. His inaugural address was entitled "Rheumatic Carditis—an urgent problem for the Public Health Profession." After addresses from Dr. Carey Coombs (member of the Special Cardiac Diseases sub-Committee of the B.M.A.) and Dr. Herapath, a general discussion took place. Following this, there were business meetings, first of the Branch and then of the Tuberculosis sub-Group.

It is not possible to give in a few lines any adequate summary of the many facts, figures, and opinions discussed by Dr. Askins, but the following are some of the points he raised. Heart disease, of a kind which might be prevented, was the cause of a very considerable proportion of deaths and of a large amount of disability in all civilised communities. Most of it originated in connection with the rheumatic diseases of childhood, in which there was undoubtedly an element of low infectivity. Careful study of large numbers of cases would probably suggest means by which early symptoms could be detected, and this would lead to more adequate treatment and the avoidance of much of the evil which now exists. Adequate treatment, however, often involved a prolonged rest in special residential institutions set aside for the purpose, for which money would have to be found. The whole subject demands close co-operation between clinicians, on the one hand, and the School Medical Service, on the other, and a very promising beginning had already

been made in this respect at Bristol and elsewhere.

Dr. Carey Coombs mentioned three matters which were being carefully investigated by the special committee of which he was a member. One of these is the relation between tonsillitis and rheumatic affections. A second is the effect of environment, and in this connection a rather full questionnaire had been drawn up for use in as many cases as possible. The third concerned residential treatment, the value of which is at present, perhaps, rather problematical, though it is a method worthy of extended trial. A Society such as ours could be of the greatest assistance in helping to obtain the vast amount of information necessary before final conclusions were possible.

Dr. W. G. Savage felt a little doubtful about the value of compulsory notification, which Dr. Askins had advocated, since the disease is not one which can easily be defined and no effective administrative action could follow notification. He thought, however, that the whole matter was one to which public attention should be drawn. Possibly some system of voluntary notification in selected areas would be helpful.

The general feeling of the meeting was that the time had arrived for an intensive study of the whole question of rheumatism and heart disease in children. It is hoped that some comprehensive scheme for a survey of the position in the West of England may be put before the Branch in due course.

MIDLAND BRANCH.

A meeting of the Branch was held at the Council House, Birmingham, at 3.30 p.m., on Thursday, 6th November, 1924, when there were present: Dr. Woolsey Stocks (in the chair), and 20 members.

Apologies for absence were read from Drs. W. D. Carruthers, P. Heffernan, Hamilton Wood, E. H. R. Harries and W. E. R. Saunders.

The minutes of the previous meeting, which had already been published in "Public Health," were confirmed and signed.

The Branch Council recommended that Dr. T. Ridley Bailey be nominated for the Presidency of the Society, 1925-26. This recommendation was carried unanimously.

A letter was read from the Midland Tuberculosis Sub-Group of the Society enclosing a resolution recently passed by it on the question of

whole-time Public Health Officers' and private consultation fees. This letter was referred for the consideration to the Branch Council.

The Hon. Sec. read a letter from the Chairman of the Salaries Committee with reference to the present position in regard to the scale of salaries for Public Health Officers.

The Hon. Treasurer (Dr. Ridley Bailey) presented his report for the past year, which was received and adopted.

It was announced by the Hon. Sec. (Dr. R. H. H. Jolly) that an invitation had been given by Dr. P. Boobbyer for the Branch to hold their next monthly meeting at Nottingham and that the programme on that occasion would include visits to some of the recently established Municipal Institutions, including the Hostel for Unmarried Mothers and the V.D. Hospital for Women and Children.

The President then called on Dr. W. H. Davison for his paper on "Some Aspects of Health Administration in Switzerland." In this paper Dr. Davison gave an account of certain of the special features noted by him when a delegate at the Interchange Course for Public Health Officers held in Switzerland this year. After referring to the general organization of the sanitary services of that country he dealt in greater detail with certain points of special interest, including the Swiss system of Sickness Insurance, the problem of Endemic Goitre, the control of Milk, and the recent outbreak of Small Pox in Switzerland.

Dr. Davison was warmly thanked for his instructive paper and several members asked questions about the extent of Goitre in Switzerland, and the various measures that are being taken to prevent it. It was suggested that this subject might be further discussed at some future meeting.

The Branch then considered the report on House Disinfection for Open Cases of Tuberculosis which has been prepared by the Branch Council. After a short discussion the report was referred back for further consideration.

SCHOOL MEDICAL SERVICE GROUP.

The twenty-fourth general meeting was held at the Society's House, at 3.30 p.m., on Saturday, 18th October, 1924.

There were present the President, Dr. J. W. Fraser (in the chair), Drs. C. J. Thomas, H. R. Kidner, L. Caroline Adam, Agnes Bernfeld, Charlotte Brown, Annie M. Gurney, A. Hutton-

Ashkeny, T. P. Puddicombe, C. H. Straton, J. M. Taylor and W. J. M. Slowan (Secretary).

The minutes of the previous meeting were read and approved.

The President moved a hearty vote of thanks to Dr. Thomas for the work done by him during his two years' presidency, mentioning especially his efforts in connection with the League of Nations and the question of salaries, and also for his continuing to act as representative of the Group on the Council of the Society. Dr. Kidner seconded the motion which was carried with acclamation.

Dr. Fraser delivered his presidential address on "The Value of Intelligence Tests of Mentally Deficient Children in Relation to their Future Careers." The principal argument of the address was to prove that the Intelligence quotient was of little value in this respect and that a much more reliable prognosis could be made from the extent of annual gain in mental age. The address was illustrated by an extremely interesting set of diagrams.

A discussion followed in which several members took part. Dr. Thomas, in thanking the president for his address, expressed the opinion that while the suggested plan of curve showing mental age gain seemed very hopeful he thought it might be supplemented by a curve showing educational progress and attainments.

The address will appear in a future number of "Public Health."

TUBERCULOSIS GROUP.

A meeting of the Executive Committee of the Tuberculosis Group was held at the House of the Society on Friday, 17th October, 1924, at 10.30 a.m., when there were present: Dr. A. Neville Cox (in the Chair), Drs. A. J. Shinnie, Pedley, Gordon Smith, and E. Ward (Secretary).

Dr. Peyton wrote, apologizing for non-attendance.

The minutes of the last meeting were read and confirmed.

(1) *The Committee for the new Session* will remain much the same as previously, but all information on this point had not yet been received. Dr. Blackmore will take Dr. Forrest's place in the representation of the Metropolitan Sub-Group, and Dr. Bell Ferguson replaces Dr. Watt for the Midlands.

(2) *Dr. Neville Cox* was elected Chairman of the Committee and *Drs. Shinnie and Swan*, Vice-Chairmen for the ensuing Session.

(3) *Consulting Fees for Tuberculosis Officers.*—Letters from Dr. Peyton were read, and also a resolution passed by the Midland Sub-Group: "That this meeting of the Midland Tuberculosis Sub-Group of the Society of Medical Officers of Health protests against the resolution of the Representative Body of the British Medical Association, concerning fees to Tuberculosis Officers, and requests that this resolution be rescinded at the next meeting."

The Committee decided to obtain the opinion of the other Sub-Groups before coming to a decision.

(4) The Council Representative reported the events at the last meeting of the Council of the Society, and the position as regards the Salary Scale.

(5) The Derby circular on *Disinfection of Rooms* tenanted by tuberculosis patients was discussed, and it was decided that members of the Committees should send their opinions to the Secretary before the next Committee meeting, and a memorandum would then be prepared for submission to the Council.

(6) *Further Activities of the Group.*—The Committee considered that it would be unwise for the Group to arrange meetings on Clinical subjects which might clash with those of other Societies, and that the activities of this Committee were best confined as at present, mainly to ethicopolitical matters.

(7) *Royal Commission on National Health Insurance.*—The Secretary explained that the Committee considering this subject had decided that the Society should give evidence and that each member of the Committee should write his views to the Chairman, and they would then decide, at a subsequent meeting, what evidence would be given, and by whom. The executive Secretary would ascertain the latest date on which evidence could be submitted.

The Committee considered that tuberculosis interests should be represented to the Commission by one of their own members.

(8) A circular letter from the Executive Secretary of the Society to the Groups, was read, and the Secretary was instructed to ask Sub-Groups Secretaries to compile a list of T. B. workers in their areas, who are not members and to see they are approached with a view to joining the Society.

The Secretary was also instructed to write personally to the members who were three years in arrears with their subscription, a list of whom had been provided.

(9) Friday, November 21st, 10 a.m., was fixed for the next meeting.

Reviews.

POCKET HANDBOOK OF MEAT INSPECTION: A Guide to the Public Health (Meat) Regulations (Scotland), 1924. By GERALD LEIGHTON, M.D., F.R.S.E., Medical Officer (Foods), Scottish Board of Health. Edinburgh and London: William Hodge and Co., Ltd. F'cap. 8vo. pp. 126. 6s. net. 1924.

To the student of Public Health and even to many Public Health Officials the digestion of the great mass of legislation bearing on the subject is a difficult task; but as far as the Public Health (Meat) Regulations (Scotland), 1924, are concerned this task has been lightened by Dr. Gerald Leighton in his recently published "*Handbook of Meat Inspection*."¹ The peptonising process consists in the addition, after each Article of the regulations, of a brief explanatory note couched in ordinary language without any of that legal phraseology which, though a stumbling block to the lay mind is often a fruitful source of disputes in the law courts. The book is well arranged and is correctly described as a pocket handbook. The regulations and schedules being printed in bolder type than the notes upon them; the former can be readily distinguished. We hope that in future editions the author will add references to any legal decisions and "*obiter dicta*," dealing with the interpretation of the regulations, which are sure to follow their adoption.

The author states in the introduction that the regulations are for the most part the result of a prolonged inquiry carried out by him and three committees of which he was chairman. The need for uniformity in methods of handling and inspecting meat is urgent and to Scotland belongs the credit—as in many other Health measures—of first enforcing this uniformity by law, although as long ago as March, 1922, the Ministry of Health issued a "*Memorandum on a System of Meat Inspection*," recommended for adoption by Local Authorities, but the Memorandum contained the proviso that it was concerned with the conditions under which meat should be condemned as unfit for human food and the decision as to any legal action which may follow such condemnation rests obviously with the local authority.

A comparison of the Scottish Regulations with the Public Health (Meat) Regulations, 1924, recently issued in draft form by the Ministry of Health reveals some curious differences in practice in England and Scotland. The qualifications de-

manded of a meat inspector in Scotland are high, and it would appear that the holder of the meat inspectors' certificate of the Royal Sanitary Institute and similar bodies will no longer be able in Scotland to call himself a qualified meat inspector unless he has had seven years' practical experience prior to June 1st, 1923. In Scotland there is better control over meat sold from booths or stalls, while in England the meat in shops must be protected from flies and dirt. In dealing with cases of Tuberculosis in Bovines and Swine the head including the tongue must be seized, in England if any of the lymphatic glands of the head are affected, but in Scotland any two of these glands must be affected before seizure. In England *Cysticercus cellulosae* (measly pork) must be generalised in the meat substance before seizure, but there is no reference to generalisation in the Scottish Regulations. With one uniformity in such matters as these in England and another uniformity in Scotland, confusion is sure to arise, and it is difficult to understand why there should not be a uniform practice for Great Britain. No doubt this will come in time and its advent will be hastened by the labours of Dr. Leighton, to whom it must be a great source of satisfaction to have completed the formidable task upon which he has been engaged for several years.

AN INTRODUCTION TO FORENSIC MEDICINE FOR MEDICAL STUDENTS AND PRACTITIONERS, by H. A. BURRIDGE, M.A., M.B.(Dub.), Associate of King's College, London, Lecturer on Forensic Medicine and Toxicology in the King's College Hospital Medical School (University of London). London: H. K. Lewis and Co., Ltd. 1924. pp. xiv. + 455. Crown 8vo. Price, 10s. 6d. net.

This volume will be found more useful to the general practitioner than to the medical student for examination purposes. The latter, on emerging from his medical school, duly qualified, does not realise the many and varied medico-legal pitfalls associated with the practice of his profession. The newly qualified medical practitioner, and for that matter all medical practitioners should never forget "that the responsibility of the medical man does not begin in the witness box, but is undertaken and implied in the signing of the simplest form of medical certificate and in every act and relation which subsists between himself and his patient."

The legal obligations of the medical practitioner are becoming more numerous year by year, and

as ignorance is no defence in law he would be well advised to make himself familiar with the extent of his varied obligations, as they are set out by Dr. Burridge.

That portion of the volume which deals with the Dangerous Drugs Acts should be useful, especially the memorandum issued by the Home Office, which explains the provisions of the Acts and Regulations made by the Home Secretary. A medical practitioner often has to decide how long a period has elapsed since death occurred, and Chapter III., with its summary on page 122, should be of great assistance in answering this question. The following advice is excellent and should always be acted upon: "Do not rush at an opinion directly you have seen a body, make a careful systematic examination and consider the matter quietly after consulting your books, and making the allowances required by the conditions under which the body has been found, before you finally commit yourself to a definite opinion."

The chapter dealing with deaths resulting from acts of violence is well arranged in the form of question and answer. These are practical questions that present themselves to the doctor who is asked to decide what has been the cause of death. The ordinary general practitioner cannot fail to be impressed with the danger of attempting to carry out tests that are too technical except for the expert, for instance, the tests for the detection of blood stains.

On page 222, under the heading "*Criminal Abortion*," mention might have been made of the practice sometimes resorted to of injecting air into the external *os uteri*. The chapter on "*Infanticide and Live Birth*" deals very fully with the subject, and clearly shows how difficult it may be for the medical practitioner to answer the question: "Was the child born alive?" In this connection the author's advice is very sound: "Any doubt upon the matter must be put before the Court, for however essential it is that the guilty be punished, it is yet more urgent that no innocent person suffer for any overstraining or misinterpretation of matters of opinion." In this chapter, mention might have been made of the Infanticide Act, 1922.

The chapter on Toxicology will be found of value, not only from a legal point of view, but with regard to treatment in cases of poisoning. The chapter on Lunacy sets out the law very clearly—the importance of this subject to the medical profession was recently demonstrated in the law courts.

Minor mis-statements which do not concern the ordinary medical practitioner are noticeable throughout the book, for example on page 8 it is suggested that the General Medical Council has jurisdiction over midwives, whereas this is exercised by the Central Midwives Board. The number of jurors for Coroners' courts is now fewer than that stated on page 13, and to the footnote on the same page should have been added the statement that a jury must also be empanelled when inquests are held under some Act other than the Coroner Act, 1887. The Inquisition on parchment in case of murder or manslaughter is not necessary since the Indictment Act, 1915. These are details that can be corrected in a second edition, and do not detract from the usefulness of the volume, especially to the busy general practitioner.

CORRESPONDENCE.

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

ASSISTANT MEDICAL OFFICERS.

From Dr. Elwin H. T. Nash.

Sir,—I think the time has come when something must be done to ensure that the Assistant Medical Officers are adequately represented in the deliberations of the Society, more particularly is this the case with regard to the present action which has been taken concerning appointments at a minimum salary.

It is all very well for Seniors to discuss these matters, and negotiate with other bodies, but after all the burden of the fray has to be borne by the Assistants. They I think might quite rightly say that this being so they should have same part in the deliberations which are shaping their conduct in their work.

At present the Assistants are practically disfranchised because the majority of the districts are of the smaller type and if the Chief is away the Assistant cannot be. Moreover, the Assistant is as a rule doing routine work by appointment.

As one solution of the problem I would suggest that as far as possible all meetings of the Branches should take place alternately in the afternoon and evening, so as to give the Assistants equal opportunities of attending. It may be urged that they have the power of putting their representatives on the Councils of the Branch by virtue of their numbers, but it must

be pointed out that their opportunities for voting are negligible.

Another possibility is the formation within the Society of a definite series of groups, say six, which would each have representation on the Council, or if this is not possible, the alteration of the Articles of Association should be considered whereby the Assistants can, by means of a paper vote, elect six direct representatives on the Council.

The Society has pleaded its democratic constitution on many an occasion, and it ill behoves us to continue to disfranchise a considerable section of our members when we are endeavouring to attract every member into the fold. It is a thoroughly unhealthy condition in any democratic body to have a large portion of its members more or less mute, with many of them restless at their inability to make their voices heard in the Council of the Association to which they are being urged to belong.

Yours faithfully,

ELWIN H. T. NASH.

Hounslow,
24th October, 1924.

THE SUPERVISION OF MENTALLY DEFECTIVE CHILDREN.

From Dr. Henry Herd.

Sir,—Your editorial (page 42) on the "Supervision of Mentally Defective Children" touches on several points of importance.

It is well that the distinction between the social and the educational aspects of mental deficiency should be emphasised. For it has to be remembered that the point of view of the authority which provides a special school is primarily educational. It has to deal with the problem of the presence in its schools of a considerable percentage of children who are to a greater or less degree, and through a variety of causes, backward and unable to benefit by the ordinary curriculum, and the fact that a certain proportion of these children are scientifically labelled as "Mentally Defective" is to the Authority only a secondary consideration. Its concern is to discover the best and most efficient method of educating these "backward" children.

One may safely assert that "educable capacity" is the chief consideration present to the minds of most medical officers who certify children for the

Special Schools. They base their decisions largely upon I.Q.'s and educational attainments, judged in relation to the child's health and opportunities, and it is inevitable that their decisions should be so based, for the determination that a child is going to be a "social" failure and therefore certifiable at a later date under the Mental Deficiency Act is only possible in the case of a very few of higher grades of very marked instability of character—and even in this latter case other psychological possibilities must be carefully considered. Many educational M.D.s are never certifiable on the social criterion of the M.D. Act, although the ardent eugenicist will doubtless maintain that all of them constitute racial dangers.

I am strongly of opinion and have already expressed elsewhere, that the use of the *legal* term "Mental Deficiency" should be reserved for application in the social sense only, and that it should be made possible to give a child the benefit of Special School education without certification of deficiency. There should be no premature branding of children at the developing ages with the "stigma of social inferiority."

It is extremely probable that the undue concentration upon the education of defective children to the total exclusion (or nearly so) of the more promising backward child is to be attributed to the legal ritual of admission. What we now have to do is to commence at the other end and establish a properly organised graded series of Backward Classes. This being done, it would be quite a simple matter to keep under careful observation all children with regard to whom there is a possibility of certification becoming necessary sooner or later, and thus comply with the requirements of the M.D. Act.

Yours, etc.,

H. HERD.

Senior Assistant S.M.O.,
Manchester Education Committee.
19th November, 1924.

It is officially announced that not fewer than twenty Commissions in the Royal Army Medical Corps will be granted to successful candidates in an examination to be held in London on January 28th next. Applications to compete must be made not later than January 18th, and meantime, a full statement of the duties and emoluments of the service can be had on written application to the Under Secretary of State (A.M.D.I.), The War Office, Whitehall, London, S.W. 1.

Public Health

THE JOURNAL OF

The Society of Medical Officers of Health.

No. 4.

JANUARY, 1925.

VOL. XXXVIII.

Subscription price, 31s. 6d. per annum, post free
in advance. Single copies, 2s. 6d., post free.

CONTENTS.

EDITORIAL—

	PAGE
The Health of the School Child	101
Smallpox and Vaccination in Canada	102
The Vital Statistics of Sweden and England and Wales	103
Public Health Services in Germany	104
World's Dairy Congress	105
Atmospheric Pollution	106
The Late Dr. J. F. W. Tatham	107
Retirement of Dr. E. W. Hope	108

Notes on the School Medical Service (By Algernon Wear, C.M.G., M.D., B.S., D.P.H., School Medical Officer, Leeds C.B.)	109
---	-----

A Visit to the Anti Tuberculosis Clinics and Sana- toria of Switzerland (By P. Heffernan, B.A., M.B., Major, I.M.S. Ret., Tuberculosis Officer, Derbyshire County Council)	112
--	-----

The Prevention of Mental Disease as a Practical Proposition (By G. C. F. Roe, L.R.C.P. and S.I., D.P.H., D.P.M., Assistant Medical Officer of Health, Wakefield C.B.)	116
---	-----

SOCIETY OF MEDICAL OFFICERS OF HEALTH—

Ordinary Meeting	119
North Western Branch	119
Home Counties' Branch	121
Northern Branch	122
Midland Branch	124
Tuberculosis Group	125

REVIEWS—

The Diagnosis and Treatment of the Infectious Diseases	125
Modern Methods in the Diagnosis and Treat- ment of Pulmonary Tuberculosis	126

CORRESPONDENCE—

The Supervision of Mentally Defective Children Assistant Medical Officers... ..	127
	128

Editorial.

THE HEALTH OF THE SCHOOL CHILD.

The publication of the annual report* of Sir George Newman, Chief Medical Officer of the Board of Education, is one of the most important events of the School Medical Service year, not only because of the collected information which it contains but also for the ideals it sets up, some of which are so high, that at present they appear to be unattainable, yet if the advances detailed in the report are continued in the coming years, they may be found to come within reach.

Encouragement in this direction is to be found in the statement that "the restraining conditions under which the School Medical Service suffered in 1922 owing to the needs of national economy began to be less oppressive in 1923," and if this improvement continues School Medical Officers, all of whom have a strain of Oliver Twist in their composition, will feel that they may ask for more clinics, more open-air schools, more special schools with some hope of their requests being successful.

The information scattered through the report is stated in figures of such magnitude that even members of the service are impressed, while the general public may well be astounded at the amount of quiet work going on and of which they hear but little in detail. That 1,754,919 school children were subjected to routine medical inspection in 1923 and that 739,390 special inspections were also made is in itself a sufficiently remarkable fact, but it must also be noted that about half a million or one fifth of the total number were found to require medical treatment of some sort or another. This huge number does not include moreover those children who required dental treatment, over 600,000, or those dealt with for dirty or verminous conditions. Of the 500,000 children many suffered from more than one

*The Health of the School Child. Annual Report of the Chief Medical Officer of the Board of Education for the year 1923. H.M. Stationery Office. Price 2s. net.

defect, for 880,000 defects were treated during the year. The great bulk of the treatment was provided at the 1,076 school clinics established by local authorities or at the 390 hospitals with which the authorities had made arrangements for treatment. Under one or other of these two schemes 473,000 minor ailments were treated and 63,000 by other means, 170,000 cases of defective vision came under treatment and 134,000 pairs of spectacles were prescribed by ophthalmic surgeons acting for the authorities. Figures of similar magnitude are given in the report referring to other defects and the attendances of children at the clinics reached enormous numbers, as many as 1,400,000 in London, nearly 300,000 in Manchester and nearly 200,000 in Leeds. Such figures as these show that the 1,751 school medical officers, the 469 school dentists and the 4,277 school nurses cannot have been idle during the year.

Sir George Newman's comments on the results of all this activity are encouraging. The attendance of parents at the inspections, he tells us, is increasing year by year, while their desire for advice and willingness to carry it out is very noticeable. The number of cases of heart disease, of anaemia and of nose and throat diseases is decreasing. Although the general cleanliness of school children is improving the number found to be in a dirty or verminous condition continues to be appallingly high. The ideal of an entirely clean school population is still as much out of reach as that of a school population with healthy mouths free from all decay of the teeth.

If the dental scheme detailed on page 182 of the report could be carried out in its entirety it would mean that in a few years every school child would have its teeth examined once a year and would receive any necessary treatment. Assuming that there are 6,000,000 school children and that a full-time dentist can deal with 5,000-6,000 children yearly, about 1,000 school dentists would be required, or more than two-thirds of the number at present on the Dental Register.

In the combined education and treatment of crippled children the ideal is again far ahead of the achievement. It ought to be possible, as Sir George Newman states, to get the crippled child under treatment as soon as the crippled condition is known even by the maternity and child welfare departments and long before school age, then it would be practicable to carry out treatment in a hospital school and return the child to an ordinary elementary school, keeping it under the observation of an orthopaedic clinic as long as might be

necessary. If, as Sir Robert Jones is stated to have said, 80 per cent. of cripples are curable provided treatment is begun early enough, it should be possible to return to ordinary school life and afterwards to profitable everyday work, a large proportion of children whose prospects apart from the hospital school and orthopaedic clinic are gloomy in the extreme.

In the matter also of outdoor education achievement again lags far behind the ideal. There are forty day and twenty residential open-air schools in the whole country with accommodation for 4,690 children, but from information given in the report there must be over ten times that number of children who would benefit by a period of instruction in such schools.

The report deals with many branches of the service in which increased action is required, and in this connection the sections on the organisation of the treatment of crippled children, on the day open-air school and the appendix in the nature and cost of equipments of the various types of clinics, are invaluable to the School Medical Officer, who has to guide and inform his authority.

In the section on the Provision of meals it is satisfactory to find that the number of children fed and of meals provided is only about one-sixth of what it was in 1921-2, showing that, despite commercial depression, there is an improvement in the financial circumstances of the parents.

Sir George Newman lays great stress on the necessity for continual research and we can assure him that all School Medical Officers feel that necessity and would be only too glad to devote themselves to it had they the time to spare, but the figures as to inspection and treatment given above show that available time is fully occupied. If by an increase in their staffs senior Medical Officers could be released from routine work or could release some specially qualified member of the staff, there are many promising lines of investigation which might be followed.

SMALLPOX AND VACCINATION IN CANADA.

The Canadian Department of Health has recently issued "a popular treatise" on smallpox and vaccination, written by Dr. J. J. Heagerty, of that department.

A short clinical description of smallpox is given and also its history, more particularly in Canada, is interestingly dealt with. Vaccination is carefully considered and the tragedy mentioned

which befel Montreal in 1885 owing to its neglect. In this city a local physician led the opposition to vaccination which culminated in 3,164 deaths from smallpox in that year. This sad lesson, Dr. Heagerty tells us, was taken to heart and now in no province of Canada are the people so well vaccinated as in the province of Quebec with the result that smallpox has not again appeared in Quebec in epidemic form. The interesting letter written to Jenner in 1807 by the Council of Indians is quoted, in which they beseech the Great Spirit to take care of him in this world and in the land of spirits. There are ten photographs all carefully chosen for the purpose of education and in their selection the charge of exaggeration cannot be made for those illustrating the eruption of smallpox show both mild and severe attacks. Indeed this little pamphlet is first rate propaganda work which might be imitated in this country with advantage. However it is essential for the propagandist to be accurate and the statement that after vaccination no dressing is necessary if the clothing is clean must be called unwise. Also the remark that the mortality in children from all types of smallpox is high should have been modified.

THE VITAL STATISTICS OF SWEDEN AND ENGLAND AND WALES.

The Journal of the Royal Statistical Society for July, 1924, contains information of much value. In it there appears a paper by Dr. Greenwood on the Vital Statistics of Sweden and England and Wales, with notes of a discussion in which several eminent statisticians took part. Dr. Greenwood has selected Sweden for comparative purposes because Swedish statistics are probably the best produced in any European country and are available right away back to about the middle of the eighteenth century. Between the two countries there are few points, either physical, social or economic, in which the conditions of Sweden and England agree so closely that a comparison of the trend of death rates can be entered into on more than general lines. Nevertheless Dr. Greenwood has produced a paper which is one of the most stimulating that could be read by medical officers of health interested in public health progress. His principal conclusions are:—

- (1) That 70 years ago mortality from childhood to the age of 35 was greater in England and Wales than in Sweden and especially so at adolescence.
- (2) That 70 years ago after the age of 35 the English rate improved in comparison with

the Swedish rate and at the age of 40 English males died at from 10-15 per cent. lower rates than did Swedish males.

- (3) That 10 years ago at ages below 35 the English mortality was less than the Swedish and at the earlier ages very much less.
- (4) That 10 years ago after 40 the English died at from 25-50 per cent. higher rate than the Swedish race.

These four facts present a remarkable contrast for while English adolescent mortality rates have improved extraordinarily and are now less than half those of 70 years ago Swedish adolescent mortality has hardly changed; and again while English mortality at ages 45-50 has improved relatively little the Swedish rate of mortality of later ages has improved almost 50 per cent.

Dr. Greenwood has made a careful study of the causes of these variations. He indicates that while migration may have played a part it does not offer the whole explanation. In order that he may have a complete view of the situation he carefully reviews the recent history of Sweden and shows how the 1910 population of Sweden although not in any case comparable to that of England is nevertheless, more comparable than it was seventy years ago. He discusses the housing question in Sweden, the climate, the habits of the people especially in relation to the abuse of alcohol, industrial legislation and the amount of phthisis—all in relation to the changes which the death rates at various ages have undergone. On the whole he is inclined to the general view that the Swedish death rates at about and above 15 years have been favourably affected by a decline in the use of alcohol and unfavourably affected by rising industrialism. Dr. Greenwood's concluding observations are on a pessimistic note. He states that our epoch of greatest industrial success was an epoch of vital inferiority to Sweden and that we still remain in an unfavourable position and adds, "If it is true that the Swedish high mortality at ages 15-20 is a consequence of the increasing introduction of young lives to industrial work, whether the direct consequences of factory environment or the indirect consequences of associated domestic evils, it would appear that our own future gives ground for apprehension."

Dr Greenwood's paper is one of the most instructive that could be read in relation to public health. It clearly demonstrates the greater stress of present day conditions, the effect of which is accumulative and appears most at the higher ages. He thoroughly appreciates the fact that there are many factors at work and points

out in his paper that any hard and fast conclusions arising out of his comparison of Swedish with English vital statistics are to be deprecated, for at no time have the countries represented two identical samples of human material exposed to different conditions. The respective populations represent the result of hundreds of years of evolutionary development, inhabiting different areas, living under different conditions and employed in different ways.

Progress in public health depends on many factors, social, industrial and economic, associated with an ever increasing knowledge and practice of the established precepts of healthy living. The researches of Dr. Greenwood into the vital statistics of Sweden in relation to the elucidation of English health problems represent just that form of research likely to bear good fruit. The pedantic conception that the only form of scientific work worthy of recognition is that of experimentation on animals under laboratory conditions is becoming rapidly exploded and the *coup de grâce* to such a theory may very well be administered by the thoughtful and closely reasoned paper of Dr. Greenwood which deals with the vast human experiments which modern social conditions have necessarily performed on teeming communities.

PUBLIC HEALTH SERVICES IN GERMANY.

The Report descriptive of the Public Health Services in Germany, which is a companion to that upon Public Health Services in Austria,* follows more closely the specific questions set out by the Health Organisation of the League of Nations, for the compilation of these Reports. The information contained therein, nevertheless, affords a very interesting glimpse of what may be justly styled the bureaucratic method of conducting Public Health work. It should be explained in the first instance, that by the Constitution of August 11th, 1919, the German "Empire" is a national entity formed by the federation of eighteen States, each of which possesses the right of making its own laws, so long, and in so far, as the Imperial Government does not exercise its legislative power. This explains to a large extent the difference in Public Health Law and practice in the several States. The Imperial Government has wide general legislative power in all matters pertaining to Public Health, and may exercise powers of supervision in such matters, also, it may publish general instructions to the Authorities of the States and send commissioners to supervise their execution. Matters of Public Health, Schools, Education, Welfare Work, etc.,

are mainly dealt with by Departments II., III. and IV., in the Imperial Ministry of the Interior, and to some extent by the Ministry of Labour (insurance, industrial hygiene, etc.). The Imperial Health Office is under control of the Ministry of the Interior, and consists of medical, chemical, hygiene, bacteriological and veterinary departments. It was founded in 1786 to assist the Chancellor, and the Ministries under him in legislating for, and supervising the execution of laws concerning the health of the people and animals. This Office is assisted by an Advisory Council consisting of about 75 members elected for a period of five years, on account of their scientific attainments, divided into eleven committees, each dealing with a separate branch of public health work. In addition, there are special Commissioners, and staffs, for work in connection with typhoid fever, civil prisoners and refugees. Where the Imperial Authorities have refrained from promulgating health laws, the individual States have organised a public health service by their own laws, thus, the highest Prussian Health Authority is the Ministry for Public Welfare, which is divided into three departments, and is assisted by a State Health Council. For the provinces, joint Boards, consisting of doctors and lawyers, have been set up, and for the Communes (districts of over 5,000 inhabitants), there are Health Committees, whose duty it is to carry out a joint system of inspection, to give expert advice, make suggestions, and support measures taken by the *police authorities*. Special Health Ministries under *medical administration* do not exist anywhere in Germany, Public Health Law is based on the Criminal or Civil Code, and the work of the Medical Officers is regulated by the local *police authority* (the *Landrat*).

Statistics are not available to show the number, rate of remuneration, and method of recruitment of all the officials of the State, provincial or communal health services. The executive work is done by the medical officers of the district (*Kreis*). In Prussia there are 274 full-time, and 175 part-time medical officers. The official duties assigned to these two parties are the same, the difference is in quantity of work only. The full-timer is prohibited from private practice, and in the case of the part-timer, the salary given by the State is small in view of his income from other sources. A medical officer may be called upon by his lay superiors to do work other than purely public health arising out of public or private law, e.g., medical examinations, certificates and expert advice to corporate bodies, for such he is entitled to a statutory fee. It is impossible to state in sterling, even approximately, the value of the salary paid to these District Medical Officers, e.g., the average salary in Prussia last year was

about 35,000 marks, plus 1,045 per cent. bonus, plus fluctuating allowances for house, subsistence, children, travelling, local cost of living, etc., but at all events, the total hardly amounts to a workman's wages. Apparently there is no official corresponding to our Sanitary Inspector, his work being done by the Police.

Hospital statistics, such as can be obtained for the purpose of the report, disclose a very unsatisfactory position. The number of beds (general and special), is small in proportion to the population. Extension, improvement, and even necessary repairs are in abeyance, and the cost of maintenance is hardly to be met by present-day incomes. All such establishments are subject to inspection by the District police. Defects are notified to the police authorities, who obtain a report from the district medical officer before proceeding to issue a warrant. The planning, construction, equipment, and administration of hospitals are all the subject of Government regulations, and all books are to be kept and returns made according to prescribed forms.

On account of the danger of infection invading the Country on the Eastern frontier, the law relating to the more serious infectious diseases (Cholera, Plague, Smallpox, etc.), is very strict, and complex rules are laid down for the supervision and control of infects, suspects, and contacts as well as for disinfection of their belongings. Premises in which persons are ill from such diseases, must show a yellow signboard by day, and a yellow lamp by night. With regard to the less virulent infectious diseases (Diphtheria, Scarlet Fever, Typhoid, Puerperal, Relapsing and other fevers), the regulations in practice are similar to our own, e.g., removal to hospital is not insisted upon if in the opinion of the medical officer, satisfactory isolation can be obtained at home. Precautions are maintained until bacteriological or other examinations show that infection has ceased, but control of contacts is rather more extensive than is the case here, and notification of *suspects* is compulsory in many of the States. In some States, the list of notifiable diseases includes such as trichinosis, scabies, ankylostomiasis, pemphigus neonosis, torum, poliomyelitis, whooping cough, mumps, but erysipelas, favus and sycosis, are not notifiable anywhere though the last is a serious, and by no means uncommon disease in Germany. Notification is made to the *police* by means of a card, issued free, by the doctor in attendance, the head of the household, or other responsible person. The police must immediately forward the original notification or a copy to the medical officer for the district, who then proceeds to make his enquiries and reports the result to the *police*.

The campaign against tuberculosis is organised

by a private Central Committee with a semi-official character, and consists chiefly in propaganda, promotion of sanatoria and welfare institutes, and home visiting. There is no general (Imperial) law requiring notification of cases of tuberculosis, although deaths from pulmonary or laryngeal tuberculosis are compulsorily notifiable. Some States require notification of advanced cases in certain circumstances, and in others, "infectious" cases must be notified. Venereal diseases are not notifiable, but an Imperial Decree of December 1st, 1919, authorised compulsory medical treatment of all persons suffering from such diseases, and provided penalties for persons *knowingly* spreading infection. A considerable number of consulting officers have been established for the purpose of giving advice but not treatment.

Registration of births (including stillbirths) must be given verbally by a responsible person within seven days at special registry offices, and deaths must be similarly registered on the following day. When the exact cause of death is in doubt, the district medical officer must verify by autopsy or otherwise.

Maternity and Child Welfare work is regulated by an Imperial Law of June 9th, 1922, by which considerable benefits (medical and monetary), are bestowed on the mother. There are numerous "Welfare Centres" of various kinds all over Germany, and in addition much educational work is being done. In matters of school hygiene, the bulk of Government measures deal with *school premises only*. In Prussia there are school doctors in most of the larger towns for the permanent medical supervision of school children, but this is only occasionally the case in the smaller towns and country areas. Certain Associations, however, help in school welfare work by arranging for holidays, excursions, school treats, games and swimming.

Brief reference only can be made here to the general Sanitary activities. Waterworks are safeguarded by certain articles in the Imperial Criminal Code and by the Foodstuffs Law. The district medical officer may pay attention to defective water supplies. Communes may construct water conduits and enter into civil contracts for the supply of water. Where a commune constructs a waterworks in the public interest, the inhabitants may be compelled by the *police* to connect up to it. As to sewerage, disposal of refuse, and cleaning of streets, etc., these duties are provided for partly by the Imperial Epidemics Law, and partly by police orders, the district medical officer being appealed to as consultant. In conclusion, it may be added that in spite of the terrible distress now prevailing amongst the professional and official classes, a brave attempt is being made to save the

*"Public Health," December, 1924, p. 76.

public health, and more especially, the welfare services from collapse, and the question which besets all earnest workers, is, how long they will be able to hold on in the face of the deterioration of the whole fabric of the public service.

WORLD'S DAIRY CONGRESS.

Although the holding of a World's Dairy Congress in the United States in October of last year was known to but a proportionately small number in this country, its nature, scope and value evidently made a deep and lasting impression on those delegates who were privileged to attend it. Some idea of this impression is conveyed by them in a Report presented jointly to the Minister of Agriculture and Fisheries and the Minister of Health.

When the United States invited this country to send representatives to the Congress an organising Committee, under the chairmanship of Sir A. Daniel Hall, was set up at the instance of the two government departments concerned, the Ministry of Agriculture and Fisheries and the Ministry of Health. This Committee had placed upon it the duty of informing bodies or associations interested in the subject as to the nature of the Congress so that a representative delegation might be secured and a suitable series of papers might be presented at the Congress from this country. In addition, contributions towards a fund for defraying the expenses of the delegates were invited. The efforts of the Committee were in a large measure successful, for a very valuable series of papers dealing with different aspects of the subject, including education and research, co-operation, breeding, State and local administration, commercial organisation, transport and manufacturing problems, was read by a very representative body of delegates.

The Report of the delegates, after their return, gives their experiences and impressions in broad outline. They received a truly American welcome and were offered every facility for acquiring a knowledge of American methods of production of dairy produce, its distribution and supervision from every point of view. Their final recommendations have particular reference to the enormous development and improvement which can be effected in the Dairy Industry of Great Britain; the advisability of a greater consumption of milk in this country and the need for propaganda in furthering it; the improvement of the

milk supply and the production of a safe and wholesome product, with a view to fostering a greater consumption; the extension of our dairy educational system to embrace the training of men competent to handle large quantities of milk by the most approved methods; the improvement of transport facilities; and the taking of an active share by the State in the encouragement and development of the Dairy Industry.

The attention of the Ministry of Health and the Ministry of Agriculture and Fisheries has been constantly directed to all these matters, some of them being very insistent and pressing for action, but the conviction grows that the greatest progress will only be accomplished when the public become alive to the need for action and demand it.

Much might be done in the way of educating the public by the adoption of the final, and perhaps the most important, recommendation of the delegates, that the Government should consider, in collaboration with the various interests concerned, the holding of a World's Dairy Congress in this country. Those who went to America were impressed with the great benefit to be derived from such a Congress, and were convinced that its value to America and particularly to the American Dairy Industry must have been enormous.

Steps have recently been taken by the two Ministries concerned to accept this last recommendation. A conference of all bodies and associations interested in the subject from every aspect was recently called to consider the question, when a resolution recommending the holding of a Congress in this country was passed unanimously. Substantial contributions towards the expenses should be forthcoming from the Government and various branches of the dairying industry.

From the public health point of view a Dairy Congress ought to accomplish a great deal. It should give wide publicity to the fact that milk is one of our most important foodstuffs, it should encourage the public to insist that a safe and wholesome supply should be provided and it should educate the farmer to the necessity of improving the conditions of production and meeting the public demand. To secure the maximum results the National Committee, which is being formed to organise the Congress, should especially enlist the assistance of Local Health Authorities and the medical profession, and particularly that branch of the profession which is specifically engaged in promoting the public health.

• ATMOSPHERIC POLLUTION.

The movement towards the abatement of the smoke nuisance has entered into a more hopeful phase of its existence. This new hope arises from the more active interest which is being taken by the engineer and the fuel economist in problems of smokeless combustion; the literature of the subject instead of consisting, as in the past, of strongly worded denunciations of the smoke evil, is now very largely made up of scientific contributions dealing with the nature and extent of atmospheric impurities and practicable methods of eliminating fuel waste.

Among recent publications of value must be placed a report* from the pen of Dr. H. Osborne, medical officer of health of Salford, who describes it as a "limited enquiry into the relative amounts, causes, and character of Salford's atmospheric pollution." Limited though it may be, it is, within its limits, an admirable presentation of observed facts, together with some carefully drawn deductions. He calls attention to the death rate in Salford from non-tuberculous respiratory disease, which is high in comparison with that of the country as a whole, and he sees in the impure atmosphere of Salford a possible explanation of this high mortality. Support is given to this view by charts which show the time-relationship which existed during the years 1916 and 1917 between periods of great fog and increases in mortality from respiratory disease. The mortality curves "peaked" during the fog periods.

With a view to ascertaining the actual facts regarding Salford's aerial impurities gauge observations are made at three stations in Salford and one at the Marple Sanatorium in Cheshire. The results obtained in a period of six months are set out in the form of charts enabling the results of the four stations to be compared with one another and with those obtained in London, Birmingham and other centres. Tarry and sooty matters are shown separately from inorganic dust.

In attempting to estimate the parts played by factory and domestic chimneys respectively an enquiry was made as to the amounts of coal supplied to the users of each type of chimney over a given period. It was found that the factories used 5,877 tons of coal per week all the year round, while domestic coal which totalled 7,077 tons per week in Summer amounted to

*"The Problem of Atmospheric Pollution." Extract from the Annual Report for 1923, of H. Osborne, M.D., M.O.H., Salford.

11,305 tons per week in Winter. It is therefore concluded that as far as Salford is concerned the domestic chimney is the chief offender, for not only is more coal used on home fires than on those of the factories, but also the home fires do not burn the coal so completely as do the factory fires. A striking frontispiece to the report depicts smoke arising from the house chimneys of the town of Whitby, which supports Dr. Osborne's attack upon the domestic flue. It would be interesting to know whether the light-obstruction caused by the blue haze over the residential districts is as serious as that due to factory chimneys emitting black smoke.

The report includes some valuable observations on the nature of the atmospheric impurities which are given off by coal and gas fires respectively, and refers to the large amounts of carbon monoxide given off by gas fires. Sulphur receives some attention, but the sulphur content of various coals in the analyses quoted is very much greater than the figures given in the engineering textbooks; this is rather puzzling to the reader. Criticism may be directed to the statement that from boiler fires "there should be no need for smoke of any kind if adequate plant were installed, even in the case of factory fires fed with raw coal." Even the most optimistic engineers do not go quite so far as that; allowance must be made for periods of unavoidable low temperature within the furnace, such periods being marked by some smoke emission.

In searching for the ideal form of heating for the home Dr. Osborne dismisses central heating as unsuitable, for the hot water radiator provides neither ventilation nor the visible rays which are said to be so necessary for the maintenance of health. The gas fire receives very little praise and Dr. Osborne is evidently among those who have not been greatly impressed by the dogmatic statements made in the advertisements of the gas industry. The gas fire is described as being a poor ventilator compared with the open fire, and the potential danger owing to the high carbon monoxide content of the combustion products is pointed out. In expressing these views he may receive support from many, in spite of the fact that some very distinguished scientists hold other opinions. The artisan is certainly fond of his open fire, which, in addition to the ventilation and visible rays which it provides, is also useful as an incinerator for domestic refuse, and Dr. Osborne thinks that future progress will lie in the direction of perfecting some form of smokeless solid fuel. Already the engineers have solved many of the

problems of converting raw coal into a satisfactory form of carbonized fuel, though it will not come into general use until the public is convinced that it is as cheap as, or cheaper than, coal. The report merits careful study by all who are interested in the subject; certainly it provides plenty of material for thought.

THE LATE DR. J. F. W. TATHAM.

The death at Oxted, Surrey, on 8th November, of Dr. J. F. W. Tatham, at the age of 80, removes from the roll of Honorary Fellows of the Society one of its oldest and most distinguished members.

Shortly after qualifying he was house surgeon to the Ardwick and Ancoats Dispensary, and in 1875 was appointed medical officer of health of Salford. In 1889 he became medical officer of health of Manchester. His annual and periodical reports were notable from the inclusion of valuable statistical tables in the compilation of which he portrayed his true bent of mind so that no one was surprised when in 1893 he was appointed superintendent of statistics in the General Register Office, Somerset House, in succession to Dr. William Ogle. In 1880 Tatham contributed to the Society an important paper on "Certain reforms which appear desirable in the statistical tables adopted in their annual reports by Medical Officers of Health acting for large Urban Districts." The tables which he appended to his paper formed the basis of the well-known tables of the Society which for many years were officially recognised. There was one table not officially adopted which gave the prices paid by the Poor Law authority for coal, flour, potatoes and butchers' meat and also the weekly average of paupers relieved during the year. Dr. Tatham considered that these prices might be taken as approximately representing the minimum average prices paid by the public for those commodities.

In 1892 Tatham compiled the first Manchester Life Table, and ten years later he published the second Life Table. A few years before the notification of infectious diseases became compulsory he acted as a clearing house for some thirty towns, in which there were schemes of voluntary notification, and distributed the results to the medical officers of health concerned until 1889, the year of the first Notification Act, when the Local Government Board undertook the task of distribution. While in Salford he carried out an important investigation into the comparative

healthiness of back-to-back houses and through ventilated houses and the conclusions he arrived at were instrumental in condemning the former type of dwelling and in later years of prohibiting their erection by the legislature.

Upon his retirement from the office of Superintendent of Statistics in 1909 a complimentary dinner was organised by the Society to Dr. Tatham. Sir Shirley Murphy presided and among those present were the Registrar-General, Sir William Dunbar, practically the entire medical staff of the Local Government Board and a very large number of distinguished medical officers of health.

RETIREMENT OF DR. E. W. HOPE.

The retirement of Dr. E. W. Hope from the position of Medical Officer of Health of the City and Port of Liverpool, has been made the opportunity for expressing the appreciation of his labours in the interest of Public Health by many public bodies in Liverpool. Dr. Hope was president of the Society in 1912.

Complimentary resolutions were passed at meetings of the City Council and also of the Liverpool Chamber of Commerce, and on 25th November he was entertained at a dinner by the Lord Mayor and Corporation, when he was presented with an illuminated copy of the resolution of the Council together with an antique silver tray and tankard. On 1st December a dinner was given in his honour by voluntary health workers in the City, who presented him with a silver cigarette box and an address in book form. The staff of the public health department presented him with an antique writing desk, a mahogany side table and a mirror, and the Liverpool Branch of the Federation of Medical Women presented him with an antique silver tray. In acknowledging this last presentation from the hands of Miss Ivens, President of the Federation, at a meeting held at the Liverpool Medical Institution, Dr. Hope said he had belonged to that Institution for the last thirty years, and had supported the application for membership of the first woman doctor in Liverpool. He referred to women's work in Public Health and mentioned that the reduction in infant mortality synchronised with the entrance of women into the Public Health Service. In Liverpool to-day the greater part of the Maternity and Child Welfare work was carried out by women doctors, and he hoped that the number of women engaged in this work would be largely augmented all over the country.

NOTES ON THE SCHOOL MEDICAL SERVICE.*

BY

ALGERNON WEAR, C.M.G., M.D., B.S., D.P.H.,
School Medical Officer, Leeds C.B.

After outlining the history of the Medical Inspection in Schools and the causes which led up to the introduction of Medical Inspection into this country in 1907, Dr. Wear continued: At first many Authorities were slow in realising their obligation under the 1907 Act, and did not fall into line by making Medical Inspection the real and vital service which was apparently intended. During recent years the Service has become more stable and uniform, and I think that we may say that in the majority of areas Medical Inspection is well carried out. There was however, to my mind, an error made from the very inception of the Scheme, which has restricted full expansion. I refer to the fact that the Service was not put entirely under the aegis of one Committee of a Local Authority, either the Health or the Education. This failure has resulted in the division of the School Medical work into two separate types, firstly, that which is administered by the Medical Officer of Health, and secondly, that by the Education Authority; it has thus come about that some thirty of the School Medical Officers of the country are, to use a vulgarism, on their own, whilst the remaining three hundred are under the Medical Officer of Health.

I think that there can be no diversity of opinion amongst us that the School Medical work must be of the very best, and thorough in all its activities. Diagnosis must be reliable, because we stand prominently before the Public and we are in close touch with the parents; for these reasons our methods must be sound and our sympathy real. The Service as a whole should be comprehensive in outlook and equally effective in all districts. A few Authorities appear somewhat cursory in the manner in which they carry out their School Medical work, this is bad for the Service and a reflection on the Medical profession. There is, however, another factor which I know to be holding back the School Medical Service from its rightful place in the sun. I refer to the want of full co-ordination with all other existing Medical Departments of the Local Authority; all agencies dealing with such a vital question as health should be under one Health Authority with closer linking up and

fuller co-ordination of all the branches. The Education Authority deals with children from the age of two to eighteen years, although nominally they are supposed to be dealing with children from five to fourteen years only; the 1921 Act gives authority for the establishment of Special Schools such as Nursery Schools, etc., to which children are sent from two years of age under the regulations of the Board of Education, and it is therefore presumed that this allows for the medical examination of such children. We have in addition the Secondary scholars up to the age of eighteen years; we are thus dealing with children from two to eighteen years of age, in fact many even after that period, yet we find that other agencies are overlapping with our work.

Take the case of Child Welfare Work, this is almost entirely separate from the School Medical Work, and yet there is overlapping as to age, home visiting and medical advice. The complete medical histories of the cases passing through the Babies' Welcomes do not come into our possession; they would be of the greatest value to us and the child afterwards. It seems an anomaly that we and the Babies' Welcomes each have separate clinics in the same street, surely this means almost double rent and administrative cost. Again, take the control of infectious disease, this is in the hands of the Medical Officer of Health at all ages of the population, but the School Medical Officer is responsible that the children are protected in the Schools. For this purpose the School Medical Officer has to keep elaborate registers and cause enquiries to be made which entail considerable staff and financial expenditure, whilst the Medical Officer of Health has an already complete organisation dealing with this very important subject, and yet just for one period during School life there is a certain number of the population who drop out of his (Medical Officer of Health's) ken except through the co-ordination which is naturally set up between the two departments. It, however, comes to this, that in one Corporation you have two separate Departments dealing with infection amongst children; this means overlapping, almost double cost and weakness in administration. Then as to the sanitation in the Schools. The School Medical Officer deals with questions such as replacement of closets, increase of urinals, washing arrangements, etc. The Medical Officer of Health makes recommendations to his Committee without any powers of enforcement, whereas the Medical Officer of Health has such powers under the Public Health Act.

*Presidential Address to the Yorkshire Branch of the Society of Medical Officers of Health, 27th September, 1924.

As a last instance I need only refer to the establishment of sanatoria or other institutions for the treatment of tubercle in children by the Public Health Authorities. The Health Committee of Leeds has just started a school for this purpose and yet all power is given the Education Committee to establish such institutions.

If time permitted further examples of the lack of co-ordination might be given but the above will suffice.

We will now turn to an example of wasted effort in the Public Health Service, I refer to the duties of the Factory Surgeons so far as they concern children. I am not in any way criticising the work of these gentlemen, as I know little of it. I will give one instance only of the weakness of their system. A certain child suffering from epilepsy and well known to us, who had been under observation and kept out of school for several years became a leaver, and it came to my knowledge that this child was working in a factory amongst machinery. Before taking up the work she had been examined by the Factory Surgeon who knew absolutely nothing of her previous history and the parents would probably not mention it. The outcome of this incident was a meeting with all the Factory Surgeons who agreed to accept from us a Medical Certificate as to a child's fitness for certain work. Every leaver is now provided with this certificate as to suitability of employment. I say, therefore, that in so far as school children are concerned the Factory Surgeons' work is superfluous or in other words, an example of overlapping. We are the ones who know the history of the children and our certificate should be compulsory throughout the country and given a legal standing. The certificate is as follows:—

LEEDS EDUCATION COMMITTEE.
MEDICAL INSPECTION OF SCHOOL
CHILDREN.

Education Offices,
Calverley Street,
Leeds.

THIS IS TO CERTIFY THAT

.....
is recommended as suitable for
Any employment
Outdoor employment
Light employment, i.e., clerical work, etc.

Signed.....
School Medical Officer.
Date.....

Let us turn to another aspect of the question I am concerned with, and I allude to the disparity in the country of results found by Medical Inspec-

tion, the variation of staff employed and the amount of work done.

The following figures have been abstracted from the various Annual Reports for 1923.

The percentage of children examined at Routine Inspections varies from 30.6 % at Manchester to 43.3 % at Bradford, Liverpool follows Bradford with 40.8 % and Leeds 40.6 %. The remainder of the Authorities have an average of 35 %. This variation means that all children are not being presented for examination. If we now take the treatment of minor ailments we notice a great disparity throughout the country:—

Birmingham	has treated	...	9.5 %
(referred from all sources)			
Liverpool	has treated	...	13.5 %
Manchester	do.	...	26.5 %
Sheffield	do.	...	16.6 %
Leeds	do.	...	21.5 %
West Ham	do.	...	13.8 %
Bristol	do.	...	16.4 %
Hull	do.	...	7.2 %
Stoke-on-Trent	do.	...	17.6 %
Nottingham	do.	...	16.8 %
Portsmouth	do.	...	4.6 %
Bradford	do.	...	21.2 %
Leicester	do.	...	7.8 %

From these figures it will be observed that we are faced with a tremendous variation in the percentage who are actually treated. It occurred to me that perhaps there might be some relationship between the number examined at Routine Inspections and the percentage treated by the different Authorities, but this does not appear to be the case.

The percentage of vision cases treated also varies, being 2.0 % at Hull and 7.1 % at Manchester.

Of the actual number of cases presented:

Leeds	had 3,450 or 5.7 % treated
Sheffield	„ 3,730 „ 4.7 % „
Liverpool	„ 5,265 „ 4.3 % „

which again shows considerable variation.

There is also variation in the number of nurses employed—the average for the towns already named being 1-2900 of average attendance. This would appear to be somewhat low, for we find that Bradford employs 1-1900 average attendance, Portsmouth however only 1-4500 and Stoke-on-Trent 1-4000; for thorough and efficient working I should say that roughly one nurse to every 2,000 should be aimed at.

I have results for nose and throat and other defects and here again we find variation, but as the returns are not fully comprehensive I refrain from quoting them.

Taking the Dental side of the work we find that there is no standard of the number of Dentists employed. Birmingham with an average attendance of 130,000 requires six full-time and five part-time men; Liverpool with 122,000 has only five part-time Dentists, they have, however, some student helpers; Leeds with 60,000 average attendances has five full and one part-time men; Bristol with 50,000 attendances has only one full and two part-time, in other words:—
Manchester has 1 Dentist to 26,000 children.
Birmingham „ 1 „ „ 12,000 „
Bristol „ 1 „ „ 16,000 „
Leeds „ 1 „ „ 10,000 „
Bradford „ 1 „ „ 8,000 „
Portsmouth with a larger attendance than Bradford has one Dentist to 33,000, which would appear to be inadequate.

There is another aspect of dental work which is worthy of quotation, that is the actual treatment undertaken by an individual dentist.

At each Dental Inspection in:—

Birmingham	...	237 children are examined.
Liverpool	...	151 do. do.
Manchester	...	235 do. do.
Sheffield	...	86 do. do.
Leeds	...	94 do. do.
West Ham	...	89 do. do.
Bristol	...	86 do. do.
Hull	...	51 do. do.
Stoke	...	103 do. do.
Nottingham	...	162 do. do.
Portsmouth	...	150 do. do.
Bradford	...	118 do. do.
Leicester	...	153 do. do.

I can only say that in Leeds I find that 94 examinations per session is as much as a dentist cares to, or can do, properly, and I can only surmise that in Birmingham and Liverpool with over 235 children per session the examination is less severe than elsewhere.

I do not wish to weary you with too many figures, but I would like to refer to another item and that is the actual fillings dealt with per session. Birmingham heads the list with 12.9 fillings per session, Leeds next with 11.5; Liverpool 9.5; Stoke 8.8; Bradford 7.3; and so on varying downwards to Hull with 1.6, surely an enormous variation.

The question of salaries is perhaps one worthy of a moment's consideration. As you are aware our Society in conjunction with the British Medical Association have laid it down that the commencing salary of an Assistant School Medical Officer should be £600 per annum. In this decision there is no allowance made for variation

of qualifications in the candidates, and there is no grading of applicants for the posts. A man just qualified without any special knowledge can hardly be compared to one who has done, say, three years in the Public Health Service and who, in addition, may possess the D.P.H. and probably specialised in refraction or X-Ray work. There is really considerable difference between the two, and whilst the latter is well worth £600, I do not consider that the former is. I am fully aware that an entrant to the Service must have had at least two years' experience. What is, however, not quite clear is, where is the experience to be gained, in the Public Health Service or in General Practice?

I understand that the Association of Directors of Education have agreed that they will oppose the £600 minimum salary, and without this standard we will be unable to select the best man for the work. There is one aspect of the salary question which I think is sometimes overlooked. The School Medical Officer has frequently to do special work, such as, refraction, or even dangerous work, such as X-Rays, both, or either of these, without any adequate extra remuneration. To my mind there should be Specialists' pay attached to extra work of this kind.

I well remember that when X-Rays came in for the treatment of ringworm I recommended that it be adopted. A Specialist outside quoted £5 per case for this work. This was looked upon as prohibitive and the Committee installed an apparatus at a cost of about £200. I, and others, have carried out the treatment, but none of us got a penny more for doing the work.

There appears to be a considerable lack of cohesion of the Public Medical Services which deal with the provision of Colonies, Convalescent Homes, Hospital Schools, etc. The actual provision of such institutions is not, to my mind, one for an Education Committee to deal with, but entirely one for voluntary agencies or the Health Departments. There appears to be confusion amongst Public bodies as to their separate functions in this matter. The teaching portion of an Orthopaedic Hospital School is educational, but the provision of buildings and medical treatment is purely the business of medical experts.

As to the scope of the School Medical Officer's work I intend to say only a few words. The work is varied, full of interest and allows of a considerable amount of diagnosis and physical examination, so that one does not lose touch with one's profession. There are those who think that the School Medical Officer has an easy time and that his work is superficial. It is neither, it is real

and full of interest. I do not intend to enumerate the list of the items which go to make up a day's work, they are well enough known to all of you. A Senior School Medical Officer becomes (whether he likes it or not) a Specialist upon a multitude of subjects, such as, epilepsy, tuberculosis, X-Rays, organised games, the feeding of children, legal matters, etc.

What is the position of the School Medical Officer be he Assistant or otherwise? The majority of them are men, or women, of considerable experience in their profession, capable administrators and devoted to their work. They are however caught in a net, the majority have become side tracked and will remain so, with little, if any, chance of advancement. A few may advance and after holding a Tuberculosis post eventually become Assistant Medical Officer of Health and higher, but they are the exceptional few. They should all have a chance of absorption into the full Public Health Service, able to rise in their profession, even on to the staff of the Ministry of Health itself. We require a broad and enlightened service.

We have in this country a Ministry of Health, a great and powerful organisation, but are all Public Health Agencies thoroughly within its grasp? I do not think so. As a School Medical Officer the Ministry of Health might not exist, I never receive any of their circulars or instructions. I know little or nothing as to what goes on at the Ministry of Health. I have been interviewed by one Officer of the Ministry who made the suggestion that a Doctor and some nurses should be appointed to deal entirely with infection. Had he said your authority must at once take steps to make more provision for dealing with infection or your grant will be stopped, something might have happened. As far as the School Service is concerned the divorce of the Service from the Ministry of Health and its control by the Board of Education is a point of great weakness. The grants on Medical Services should come from the Ministry of Health and not from the Board of Education.

The Ministry of Health may divide up its work into what branches it likes; these may be the Public Health Branch, the Tuberculosis, the Housing and the School Service, but let us have full amalgamation at the top and then bring about amalgamation lower down. Let us have a real Health Service throughout the country, combining all branches of Public Health, so that in each district there may be full co-ordination with high efficiency and reduction of cost.

A VISIT TO THE ANTI TUBERCULOSIS CLINICS AND SANATORIA OF SWITZERLAND.

BY

P. HEFFERNAN, B.A., M.B., Major, I.M.S. Ret.,
Tuberculosis Officer, Derbyshire County Council.

The fourth conference of the International Union against Tuberculosis concluded its deliberations at Lausanne on the evening of August 7th, 1924, and no doubt by now the official report of the proceedings is available.

Having been entertained and feted; having cruised round the lake of Geneva and lunched at the Grand Hotel, Territet, now the home of the exiled Sultan of Turkey and his suite; we set forth, one hundred and fifty strong, in our reserved coaches marked with the double red cross of Lorraine, for Leysin, Dr. Rollier and the *Cure de Soleil*.

Since the opening of the Simplon, Leysin, like Montana, stands within ten kilometres of the old world's greatest thoroughfare. Every night the orient expresses to and from Milan, Rome, Belgrade and Constantinople thunder through the valley below. But no smoke blackens the vegetation of the slopes. The wonderful electric locomotives of the Swiss Federal Railways use only the "white coal" of the Alps. The cog wheel railway from Aigle took us up to Leysin in half an hour.

Leysin consists of three large and several smaller hotel-sanatoria for Pulmonary cases, and a rapidly increasing number of clinics and pensions, where cases of non-pulmonary or surgical tuberculosis are treated by heliotherapy and aerotherapy—the *cure de soleil* and the *cure d'air*—under the care and supervision of Dr. Rollier, his assistants and colleagues.

There were over 2,000 patients at Leysin on the date of our visit. One large sanatorium, the Belvidere, used during the war for British prisoners, is unoccupied.

The essential principles of the Leysin treatment of surgical tuberculosis are now well known and need not be described in detail. The outstanding facts which strike the visitor are (1) plaster of Paris is never used; (2) prolonged fixation in rigid apparatus is not used; (3) tuberculin in any of its forms is not used.

At the beginning of a course of treatment, only the feet are exposed to the direct rays of the sun for several short periods daily. If the patient goes on well and pigments suitably, the time of exposure is lengthened, the area exposed increased until the whole body is exposed to the

direct rays; then the area of disease is specially treated.

In hip cases needing extension, counter extension is provided by a Bier's linen corslet, connected by washable linen straps to the head and sides of the bed. A simple trough splint is used to steady the leg but no complicated or rigid apparatus.

A feature of Leysin is the open air education of children. Portable desks designed to strap on the children's backs were shown, and special breathing exercises are in vogue for pre-tuberculous and delicate children.

Cases which, in spite of carefully graduated exposure to the sun show no signs of pigmentation are not considered suitable for heliotherapy. In practice this class is limited, apart from albinos, to the red haired, thin skinned, freckled type; fair fallow Swedes and Norwegians and Baltic peoples generally pigment well. The red haired, thin skinned type above mentioned is almost limited to a small portion of the Scotch-Irish race, and there is no doubt that as a type it is rapidly disappearing. One is tempted to generalise and moralise on this; it might be said for example that it is, or was, a type associated with large stature, great muscular strength, *elan* and dash, but with little stamina or staying power; a rural type, unable to endure urbanisation.

It is interesting to note that with pigmentation comes progressive thickening of both dermis and epidermis.

Dr. Jaquerod, of the Grand Hotel Sanatorium, gave a lecture, illustrated by lantern slides, on pulmonary tuberculosis and especially on pneumothorax treatment. The division of adhesions by electric cautery was well illustrated by a series of X-ray photographs of several cases. Here we noticed for the first time what became more evident as we saw other Swiss sanatoria, *viz.*, that pneumo-thorax treatment is used much more extensively in Switzerland than with us; that considerable disease in the other lung, if not active, is not considered a contra-indication; that division of adhesions by electric cautery is extensively practised; and that thoracoplastic operations are frequently done.

Thanks to Sir Henry Lunn, Montana is the most British of all the Alpine sanatoria. It is approached from the pleasant town of Sierre on the Simplon route by a real "funicular," *i.e.*, a cable railway, one of the steepest in Switzerland. We were put up at the Palace Hotel Sanatorium, where Dr. Hudson gave us a truly British welcome.

Montana is more spacious than Leysin. There are golf links, a park, and no feeling of having to hang on by the eyebrows which is so characteristic of some Alpine resorts. But, in addition, Montana had another great attraction for the British members of the party—here Mr. Spahlinger's products have had an extensive trial.

As head of the Montana Medical Association, Dr. Stephani presided at dinner at the Palace Hotel Sanatorium, on the night of our arrival. It was made known to him that a number of Englishmen were greatly interested in Mr. Spahlinger's products and the alleged results and would be very grateful if he would give them the benefit of his experience.

Dr. Stephani said that if he had known that we wanted to hear about the Spahlinger products, he would have prepared a full lecture on the matter; as it was the charts, dossiers, etc., of the cases were with Mr. Spahlinger, to whom he had sent them. He would however be very glad to give us a short resumé of his experience at his Sanatorium—on the following morning.

Dr. Stephani spoke in French. In compliment to the preponderance of Englishmen in his audience, Dr. Stephani, Jun., translated, somewhat freely, his father's address, paragraph by paragraph.

The beginning of the address was devoted to the personal history of Mr. Spahlinger. As soon as Dr. Stephani got to the core of the matter, the writer took down, as well as he could, notes of what was said as follows:—

"In 1919 Dr. Stephani and his son were able to try Mr. Spahlinger's sera on selected cases out of 300 tuberculous Russian prisoners at Montana, with excellent results. They were not able to continue, however, as the institute at Geneva had to close down for lack of funds. Large quantities of the sputum of tuberculosis cases were sent by Dr. Stephani to Mr. Spahlinger so that the latter could use various strains of bacilli in isolating the different toxins—Mr. Spahlinger found, however, that all the different toxins could be recovered from the same strain by employing physical methods.

Dr. Stephani used serums and a "partial" vaccine (the complete vaccine was never available). There were three kinds of sera, anti (ecto) toxic, anti endotoxic, and bacteriolytic. The last is not to be used in acute febrile toxic cases. Some cases of abdominal tuberculosis were not benefited by the treatment. Dr. Stephani's great difficulty was the occurrence of anaphylactic symptoms immediately after the hypodermic doses of serum were administered. "No case died from

the treatment but several seemed on the point of death—their eyes rolled upwards—their jaws dropped, they fell back in bed" (*sic*). He found ether, hypodermically, the best remedy; adrenalin and camphor he found too slow. He considers that consumptives in common with all persons of low blood pressure are especially liable to anaphylactic shock. The passive immunity conferred by the serum was of short duration and, in some cases, pyrexia soon recurred. He found that further doses of the serum removed the pyrexia, thus showing the causal relationship.

Chronic anaphylactic signs such as petechiae and urticaria also occurred in the patients treated with sera. Serum could be administered by the mouth if given, fasting, in the morning.

One temperature chart only was available, showing the progress of a case over a period of a month during which the patient had had frequent doses of serum varying between 1.5 c.c. and 3.5 c.c. Dr. Stephani told us however that much larger doses were given.

It cannot be said that the lecture was entirely convincing. Several questions suggested themselves but no opportunity came to ask them. One thing stood out—the occurrence of grave and dangerous anaphylactic symptoms. No mention was made of any attempt to desensitise the patient with minute doses. Obviously it is essential that a technique of serum treatment avoiding anaphylactic dangers must be worked out on animals and on man before such a method can come into general use.

Dr. Fischer, the Radiologist and Meteorologist at Montana, showed us his observations and X-ray pictures. He lamented the fact that they had not a stereoscopic plant. It cost too much, and anyhow "Leysin hadn't one yet!"

As a matter of fact there is not (as far as one could ascertain) a stereoscopic X-ray outfit in any of the Swiss sanatoriums. This fact amazed the Americans of our party. In America (they said) nobody would look at a "flat" picture of the chest nowadays. "Over there" they had a new convenient machine that took the two photographs in rapid succession. Just "click, click," and the thing was done. You put your pictures in the stereoscope and lo! the chest was there in perspective, like a wood in moonlight.

Despite the absence of stereoscopic apparatus, the Swiss X-ray films are very good. Large films about 18 inches square are used. The patient is put at a distance of two and a half metres from the tube, so that the rays are approximately parallel. Coolidge tubes are almost universal. The division of adhesions under X-ray

control and gas pressure, with the electric cautery guided by the new Zeiss thoracoscope, seems to be looked upon as a safe established procedure.

Thun is a charming old town on a charming lake, and ten kilometres away is a very charming "sanatorium populaire" for the Canton of Berne, at Heiligenschwendi.

Founded in 1894 it is the oldest popular sanatorium in Europe. It has accommodation for 73 men, 95 women and 47 children; 215 patients in all. The patients all pay towards their maintenance. The amount averages francs 3½ per diem (about 3s. per day). The total cost works out at 4½ francs a day, leaving the State and the Sanatorium Society to provide the balance of one franc between them.

Like all Swiss sanatoria, popular or private, Heiligenschwendi is built with verandahs for every floor as an essential part of its structure and its treatment. There are three floors and a basement. The position is comparatively isolated on the edge of a wooded plateau, 3,700 feet above sea level. Both pulmonary and non-pulmonary cases are treated at Heiligenschwendi, the latter by the *cure de Soleil*. The "yoke" designed by Bier of Berlin was used to hold the children motionless in bed as at Leysin. All persons admitted to the sanatorium are vaccinated on arrival if not already bearing vaccination marks.

We saw many interesting things. The mercury vapour lamps are used for the treatment of pleuritic conditions, rickets, and, to a lesser extent, for enlarged glands. For the diagnosis of bronchiectasis in children and adults, intra tracheal injections of "Lipiodol" (Laffaye) are used, 15 to 20 c.c. at a time. The material is very opaque and heavy, sinks at once to the lowest dependant sacs, and is then shown up by X-rays. It disappears from the lung in about four weeks and is quite harmless. Purulent effusions are not opened and drained. Aspiration seems to be the recognised procedure. If, through necessity, a drainage opening has to be made, air is not allowed to enter the pleural cavity through the opening, and Gomenol oil is preferred to nitrogen for replacement of the purulent fluid if the lung has retracted.

This subject is one that seems to merit attention. The present position of the treatment of purulent pleural exudation cannot be said to be entirely satisfactory. The Americans appear to make a great point of trying to isolate the particular organism and using specific drugs to combat it; such as gentian violet against the staphylococcus, etc.

The mercury vapour lamps are not used for the treatment of lupus, which is dealt with either by

direct heliotherapy, or sent to the clinics for Finsen light treatment.

Our next halting places were the cities of Berne and Zurich. Professor Sahli's famous clinics are in Berne. Here one might say a word about the tuberculosis clinics and dispensaries in Switzerland generally, for all are of the same type.

We saw the arrangements for Lausanne, Berne and Zurich. The accommodation at the Lausanne clinic was somewhat old fashioned but there were compensating advantages. Zurich went to the extreme in the matter of elaborate case-taking and unnecessary clerical work. In the wards attached to Professor Sahli's clinic at Berne one saw advanced pulmonary cases all having minute doses of Béraneck's tuberculin by the intra-dermal method. In fact the use of this tuberculin by the intra dermal method is universal throughout the Swiss tuberculosis clinics. Moro's tuberculin is also used, the ointment for diagnostic purposes only. The tuberculin is given twice weekly and the initial dose is very low, 0.000,000,1 of a fiftieth of a milligramme.

At Lausanne, on the roof of the clinic, was a resting shed for ambulatory patients, who worked in the morning, but came to the clinic to rest in the afternoon from 1 p.m. to 3.30 p.m. Silence was enforced, smoking interdicted, the patients (men only) went to sleep as a rule. (In the summer months the "siesta" is usual at Lausanne.)

Another feature of Lausanne was the "Day Sanatorium" at Sauvabelin. This institution is situated in the pine woods over Lausanne, with which it has tramway communication. It has no sleeping accommodation for patients, who come by train from Lausanne at 8 a.m. in the morning, and return at 7.30 p.m. in the evening. It remains open for four months of the year, June to September inclusive, and is designed to accommodate 35 adults and 30 children. Three meals are provided, also baths. The patients rest on long chairs under the pines.

The Institute was built by Dr. and Madame Olivier, who both devote much time and money to anti-tuberculosis work at Lausanne.

In addition we saw two holiday camps where ill nourished and pre-tuberculous children practised the *cure de soleil* and the *cure d'air*; viz., the "Nid" and the "Rayon de soleil." One was a forester's house, and the other a simply built shed, both in the pine woods. Each accommodated from 20 to 30 children, the former, boys between the ages of 8 and 12, the latter, children of both sexes between three and six years. The boys wore bathing drawers; the girls a slightly larger garment. The camps were open from

June to September. It was interesting to note that meat was given only three days a week, milk three times a day. The hours were 7 a.m. to 7 p.m., with a "lie down" from 12.30 to 3. The total cost per child worked out at francs 1.60 per diem.

The camps are organised by private generosity, and again Dr. Olivier and Madame Olivier take a prominent part.

The new University buildings at Zurich are massive but rather overpowering. We were entertained by the City Fathers and the members of the anti-tuberculosis movement to a gala dinner at Uitliberg, 2,800 feet above sea level. The view at night from the miniature Eiffel Tower at the summit, over the Lake and city of Zurich with their myriads of twinkling lights below, was beautiful in the extreme. Zurich is essentially a mercantile capital, while Berne is a city of beautiful buildings, much as one imagines Washington to be.

And now we were speeding to the Mecca of the tuberculous—on past the grand and gloomy, but treacherous, Wallensee, to the Grisons, Davos, and Arosa. So far we had experienced the *cure de soleil* all the way, but at Davos the weather changed. In the valley it rained all night, on the hill tops it snowed, and all through the following day the rain continued, falling vertically without a puff of accompanying wind.

Davos is so well known to everybody that any description would be superfluous. It shares with St. Moritz, only two hours away, in the upper Engadine, the leadership of the winter sports centres.

We saw many of the sanatoria, including the greatest of them all, the Schatzalp, where we were entertained and shown round by Dr. Neumann.

We had lectures on climatology and the physiology of respiration, saw the piled "stickstoffs"—compressed nitrogen gas—like policemen's batons, each containing about 10,000 c.c.—for pneumothorax operations, and finally sat down in the Belvedere to the big official banquet of the tour. Dr. Humbert of the League of Societies of the Red Cross, Paris, welcomed the representatives of the various states present. A representative of each nationality replied, most of them in French. Dr. Veitch Clark, medical officer of health of Manchester, and Colonel Kennedy, R.A.M.C., spoke for Great Britain; Dr. Maree for South Africa; Dr. Pratt for Canada. There were many other speakers, but the speech of the evening came from an unexpected quarter. Dr. Barrett replied for Ireland, in halting but correct French. He promised that in Ireland

the fight would go on. "Indeed in my country we flatter ourselves that we are a race of warriors, ready at any time to fight anybody and anything. But we hope in the future the only war we shall have to wage will be that against tuberculosis." This brought the conference to its feet. With a characteristic gesture, Ireland took her place in the forefront of the International tuberculosis movement.

Arosa.—Only about four hours climb across the mountains from Davos—it took us considerably more to make the journey by rail. Down the Davos Valley to Filisur where we joined the line from St. Moritz, down the Hinter Rhein to Chur and then up the mountain railway to Arosa, crossing on the way the wonderful Langweis bridge of reinforced concrete, the largest of its kind, looking like a field spider's web across the valley, we eventually climbed through a little tunnel into Arosa. No prettier spot is to be found in Switzerland. Bright, clean, and new—its biggest sanatorium, the "Altein," was built during the early years of the great war—with its two little lakes, the "Übersee" and the "Untersee," its charming villa-cure-houses, its delightful sheltered situation in a cup shaped hollow in the alps, it looks from above a veritable dolls' house village, remote from the world, six thousand feet above sea level.

There are no English medical men at the moment at Arosa. Dr. Morland's pretty house is now a children's home.

From the professional point of view we saw nothing at Arosa that we had not already seen at Davos or Montana or Heiligenschwendi. But perhaps this much may be said, that Arosa has one advantage over other cure stations, it has no mistakes to repair, no steps to retrace, nothing to unlearn or to forget. And so ended our "Voyage d'Information Medicale" to the Swiss anti-tuberculosis stations. It had been from beginning to end a delightful experience. We learned much, and we owe a great debt of gratitude to the International Union, and more especially to Dr. Burnand, of Leysin, and to Dr. Frédérick Humbert of the Red Cross Society, Paris, for their indefatigable efforts on our behalf, and for their great patience with our shortcomings.

A word as to the future. The Americans have whetted our curiosity. The next conference is to be held at Washington in 1926. The ground that we have gained needs to be made good, the advance to be consolidated. The treatment of acute and advancing toxic disease by anti-sera is now

established as a possibility and only needs to be put on a sound basis. But we are all "just crazy" to see those machines that go "click, click," and give us a stereoscopic view of the contents of the chest, and we look forward, if we are spared, to Washington, two years hence, and to renewing our friendships with our fellow workers from all the world, engaged in "*La Lutte contre la Tuberculose*."

THE PREVENTION OF MENTAL DISEASE AS A PRACTICAL PROPOSITION.

BY

G. C. F. ROE, L.R.C.P. and S.I., D.P.H., D.P.M.,
Assistant Medical Officer of Health, Wakefield C.B.*

The aim of this paper is to touch upon the fringe of the complex problem "Mental Diseases" and with special reference to the prevention of these dire diseases, but before dealing with prevention, it behoves us to dwell briefly upon the alleged causes of insanity; for how can we prevent diseases when we are ignorant of their causes. Volumes have been written on the causes of insanity, a subject full of interest to the human race, but let us beware of methods of disguising ignorance by a confusing complexity of words. We are apt to forget the limitations of our senses, and there is much light that we cannot see. There are still many uncharted regions in the realms of mental diseases. "We are fearfully and wonderfully made!" So exclaimed the Psalmist more than two thousand years ago, and yet the Psalmist had only the vaguest conception of the mysterious and intricate mechanism of the mind. All ancient peoples—the Egyptians and the early Greeks—looked upon the insane as persons possessed of evil spirits, and the victims of demoniac possession. These were crude and fearsome explanations, and were not unlike those of the barbarous peoples of our own day. We look upon the insane with pity, and it is up to us to do everything possible to succour these unfortunate people, and if possible, prevent these diseases.

It is foreign to my purpose to elaborate the causes of insanity. Indeed, quite a long paper could be written on any one of them. Allow me to say a few words regarding four alleged causes:—

(1) *Heredity*.—We know that the child tends to inherit every attribute of the parents. Mental weakness in the progenitors means a tendency (I emphasise the word tendency) towards mental weakness in the children. They inherit the tendency not the certainty. This is very important to realise, for so many people worry about their future because their

* Read before the Yorkshire Branch of the Society of Medical Officers of Health at Leeds on October 31st, 1924.

inheritance is not good. These are the very people who ought not to worry. This knowledge of tendency is almost the keynote of preventive treatment, and the pointer by which life should be regulated. It is of paramount importance. We also know that the more dissimilar parents are, the stronger the offspring, but that parents with like constitutions often have degenerate children. If the parties contemplating marriage are of blood-relationship (first cousins), and if in both the stock is degenerate, it is probable the offspring would be degenerate. Two other points are interesting: (a) A father is more likely to pass his insanity on to his sons, and a mother to her daughters. The insanity of the mother, however, is more dangerous to her daughters than is that of the father to his sons. (b) The general tendency is for insanity not to proceed beyond three generations.

It is obvious, therefore, that Heredity is an important factor in the causation of insanity.

(2) *Syphilis*. Authorities express different views as to the part Syphilis plays in producing mental disorder. Because a man has had syphilis and subsequently becomes insane, it by no means follows that the insanity is caused by the Syphilis. There are, however, cases of insanity in which there is little doubt as to the true origin of the disease being syphilitic. G.P.I. is one of these diseases, and I may mention here, that Mott found spirochaetes in the cortex of cases of G.P.I. Congenital syphilis may interfere with mental evolution and produce any of the types of amentia. Some cases of Idiocy and Imbecility are due to syphilis. Syphilis produces sclerosis of the arteries, and this sometimes leads to arteriopathic insanity. These patients are irritable and suspicious with loss of memory; and they are usually conscious of their mental enfeeblement. Syphilis is therefore a second great factor in the causation of mental disease.

(3) *Alcohol*.—This stands in the first rank as a factor in the production of insanity. Constant "nipping" is more damaging to the nervous system than bouts of drunkenness. In families of alcoholic parents, all kinds of nervous diseases appear. Alcohol damages the blood-vessels, heart and nervous apparatus, and directly influences the ductless glands. We know that upon the integrity of these glands depends the harmonious and full development of the organism. They are vulnerable to a toxic agent. Alcohol is a toxic agent. The role played by alcohol is of overwhelming importance in the causation of mental diseases.

(4) *Stress*.—Is it not possible that the growing increase of mental trouble is partly due to the rush, hurry, noise, and strain of modern life? Is life too keen and fast? Worry and constant anxiety are

prone to produce insanity. Overwork is a cause which must be received with caution. In predisposed persons it may end in a mental break-down. Overtaxing of children at school is, I believe, a cause of mental trouble, but I shall refer to this under prevention. Sexual excess, masturbation, and the endocrine glands have all been accused of causing insanity. They doubtless play a role in the game, but I do not think we are justified in bringing in a true bill against any of them. This is, however, an involved question. It is also of interest to note that Mott found a genetic inadequacy as a predisposing factor of insanity. With special reference to Dementia Praecox (as the result of post mortem examinations) he found:—

(a) *Naked Eye*.—(1) Progressive atrophy of the testes and ovaries; (2) Small suprarenal capsules.

(b) *Under the Microscope*.—(1) In the medulla adrenalis an increased number of nuclei and a deficiency of chromatin.

Bolton of Wakefield, as the result of a laborious research on the cerebral cortex, found a sub-evolution of the cortical neurons in cases of amentia and a degeneration in cases of dementia. He also found that neurons of good durability were attacked with impunity by spirachetes and their toxins as regards the onset of G.P.I., but that patients possessing neurons lacking in durability developed G.P.I.

Before I submit a few propositions (without elaboration) for the prevention of mental diseases, may I throw the searchlight, for a few minutes, on to the subject of Mental Deficiency, because Mental Deficiency is bound to interest many of us who are doing school medical work. I shall repeat myself—to a certain extent—by doing this, but my object is to stress the importance of Mental Deficiency. I usually divide these cases into cases of (1) Primary Amentia, and (2) Secondary Amentia. The essential cause of Primary Amentia is a sub-evolution of the cerebral neurons, resulting from a variation of the germ plasm. These are often designated "congenital." They are the result of inheritance.

Secondary cases are a consequence of the action upon the individual of some factor of the environment; e.g., meningeal haemorrhage, consequent on excessive constriction of the skull by forceps. These cases are often called acquired. I have, on purpose, avoided introducing our old acquaintances, "toxins" "disturbance of the endocrine balance," and "lack of vitamins." They, like our friends, the politicians, sound very well, and promise great things, but I find it hard to trust them. Personally, I think that our knowledge *re* Mental Deficiency is itself defective, and it cannot be doubted that our greatest weapon at present is scientific research.

I will now discuss, but without elaboration, prevention under eight definite headings.

(1) Physicians to advise against marriage when either party has a neuropathic ancestry, or is the victim of an inherited neuropathy. If this advice is rejected, we should advise delay until adult life has been well entered. Marriage is sometimes advocated because insanity is more common in the unmarried, but it should never be recommended under the conditions just stated. Marriage between cousins, if the stock bears a neuropathic strain, is to be condemned.

(2) The prevention of syphilis and alcoholism. These stand prominently forth as great causes and surely by removing the causes, we prevent the disease. I admit the great difficulty of removing these causes.

(3) The establishment of out-patient departments at Asylums where early cases of mental disease might get expert advice and treatment.

(4) The avoidance of the over-taxation of school children. Mind and body should be developed together. How common it is to see a brilliantly intellectual child being forced along to pass severe examinations! This brilliancy often means a too rapid evolution, and indicates mental instability, and it is madness to overtax these children. Two rapid evolution is a cause of dementia praecox. In nature, we find that those organisms which develop rapidly, tend to degenerate early. Their life history is a short one. Every endeavour should be made to retard rapid development. Wise education is undoubtedly one of the best preventives of insanity.

(5) I believe that the setting up of Ante-natal Clinics will go a long way to prevent the Puerperal Insanities. We find a neurotic inheritance in a large number of these cases, and here is a field for suggestion by the physician to the patient. Septic conditions play a role in these cases of Puerperal insanity, and the Ante-natal Clinics ought to combat sepsis with a fair amount of success.

(6) Practical teaching in the Medical Schools of the use and application of forceps would, I think, prevent cases of injury to the cerebrum and consequent mental trouble. Fortunately these cases are few, but it is obvious that injury to the bones of the skull does not enhance the mental outlook of the child in question. Many qualify in medicine having never applied forceps. This is to be deplored. The application of forceps, under competent supervision would be a splendid thing for young men, while doing their midwifery course. I do not agree with those who say that Epilepsy is caused by bad forceps application. I believe that the injury done in these cases is over-rated, but I do say that a child has a right to the competent performance of forceps delivery.

(7) We hear a lot these days about the sterilisation of mental defectives as a method of preventing insanity. Some very plausible and ingenious arguments have been put forward in favour of sterilization. Personally, I am not in favour of sterilization, and for three main reasons:—

- (a) After sterilization, you must still segregate the defective.
- (b) The defective, after sterilization, continues a menace to society in other ways than the breeding of degenerates.
- (c) The high grade cases would escape, and they give rise to a social problem.
- (8) Lastly, may I just mention that, if possible, it would be of value to find the right environment for potential cases of mental trouble.

Just a few figures before I close:—

On the 1st of January, 1923, the number of notified insane persons under care in England and Wales, was 126,279, an increase of 2,565 on that recorded on the 1st January, 1922. The total expenditure on the maintenance, supervision and treatment of mental patients during the financial year ending 31st March, 1922, amounted to £7,658,823.

The above figures give one some idea of the number of insane persons in this Country, and their cost.

Without any attempt at elaboration, I have mentioned the chief causes of Mental Diseases, and the principal methods by which these fearful diseases might be prevented, or at any rate, combated. A paper like this is bound to be incomplete. A great darkness enshrouds the whole question of mental disease. Heredity continues an obscure problem (in spite of much light shed upon it by Mendel, Weissmann, Gatten and Pearson), and much depends on heredity. Perhaps some day some one may penetrate more deeply into the arcana of inheritance, but at present "we see through a glass darkly."

If this paper does nothing but stimulate our interest in the possibility of the prevention of mental diseases—since we cannot cure these diseases—I am more than satisfied. I admit that it is not a very optimistic paper. I feel that we stand very much where Macbeth stood when he said to his Physician:

"Canst thou not minister to a mind diseas'd,
Pluck from the memory a rooted sorrow,
Raze out the written troubles of the brain,
And with some sweet oblivious antidotes,
Change the stuff'd bosom of that perilous stuff
Which weighs upon the heart?"

Society of Medical Officers of Health.

ORDINARY MEETING.

An Ordinary Meeting of the Society was held at No. 1, Upper Montague Street, W.C.1, on Friday, December 12th, 1924, the President (Dr. R. A. Lyster) in the chair. There was a good attendance and apologies for absence were received from Rear-Admiral Sir Percy Bassett-Smith, Dr. Thomas Evans, Dr. T. Ridley Bailey, Dr. T. W. Naylor-Barlow and Dr. R. Veitch Clark.

The Minutes of the last meeting having been approved and signed, the following candidates were elected to the Society:—

As Fellows:

Adams, George Basil Doxey, B.A., M.D., B.Ch., Oxon., M.R.C.S., L.R.C.P., D.P.H.; Bery, Mohan Lal, M.B., Ch.B., St. And. D.P.H.; Campbell, Helen, M.B., Ch.B., Edin., D.P.H.; Clarke, James Hay, M.A., M.D., D.P.H., Edin.; Gunning, Montague Shirley Wyatt, L.R.C.P. & S., Ed. L.R.F.P.S.; Jones, Dilys Menni, M.B., B.S., Lond., M.R.C.S., L.R.C.P.; Davies, Sidney Richard Eccles, B.A. Cantab., M.R.C.S., L.R.C.P., D.P.H.; Horwood, Oswald Kyle, M.A. Cantab., M.R.C.S., L.R.C.P., D.P.H.; Leitch, Ethel MacLeod Lochhead, M.B., Ch.B., Glasg.; Lewis, Frederick Charles, M.R.C.S., L.R.C.P., F.C.S.; McGarrity, John, M.B., Ch.B., Edin., D.P.H.; Moore, Marie Stella, M.B., B.Ch., N.U.I., D.P.H.; Motyer, Doris Helen, M.B., B.S., Durh.; Norton, Everitt Edward, M.D., Durh., M.R.C.S., L.R.C.P., D.P.H.; Piggott, Frederick Stanley Lawrence, M.R.C.S., L.R.C.P.; Shennan, Arnold H., M.D., Ch.B., Edin., D.P.H.; Smith, David Morrison, M.B., Ch.B., Edin.; Thomas, Eric Waldo Caryl, M.D. (State Med.), B.Sc., Lond., M.R.C.S., L.R.C.P., D.P.H.; Whitelaw, Alan Dunlop, M.A., M.B., B.Ch., Cantab., M.R.C.S., L.R.C.P., D.P.H.; Wilson, (Mrs.) Sarah, M.B., Lond.

As Associate:

Thorne, (Mrs.) Wilhelmina Rosa, D.D.S., Toronto, U.D.S., Glasg.

A number of candidates were nominated for election at the next Ordinary Meeting.

There followed a discussion on "The Teaching of Preventive Medicine and the Training of Public Health Staffs," opened by Prof. H. R. Kenwood and Dr. Andrew Balfour. Others who took part were Prof. A. Bostock Hill, Dr. E. Colston Williams, Col. Barrow, Dr. W. W. Jameson, Col. J. A. Anderson, Dr. E. W. Goodall, and Dr. E. H. T. Nash. Dr. Balfour having replied to some of the points raised, the meeting was adjourned.

A full report of the discussion will appear in an early issue of "Public Health."

NORTH WESTERN BRANCH.

A Meeting of the Branch held in Manchester, on Friday, 14th November, 1924, when there were present: Dr. J. Beard (President) in the chair,

Drs. J. B. Wilkinson, H. H. I. Hitchon, J. M. Gibson, W. St. C. McClure, W. Allan Young, R. Grahame, J. D. Buchanan, H. Whitehead, E. N. M. Milligan, W. Allen Daley, F. T. H. Wood, W. F. Dearden and G. W. N. Joseph (Hon. Secretary).

The Minutes of the last meeting were read and confirmed.

The Hon. Secretary reported the receipt of a letter from Headquarters on the present position of the Salaries Campaign.

Dr. F. T. H. Wood, O.B.E., read a paper upon observations he had made when a participant in the League of Nations Health Officers' Interchange in Denmark in June and July, 1924. After certain comments on the country generally, on the fact that agriculture still remains the most important industry, on the comparatively uniform distribution of national wealth, and on the high illegitimate birth-rate, reference was made to the high standard of medical education and to the fact that Health Officers were, almost without exception, also engaged in private practice. Milk production and distribution were noted as being conducted with exemplary cleanliness; with the exception of a special designation of "Infants' Milk" no grading of milk was practised; and bacterial counts were practically never made, their place being taken by the reductase test with methylene blue.

As the export of bacon is an important industry, meat inspection by Veterinary Surgeons was well organised and efficient, including a routine search for Trichinae in pork, although such parasites were practically never found in Danish pigs. Denmark closely resembles Great Britain in the incidence and nature of its epidemic diseases, and the leaving of the control thereof to the Local Authority advised by its Medical Officer. Isolation Hospital practice in regard to Scarlet Fever is to retain complicated cases for five weeks and to conduct routine examinations for Diphtheria both on admission and at the end of seven days. In Maternity and Child Welfare a large share of attention given by the Danish legislature to secure the supervision of foster children arising from a high illegitimate birth-rate and the existence in the large towns of Child Welfare Councils which assume the care of children up to the age of 18 years were noted, while the absence of Health Visitors and of Infant Welfare Consultations on the English plan was striking.

The School Medical Service is staffed with part-time School Medical Inspectors; a high standard of personal cleanliness is reached by

the scholars and verminous conditions of the hair are uncommon; dental clinics in towns are excellently equipped, and that in Copenhagen treats 96 per cent. of the children referred for treatment.

There is an excellent organisation of country holidays for town children during the Summer vacation, approximately half of the Copenhagen school children profiting thereby.

The Anti-Tuberculosis campaign includes the usual provision of well administered hospitals and Sanatoria, a special feature being the extensive use of ultra-violet light treatment in surgical tuberculosis. This latter point was stressed as one of the most valuable lessons to be learned from a study of Danish Health Administration.

Dr. Wood was cordially thanked for his paper, which will be shortly published in a future number of PUBLIC HEALTH.

CONFERENCE WITH THE BRITISH MEDICAL ASSOCIATION.

On the suggestion of the British Medical Association (Furness Division) a conference was held between representatives of that body and of the North Western Branch, at the Royal Station Hotel, Carnforth, on Friday, 7th November, 1924. There were present representing the Branch: Drs. Naylor Barlow, J. J. Butterworth, J. Ferguson, J. D. Buchanan, J. Orr and G. H. Patterson. Drs. G. Lissant Cox and G. W. N. Joseph were unable to attend. The Furness Division was represented by Drs. F. S. Carson, M.C., F. E. Daniel, R. Fawcitt, John Livingston and L. A. Wilson. Dr. Barlow presided.

The subjects discussed were:—

- (1) Report of Conferences held 1922-23 of Representatives of the British Medical Association and of the Society of Medical Officers of Health on the policy of the Association and the Society as to Public Health Medical Services.
- (2) Memorandum on the general question of Municipal Clinics and Municipal Hospitals and the relation thereto of Private Practitioners and Medical Officers employed by Municipal Authorities.
- (3) The Notification of Births.

The Report of the Conference held between the Society and the British Medical Association in 1922-23 was first considered paragraph by paragraph. On para. 2, relating to medical inspection of school children, Dr. Fawcitt wanted co-operation between the Medical Officers of Health and the General Practitioner, e.g., in the diagnosis of Infectious Disease. The Chairman

pointed out that the Medical Officers of Health were only too anxious to help in such cases.

Dr. Livingston instanced the difficulty in cases where the Tuberculosis Officer or other Officer was a man appointed at a salary below the recognised scale and was not fitted to hold the post of a Consultant though his duties included such work.

On para. 4, relating to the medical treatment of school children, Dr. Carson said there was a wide gulf between the General Practitioner and the Medical Officer of Health, the reasons being that the General Practitioner did not appreciate the difficulties of the Medical Officer of Health, while the latter sometimes forgot the interests of the General Practitioner. People who were able to pay should get treatment from their own doctor. He gave instances of interference on the part of a School Nurse. The Chairman said the usual practice adopted to obtain treatment was as advised in the report of the Conferences and Dr. Patterson said this was the course adopted in his district. Dr. Fawcitt mentioned the case of one of his patients who had been given a prescription for Iodex for enlarged glands, instead of being referred to him.

On para. 6, in which the opinion is expressed that clinical work done for the public health authority should, wherever possible, be carried out through the agency of private practitioners, Dr. Orr spoke of patients who came to his Tuberculosis Dispensary saying their own doctor had sent them. He thought the referring Practitioners should send written messages in such cases and the meeting agreed.

On para. 8, in which the principle is suggested that the giving of advice and treatment at school clinics should, wherever possible, be by the private practitioners of the area, Dr. Daniel said he had been refracting cases of defective vision for 30 years and in recent years had found that some of his patients had been refracted at the Barrow Clinic without any reference to him.

The Memo. on Municipal Clinics was briefly considered, as the ground had already been covered in previous discussion. Dr. Carson advised his brother Practitioners, when they considered themselves aggrieved, not to nurse the grievances, not to complain to members of the Local Authority, but to see the Medical Officer of Health about it. The Chairman emphasised the need for unity in the profession.

Notification of Births.—The Barrow Medical men took exception to a circular issued by Dr. Orr on the instruction of the Maternity and

Child Welfare Committee asking them to notify all births attended by them, which they object to doing.

The opinion was freely expressed that the meeting had done good and had ended satisfactorily.

HOME COUNTIES' BRANCH.

A Meeting of the Home Counties' Branch of the Society of Medical Officers of Health was held at the House of the Society, on Friday, 5th December, 1924, at 3.30 p.m.

The minutes of the previous meeting were read and approved.

Apologies for absence were received from Drs. Paterson and McMaster.

Dr. Cates submitted the report of the proceedings of the previous meeting of the Council, a record of which proceedings can be found in the issue of "Public Health" for December.

The Secretary then read a letter from the Ministry of Health addressed to the representatives of the profession and the representative associations of the local authorities on the subject of the salaries of Medical Officers in the public health service.

The paragraphs of the letter were considered and discussed seriatim. As a result of the discussion the following resolutions were carried unanimously:—

- (1) It was moved by Dr. Cates and seconded by Dr. Orr:

"That the representatives of the profession should have the same right of reference to the proposed Advisory Committee in any case where, in their opinion, circumstances justified the payment of a salary outside the limit suggested as normally appropriate, in the same manner as provided for the local authority in Paragraph 4 of the Ministry letter."

- (2) It was proposed by Dr. Bostock Hill and seconded by Dr. Cates:

"That this Branch views with disfavour the suggested amendment to the scale contained in Paragraph 6 of the Memorandum whereby the salary of a Medical Officer of Health in a County area may fall below £800 per annum, and that they strongly express the view that in no case should the salary of a whole-time Medical Officer of Health fall below £800 per annum."

- (3) It was proposed by Dr. McIntosh and seconded by Dr. Sanders:

"That this Branch, after consideration, is

prepared to agree to the reductions in the Society scale of salaries as set out in the Ministry letter dated 28th July, 1924, only if such reductions are accepted by the representatives of the local authorities as part of the general agreement suggested in the Ministry Memorandum. In the event of the proposed agreement not being accepted by the representatives of the local authorities, this Branch recommends that the B.M.A. and the Society should adhere to the original scale."

Dr. H. P. Newsholme then read his paper on "The Illegitimate Child." He disclaimed any intention to survey fully the social or moral aspects of the question but devoted himself exclusively to the public health aspect. The question achieved importance in Croydon from the fact of there being a large residential home for illegitimate children there.

He commented on the vagueness of the information available in regard to the agencies dealing with the problem from the fact that Boards of Guardians and voluntary associations are the bodies principally concerned. He considered it desirable that the actions of all these bodies should be brought more into the open. Boards of Guardians deal with the unmarried mothers in their maternity wards whilst they are further entrusted with the supervision of the young child when boarded out with foster parents. The public health authority comes into touch with the question only through the visit of the Health Visitor to the illegitimate child. Voluntary bodies are mainly of two types—religious bodies whose attention is directed principally to the preventive side of the work in the care of girls in difficult social circumstances and local non-sectarian associations whose work is primarily directed towards the same end, the provision of hostels for mother and child being a feature of both.

The chief difficulty arises from the lack of co-ordination between the various bodies concerned with the problem. Even without the long overdue transfer of such work from the Guardians to local public health authorities, much might be done by linking up the work of these bodies. With regard to the unmarried mother improvement can be effected in several directions—the better supervision of the unmarried mother during pregnancy especially with regard to the early examination and treatment for venereal disease and proper accommodation to be provided for the confinement, and the removal of obstacles now often found to the admission of unmarried

mothers to maternity homes. The better after-care, and in particular, measures for keeping the mother and child together. The lack of co-ordination in this respect of the work is also apparent.

Dr. Newsholme commended the scheme initiated at Eastbourne by Dr. Willoughby where a committee of ladies connected with the various bodies was appointed to co-ordinate their activities. Their main duty would be to get in touch with unmarried mothers needing help. Secondly, they could endeavour to make it possible for the unmarried mother to return to her relations, even providing a financial grant for the purpose. If it should be impracticable for the mother to return to her own home, arrangements could be made for the reception of the mother and child into a suitable household or failing that into a suitable hostel. The Public Health Department should be kept informed of all cases, of the action taken and any difficulties encountered. The Public Health Committee is empowered to allot a grant to cover the outlay.

Dr. Newsholme further emphasised the need for increased control over homes receiving illegitimate children. These homes for illegitimate children were open to criticism. It appeared that as the number of children received by the foster-mother increases the conditions under which they are kept often tended to depreciate. In the case of institutions there is no statutory control either by the public health or poor-law authorities. The deeds of incorporation or of association of such agencies should not be valid until they have been submitted to inspection by some such body as the Ministry of Health.

In conclusion Dr. Newsholme enumerated three main points:

- (1) The need for better co-ordination and exchange of information between the various agencies interested in the illegitimate child to be carried out, pending more radical unification, by a small joint committee.
- (2) Assistance by advice or financial help to keep the mother and child together during the early critical months of the child's life.
- (3) Power of public control over homes for illegitimate children conducted by private persons or associations.

An interesting discussion followed. Dr. Scurfield, in thanking the lecturer, emphasised the power of local authorities to give grants for the assistance of the unmarried mother and her child, an aspect that was also emphasised by Dr. Hodge. Drs. Hill, Linton and Holroyd spoke of the need for better supervision of institutions.

Dr. Annis commented on the difficulties arising in the type of mother involved, many of whom were mentally unstable.

In conclusion the President, in extending thanks to Dr. Newsholme emphasised the general importance of the subject and the need for greater powers being given to the local health authority.

Dr. Newsholme suitably replied.

The meeting then terminated.

NORTHERN BRANCH.

A Meeting of the Branch was held in the Medical Institute, Newcastle-upon-Tyne, on the 5th December, 1924.

Present: The President of the Society (Dr. R. A. Lyster), the Executive Secretary of the Society (Captain George S. Elliston, M.C.), the President of the Branch (Dr. W. H. Dickinson), and Drs. J. Bannerman, P. A. Dormer, G. Foggin, J. F. Gibbons, W. Grant, T. Eustace Hill, Mary E. Howie, J. A. Hislop, Margaret Herbst, H. Kerr, J. D. Leigh, Isabel Lane, G. Lilico, R. F. Lunn, R. MacLeod, Dorothy H. Motyer, S. G. Mostyn, T. N. V. Potts, A. F. G. Spinks, E. Thorp, and P. McMurray (visitor).

The Minutes of the meeting held on the 10th October, 1924, having been printed in the November issue of "Public Health" were taken as read and signed by the Chairman.

Correspondence. Apologies for absence were received from Drs. Mabel Brodie, W. H. Brodie, A. G. R. Cameron, C. R. Gibson, Jas. Hudson, W. Hudson, J. Martin, J. MacLachlan, S. K. Young, and Mr. C. F. Sutcliffe.

(1) The Honorary Secretary reported the receipt of a letter from Mrs. Andrew Smith, Senior, of Whickham, thanking the Members of the Branch for their message of sympathy in the death of her husband.

(2) The Honorary Secretary read a letter from Mr. C. Lotinga, Honorary Secretary of the Northern Counties Branch of the British Dental Association with regard to "Dental Dressers."

It was decided to refer the matter to the Council of the Society.

(3) The Honorary Secretary reported that he had received a letter from the Royal Sanitary Institute regarding the Annual Congress which is to be held in Edinburgh from the 20th to the 25th July next year.

It was resolved that the Honorary Secretary (Dr. H. Kerr) represent the Branch at the Congress.

(4) The Honorary Secretary reported that he had sent a circular letter to all the Members of the

Branch regarding the General Medical Council Election, 1924, asking them to vote for the four B.M.A. nominees, action which had been greatly appreciated by the B.M.A.

(5) The Chairman reported that Drs. Thomas Horne, and A. G. R. Cameron, ex-Presidents of the Branch, had resigned their respective posts, viz., M.O.H., Stockton, and Deputy M.O.H., Durham C.C., owing to ill-health, and he moved, and it was agreed, that they be elected Honorary Members of the Branch.

The following Fellows of the Society were elected Members of the Branch: Margaret B. Herbst, Asst. S.M.O., Gateshead; John Gray, M.O.H., Stanhope U.D.; James C. Spence, M. and C. W. M.O. (part-time), Newcastle-upon-Tyne.

Salaries.

The Honorary Secretary reported that he had received from the Executive Secretary a confidential letter with regard to the action taken by the Ministry of Health in reference to the scale of salaries, and the President invited the President of the Society and the Executive Secretary to speak to this.

The President of the Society said that negotiations had been going on between representatives of the Society, the B.M.A., the Ministry of Health and various Municipal Associations, and that these negotiations were still proceeding.

The Society had had to make certain concessions in regard to the scale, and at the present moment he could not say that the various representatives had come to any definite agreement, and so far the concessions of the Society had not secured the effect that had been hoped for.

He referred to the Ministry of Health's circular letter to the County Councils' Association, The Association of Municipal Corporations, etc., etc. It was too early yet to state if these bodies were prepared to give the Scale their approval.

Mr. G. S. Elliston said that there was general agreement in the Public Health Service that in any event the scale must be proceeded with. He referred to Part-time M.O.H. appointments, and said that these officers had been long suffering, and it was very difficult at the present time to fix a scale for them. He suggested that all Part-time M.O.H. should be asked to keep a record of the time that they had to spend upon the duties of their appointments. It had been suggested that a fair remuneration would be at the rate of about 1/11th of the minimum whole-time salary (£800), say £75, for an average of half a day per week, and *pro rata* for posts

occupying a greater or less proportion of the medical officers' time. The separate payment of expenses in connection with Part-time appointments was also a cardinal principle with the Society.

Mr. Elliston thought that the action recently taken by the Ministry of Health was very promising indeed. They had definitely advised Local Authorities that the adoption of a Scale of Salaries was desirable as a means of securing a contented and efficient Public Health Service. Although the Scale recommended by the Ministry omitted some of the best features of the scale adopted by the B.M.A. and the Society of Medical Officers of Health, their official commendation meant a big step forward.

The speaker then quoted the figures of commencing public health salaries in 1919, and what they are at the present time, and claimed that they spoke for themselves. In the early part of 1919 the usual commencing salary for Assistants was £400, in some cases as low as £350, and by June in the same year the commencing salary was recognised as £500. In December, 1922, this, with the assistance of the B.M.A., was increased to £600, and over 60 Local Authorities have since advertised posts at that figure. Why the Society attached so much importance to the salaries of assistant posts was that such a small percentage of the Public Health Service could ever hope to secure a principal appointment. Under the scale approved by the Ministry there would be barely 200 posts with as much as £1,000 per annum and these must be shared by over 2,000 whole-time Medical Officers. Nevertheless the whole aspect of the Public Health Service as a career had been enormously improved by the work of the Society and the B.M.A. during the last five years.

Dr. E. Thorp expressed the opinion that the salary campaign had not been such a success as the previous speakers had suggested. He referred to the "weak kneed" policy of the Ministry of Health, and mean spirited Local Authorities, and mentioned recent vacancies in which he thought the scale had not been applied.

Dr. Thorp moved the following resolution:

That having heard the statements of the President of the Society and the Executive Secretary we are of opinion that they are distinctly unsatisfactory.

The motion was not seconded.

Dr. T. Eustace Hill replied to the previous speaker's remarks as to certain appointments, and showed that in each of them, so far from

being defeated the Society had won a complete victory for the scale.

Mr. Elliston replied to various questions, and pointed out that the success of the scale did not depend wholly upon the attitude of Local Authorities or the Ministry of Health. The ultimate responsibility rested entirely with the members of the profession themselves, and the few instances where the scale had not been successfully enforced were solely due to disloyalty of individuals who were unwilling to act in co-operation with their colleagues.

The discussion on the President's Address was adjourned until the next meeting.

The Annual Dinner of the Branch was held at the Medical Institute immediately after the meeting.

The President of the Branch (Dr. W. H. Dickinson), supported by the Vice-President (Dr. R. MacLeod), was in the chair, and there were 36 present.

The guests included the President of the Society (Dr. R. A. Lyster), the Executive Secretary (Captain George S. Elliston, M.C.), the President Elect (Dr. James Don), and the Honorary Secretary (Mr. Norman Hodgson) of the North of England Branch of the B.M.A., the President of the Newcastle-upon-Tyne Division of the B.M.A. (Mr. R. J. Willan), the Honorary Secretary of the Newcastle-upon-Tyne Panel Committee (Dr. T. L. Bunting), and the Chairman of the Newcastle-upon-Tyne Health Committee (Dr. R. W. Simpson).

Among those present was Dr. James W. Smith, late Medical Officer of Health of Ryton U.D.C., upon whose enthusiasm advancing years and none too robust health appear to have no effect.

The speeches were excellent. Dr. R. W. Simpson, as one whose immediate interests no longer lay in medical practice, proposed the toast of "The Profession," to which Dr. R. A. Lyster responded in terms of inspiration and optimism. He was supported by Mr. Norman Hodgson, who emphasised the whole hearted sympathy of the B.M.A. with its public health members.

The President of the Branch proposed "The Guests" referring to each in a few well chosen words.

Dr. T. L. Bunting and Captain G. S. Elliston responded in witty speeches, the latter complimenting the Branch upon its outstanding virility.

Dr. R. MacLeod proposed the health of the President of the Branch, congratulating him upon

being the first clinical officer to receive the well merited honour.

MIDLAND BRANCH.

At the invitation of Dr. P. Boobyer the third Meeting of the Session was held at Nottingham on December 4th, when 11 Members and 4 Visitors were present.

An inspection was first made of the Tuberculosis Dispensary and the V.D. Clinic in North Church Street, after which a visit was paid to the Municipal Hospital for Women and Children suffering from Venereal Diseases. A short account of the work in this latter Institution was given by Dr. J. C. Buckley, after which members proceeded to Bulwell Hall Sanatorium. This place was taken over by the Nottingham Corporation in 1920 and has been utilised as a special residential Open Air School for ex-tuberculous children. Only children between the ages of 3 and 14 years, who are convalescent from tuberculous diseases are admitted, and the Institution is run as an open air educational establishment for physically defective children. Judging by the rosy faces and healthy appearance of the fifty odd inmates, this Institution is doing valuable work in the Anti-tuberculosis Campaign.

By the kindness of the Health Committee and the Matron an excellent tea was served at Bulwell Hall, at the conclusion of which a short business meeting was held.

Owing to the indisposition of the President (Dr. R. Woolsey Stocks) the Chair was taken by Dr. C. K. Millard. Several apologies for absence were read.

The Minutes of the previous meeting, which had been published in "Public Health," were confirmed and signed.

Dr. Millard then proposed a hearty vote of thanks to Dr. Boobyer and to the Nottingham Health Committee for their kindness and hospitality. This was seconded by Dr. Jolly, who took the opportunity of welcoming the visitors and of urging upon them the importance of becoming members of the Society of Medical Officers of Health.

Dr. Boobyer in reply to the cordial and unanimous vote of thanks, told the meeting that the Chairman of the Health Committee had been anxious to welcome them personally and would certainly have been present if he had not been unavoidably prevented.

The party were then taken by motor 'bus to the Small Pox Hospital where a score of cases of mild small pox were examined under the guidance of Dr. Millard and Dr. Bertram Smith.

TUBERCULOSIS GROUP.

A meeting of the Tuberculosis Group was held at the House of the Society on Friday, 21st November, 1924, at 10 a.m., when there were present Dr. A. Neville Cox (in the chair), Drs. T. H. Peyton, G. T. Hebert, A. J. Shinnie, A. Ferguson, and E. Ward (Secretary). Apologies for non-attendance were read from Professor Lyle Cummins and Drs. Gordon Smith and J. D. C. Swan.

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

2.—Correspondence with Dr. G. F. Buchan was read and also the confidential communication recently issued to secretaries of Branches and Groups.

3.—Drs. Peyton, Gordon Smith and Ward were elected representatives of the Group on the Joint Tuberculosis Council.

4.—*Disinfection of rooms, etc.* The Derby circular was approved with certain minor amendments and the Council Representative was instructed to ask the Council of the Society to father this scheme or some modification thereof, to publish it in "Public Health" and advise County Medical Officers of Health and others to circulate it in their areas.*

5.—*Royal Commission on National Health Insurance.* A memorandum was drawn up for submission to the Committee considering the subject. It was considered essential that a member of the Tuberculosis Medical Service should give evidence concerning this subject.

6.—A letter from Major Heffernan was read and the Secretary was directed to reply to it.

7.—The next meeting of the Group was arranged for Friday, 16th January, 1925, at 10.30 a.m.

Reviews.

THE DIAGNOSIS AND TREATMENT OF THE INFECTIOUS DISEASES. F. H. THOMSON, M.B., C.M. (Aberd.), D.P.H. London: H. K. Lewis. Cr. 8vo., pp. 208 + viii. — illustrations 10. 7s. 6d. net. 1924.

This book by an acknowledged authority, who is also an experienced and successful teacher of his speciality, will meet the needs of large numbers of practitioners. There are probably

*At the Council Meeting of the Society held on 21st November, 1924, after a prolonged discussion it was decided "that the Society should make no pronouncement on the subject of disinfection until their recommendations could be based on thorough investigation and research."—"Public Health," December, 1924, p. 91.

very few whether engaged in general practice or in the Public Health Service to whom this little volume will not prove of assistance. Particularly valuable are the chapters upon Smallpox, Chickenpox, Enteric Fever and Diphtheria. These are the diseases mistaken diagnosis or inadequate or incorrect treatment of which may lead to loss of life on the part of the patient, and of reputation on the part of the medical attendant.

The author expounds with exceptional authority and lucidity the system of diagnosis of small pox, elaborated by his friend and colleague, the late Dr. T. F. Ricketts. He adds to the value of this chapter, and of the succeeding one on Chickenpox by including some excellent photographs from the classical monograph of Ricketts and Byles. To those who have been "brought up" on this method of diagnosis, and who have been able to put it to the test in large numbers of cases of diverse type, the old haphazard way must seem inconceivably futile. It is strange however that in the most recent large systematic works on the infectious diseases emanating from the Continent neither French nor German writers mention Ricketts' views; although a recent German work does, it is true, reproduce a chart and a photograph from the monograph.

The control of enteric fever constitutes one of the triumphs of the Public Health Service. In this country cases of the disease are now few and far between. The young practitioner, unless his work lies in the tropics, is not likely to gain the large practical experience of his predecessors. So much the more valuable then becomes this masterly exposition by Dr. Thomson of the difficulties of diagnosis and of the *finesse* of treatment.

This volume is destined to travel overseas in many a kit, and for this reason we should like to see in the next edition, which cannot be long delayed, a somewhat fuller treatment of the Paratyphoids. There is a short account of typhus which, however, omits mention of the Wilson-Weil-Felix reaction, which was of proved diagnostic value during the war. Greater stress might also be laid with advantage on the "sign of the tongue" in this disease. Some account of that unpleasant gift of the louse—Relapsing Fever—would also make for completeness, and we do not think the author is unlikely to carry every Otologist with him in his estimate of the value of Wilder's incision for the acute mastoiditis of Scarlet Fever.

Excellent as are the other chapters in the book, that on Diphtheria we think will be the one most frequently consulted by the practitioner in need

of "present help." The swab is "relegated to its proper function of confirming the diagnosis made or suspected by the clinician after treatment has already been begun". . . "it is the duty of the clinician to depend upon himself; if he does not he will inevitably lose a considerable proportion of his cases."

A card containing these words of Dr. Thomson's together with his Antitoxin Dosage Table (p. 137) might with advantage be issued by Public Health Authorities. As the Author says, "Much avoidable loss of life is caused by this disease and the present mortality rate is no subject for congratulation, but rather one for sorrow and regret. The time has more than come when everyone should put forth the utmost effort to educate not only medical, but public opinion as to the grave danger to life from diphtheria, and the comparative ease with which it can be averted."

Tracheotomy, and its after treatment as carried out in the modern fever hospital, is clearly described together with the notable improvements in tubes and instruments devised by Cubley. There is a concise account of the Schick test and active immunisation against Diphtheria.

We believe that there is in the language no clearer or more interestingly written short exposition of the acute infectious diseases nor one which so well meets the every day needs of the practitioner.

MODERN METHODS IN THE DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS. by R. C. WINGFIELD, M.B., M.R.C.P. Modern Medical Monographs edited by HUGH MACLEAN, M.D., D.Sc. London: Constable and Co., Ltd. Demy 8vo. pp. 134. Price, 10s. 6d.

A recent addition to the "Modern Medical Monographs," which Professor Hugh Maclean is issuing, deserves the attention of those in the Public Health Service. Under the title of "Modern Methods in the Diagnosis and Treatment of Pulmonary Tuberculosis," Dr. R. C. Wingfield presents, in a handy and readable form, an epitome of his views and the results of his experience at Frimley and elsewhere. The book is intended for practitioners and senior students, it contains 139 pages and 27 plates. As the author explains, such a book must appear more dogmatic than the facts justify. In this, as in all medical subjects, there exists an abundance of opinion and a paucity of ascertained facts; it is to be expected therefore, that most of us will differ from some of the author's statements.

Adult pulmonary tuberculosis is considered a reinfection rather than the spread of a previous childhood infection with which view many of us will agree, but by no means all.

There are many sayings worth quoting, but space does not allow, and readers are referred to the original work for a further selection. Five postulates are laid down:—

- (1) In diagnosis the universality of infection must be remembered.
- (2) Infection by the tubercle bacillus does not necessarily imply that the patient is at the moment suffering from clinical tuberculosis.
- (3) In the perfection of our methods of early diagnosis of active tuberculosis lies our surest way successfully to treat the disease.
- (4) Active tuberculosis of the lungs is compatible with a useful life of ordinary length, but in most cases that life must be lived under special conditions.
- (5) The standards which have to be satisfied before a case is pronounced cured should be so exacting as to make this pronouncement an extreme rarity. The surest way to get a good result is to regard each case as one in which an exacerbation of disease is probable at any moment.

The author takes the view rather of the sanatorium expert than of one used to discovering tuberculosis in the Home. The diagnosis of active tuberculosis is regarded as easy, but with this most would disagree, for perhaps 20 per cent. of humans suffer at sometime or another from symptoms of active tuberculosis; the great majority of whom moreover, recover with comparatively slight treatment. The author also points out that extension of a tuberculous lesion in the lung is perfectly possible with apparent improvement in general health.

Little confidence is placed in the stethoscope. When the late Sir Stephen Mackenzie stated at a clinical demonstration, where he had been led astray by chemical tests, "after all chemistry is not infallible," a student among the audience (who subsequently had a distinguished career), interposed, "our knowledge of it, sir." Whereat Sir Stephen at once responded, "I accept the correction, our knowledge of it." The same is probably true of the stethoscope. We do not understand and are unable to interpret what we hear; more research in conjunction with the pathologist is needed, and would make this extremely useful instrument still more useful. If

every observer noted what he heard in each case, regardless of the diagnosis, and did not ignore, or leave unrecorded, what he did not understand, it would also help.

In percussion, too, there is much to be learnt. Observers differ in what they mean by pitch; this author writes of a low-toned note over a pneumothorax, whereas we would have said that this note is usually highpitched.

On the other hand, too great importance is here attached to X-Rays in diagnosis and prognosis. It may be said by some that their value cannot be overrated, but we have seen them lead to error and, for the practitioner, the stethoscope, together with other observations, are more reliable. We doubt also if Kronig's areas are worth the practitioners' attention, if indeed they are worth that of the specialist.

As to be expected the author is a keen sanatorium advocate, but he considers it a mistake to believe that three to six months in a sanatorium, or a sea voyage, or a change of climate, will effect a cure; they may do so, he says, in one per cent. of cases. If all cases are considered, and not only special types we believe this is incorrect.

It seems a sound observation that the older the lesion the more confidently graduated labour may be tried, and also a very necessary statement that, "light diet for pyrexial patients is unnecessary unless they themselves wish it."

The statement so frequently repeated about tuberculin is found here also, that while of little use in pulmonary tuberculosis it is an extremely valuable remedy in some cases of surgical tuberculosis—of this we must still await the proof. The author, however, wisely remarks: a patient's ability to tolerate one milligram of dried tubercle bacilli does not necessarily mean that he has developed a high resistance to the living tubercle bacilli within his tissues.

A very just summary of artificial pneumothorax, as well as of other forms of treatment, is provided, and while the author does not say so in as many words, he indicates the great truth that the most successful treatment for tuberculosis is resourcefulness. His division of coughs and dyspnoea from the point of view of treatment seems very good and as regards fresh air he gives us a valuable dictum, "many a patient has paid penalty with his life for a too strict observance, during inclement weather, of the fresh air rules which have been so studiously taught him."

The chapter on the tuberculous child deserves attention, and rightly emphasises the existence

of a subacute or chronic tuberculosis of the lymphatic system. D'Espine's sign is considered unreliable, and the author decides indeed that definite conclusions are difficult to draw from physical examinations. Most of those with experience would also agree that the prognosis of open tuberculosis in childhood is bad.

In conclusion we should like to quote some sayings from the chapter on after care.

(1) "The ultimate result will depend on three things: luck, the patient's temperament, and efficient medical control."

(2) "Surprisingly good results may be obtained in the most unpromising cases when the patient is a person of fine character." Tuberculosis is a great builder of character, which perhaps is some small compensation for a terrible disease. Moral courage is needed; the patient and his relatives are tired of the disease and of its treatment, early sympathy is exhausted, and yet he must steadily, quietly and determinedly hold on the proper course, undeterred alike by charges of valetudinarianism, or, if he happens to catch a cold for a few days, the equally annoying charges of foolhardiness (often proceeding from the same candid friend).

(3) "Do not be in a hurry to make a patient change his work."

(4) "The patient will have to sacrifice ambition to health and must regard his work solely as a means of livelihood."

(5) "Cases showing the most perfect clinical cures, which have stood the test of hard work and time, may never lose their moist sounds."

(6) The last words of, to the reviewer, a most enjoyable book: "A cure is most likely to be obtained if the possibility that it has been obtained is never admitted."

E. WARD.

Correspondence.

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

THE SUPERVISION OF MENTALLY DEFECTIVE CHILDREN.

From Dr. J. H. Garrett.

Sir,—I suppose all School Medical Officers will agree with the Editorial article in "Public Health" and Dr. Herd's expressions in his letter upon this subject, so far as they apply to the too inclusive application of the title of "mental deficient," and the stigma that it is bound to carry, but I am not sure that the general conditions are such as to

warrant the establishment of "a graded series of backward classes, which seems to suggest a duplication of existing classes, with a great increase of labour and expense. Is any possible object to be gained worth that? I think the answer must be in the negative after we have examined the actual result. This appears to be that a certain number of children of inferior mental capacity will perhaps be able to acquire a little better grasp of the very simplest subjects of education, only, in the main part to be again lost in the years immediately following those of school attendance.

What after all is the difference between "a graded series of backward classes" and "a graded series of forward classes"? The latter we have in the ordinary school classes, and provided the backward children, irrespective of their age, are retained in the class which accords with their mental attainments, until these attainments are such as to allow them to pass up, the object of the "backward classes" seems to be largely attained. I know it can be said that these children require a concentrated and special effort for their education, by having smaller classes and special teachers for them, but looking again at any possible result, one must acknowledge that both from the point of view of economics, and of personal advantage to the children, the game is not worth the candle. Had we not better acknowledge the palpable truth that any considerable measure of education is not attainable by all and everyone, and shape our educational efforts on that assumption?

We are in the middle of a great educational push, in which the enthusiasm of many estimable people are carrying us beyond the bounds of common sense. The hard facts of Nature cannot be turned down by theory and idealism. In some degree it may be true to say that education cannot be carried on without waste, and perhaps the educational experiments of the moment are useful in showing what cannot be done. However, I think the push is approaching the phase when it will be found essential to discount the indiscriminating claptrap of partisan interest, with its parrot cry of "No reaction," and submit the whole subject of mass education to a tranquil and serious recapitulation.

The advantage of school education depends on its retention, and extension chiefly by reading, after the school period. But those who have no natural inclination for self-improvement cannot be forced to it in their after lives, and as there are many such, a large section of the populace are

likely to be found illiterate in their adult age, in spite of their compulsory school education. On the other hand, there are many necessary occupations that do not, *per se*, require that education to be acquired in the elementary schools. There is work for the illiterate, especially if they are endowed with a liking or desire for work, coupled with some ability to accomplish simple practical tasks. For them, surely, the curtailment of School Education is rather to be recommended than its extension.

Yours, etc.,

J. H. GARRETT,
Cheltenham, M.O.H. and S.M.O.
11th December, 1924.

ASSISTANT MEDICAL OFFICERS.

From Dr. A. Middleton Brown.

The Editor of "Public Health."

Sir,—The remarks made by Dr. E. H. T. Nash in his letter in the current number of "Public Health" with regard to the inadequate representation of Assistant Medical Officers of Health in the deliberations of the Society apply to another group of members. The whole-time Medical Officers in the smaller Municipal Boroughs in addition to doing routine work by appointment, have to carry out all the administrative work. Their work includes attendance at school clinics, at welfare centres, at Isolation Hospitals, at Committees and at schools for medical inspection. It is difficult to get away to attend meetings, particularly in cases where the municipal borough is situated at some distance from the centre where these meetings are held.

Dr. Nash refers to the salary question. I venture to think that if the single handed medical officer of the smaller boroughs had been articulate in the deliberations of the Society in this matter he would have suggested that the duties of such a post in a borough with a population of just under 35,000 are quite as onerous as those of a medical officer with one assistant in a borough with a population just over 50,000. The former does all the work all the time. He has no colleague with whom he can confer in times of difficulty. Yet there is a difference in the scale salary of £200 between these two officials.

I trust that when a solution is found to Dr. Nash's problem it will apply equally to the assistant and to the single handed chief.

Yours, etc.,

A. MIDDLETON BROWN,
City of Hereford, M.O.H. and S.M.O.
12th December, 1924.

Public Health

THE JOURNAL OF

The Society of Medical Officers of Health.

No. 5.

FEBRUARY, 1925.

VOL. XXXVIII.

Subscription price, 31s. 6d. per annum, post free in advance. Single copies, 2s. 6d., post free.

Editorial.

PUBLIC HEALTH IN NEW ZEALAND.

The Annual Report for 1923-24 of Dr. T. H. A. Valintine, Director-General of Health, issued by the New Zealand Department of Health, is one of which any country might be proud. It is true that New Zealand is very favourably situated climatically, but it does not follow that a high standard of health is thereby ensured, nor does the beneficent influence of climate alone protect the inhabitants of a country from the common dangers of life, much more depends upon the activity of the Health Department, and of this, New Zealand is an outstanding example. The estimated population of the country is just over a million and a quarter, in addition to which there is a Maori population of about 53,000. The crude death rate stands at 9.03 per 1,000 population (standardised Death Rate 11.12 per 1,000) and has remained in the neighbourhood of these figures for the last ten years, with the exception of the "Influenza Year" when they rose to 14.84 per 1,000 and 16.80 per 1,000 respectively. The Birth rate, although it has gradually dropped from 26.00 per 1,000 ten years ago, stands comparatively high at 21.94 per 1,000 and is accompanied by the remarkably low infant mortality rate of 43.8 per 1,000 births. Stillbirths, which have been made registrable since 1915, show a distinct tendency to increase, e.g., they have gradually risen during the past five years from 27.8 to 32.0 per 1,000 live births. Mental mortality is also high, the present rate being 5.11 per 1,000 births which is about the quinquennial average. Over a similar period scarlet fever shows little change, there being roughly fifteen hundred cases annually, but Diphtheria has dropped to nearly half its former prevalence, the number of cases being now, 1,951, and the same remark applies to typhoid fever, of which the total cases for 1923 number 276. The notifications of tuberculosis are also low, 1,002, cases, while the total

CONTENTS.

EDITORIAL—	PAGE
Public Health in New Zealand	129
The Packing Industry	130
Preservatives and Colouring Matter in Food... ..	131
Bretonneau	133
Retirement of Dr. F. J. Allan	134
Future Development of the Society	134
The Teaching of Preventive Medicine (By Andrew Balfour, C.B., C.M.G., M.D., Director of the London School of Hygiene and Tropical Medicine)	135
Parasmiapox (By R. P. Garrow, M.D., D.P.H., Medical Officer of Health, Chesterfield)	141
The Teaching of Preventive Medicine and the Training of Public Health Staffs	149
Meat Regulations	164
Use of Preservatives and Colouring Matter in Food	164

SOCIETY OF MEDICAL OFFICERS OF HEALTH—

Council Meeting	152
Report of Special House and Journal Committee	154
Ordinary Meeting	156
North-Western Branch	156
Metropolitan Branch	159
Home Counties Branch	160
Maternity and Child Welfare Group	160
Midland Tuberculosis Sub-Group	161

REVIEWS—

Rats and How to Destroy Them... ..	161
Anaemia: Its Causes and Modern Treatment... ..	162

CORRESPONDENCE—

Notes on the Advisability of the Teaching of Contraceptive Methods	162
---	-----

deaths from all forms amounted to 792, or rather less than 7 per cent. of the total deaths from all causes. A remarkable feature of the tuberculosis tables is the constancy of the figures for each year of the preceding decennium. Influenza was prevalent, especially in the Otago District, during the year, there being 1,144 notified cases, with 223 deaths. Inoculation of contacts was practised, but the results were by no means satisfactory for many inoculated persons subsequently contracted the disease in a severe form. Bacteriologically, the outstanding feature was the presence of a haemolytic *staphylococcus aureus* which also manifested itself in causing a virulent osteo-myelitis and fatal septicaemia following boils, etc., while the other associated bacilli were, in order of frequency, the Pfeiffer bacillus, pneumococcus, streptococcus, and micrococcus catarrhalis. Cancer, as would appear from the statistical tables, is somewhat on the increase, the deaths from this cause have gradually risen in the past 10 years from 904 to 1,115, and represent 8.91 to 9.69 per cent. respectively of the total deaths. Venereal Diseases (non-notifiable) are dealt with at four main centres established in 1919. In the course of the year, 1,311 male and 247 female cases were attended to for the first time, and altogether over 50,000 attendances were registered at the Clinics.

School hygiene, now under the direction of Dr. Ada Paterson, shows a very satisfactory record of achievement and indicates that the physique of New Zealand children compares advantageously with that of British children. A new departure was the appointment of twenty-five dental nurses to assist in carrying on the campaign against oral sepsis. Propaganda and research work are also actively prosecuted and a considerable amount of work has been done in supplying information on matters of international public health to the League of Nations which should prove of considerable value as coming from a country that shows such excellent practical results.

THE PACKING INDUSTRY.

Modern tendency is markedly in the direction of closer co-operation between scientific research and industrial work and processes, and in this country considerable co-operation of this character exists. As examples may be mentioned the Low Temperature Research Station at Cambridge, supported by Government contributions, but which is under the control of the University aided by a specially selected committee. The

Station is eminently adapted for research and undertakes investigations of the complex problems associated with refrigeration, particularly of food products. Valuable contributions bearing on the freezing of meat, fish and eggs have already been published and the managing body welcome reference to them of trade problems. The Research Section of the Royal Agricultural Society, the Rowett Research Institute, and the Reading Experimental Station among others are performing similar duties. More recently the London County Council have opened the Smithfield Institute at which lectures and demonstrations will be given to apprentices and others engaged in the various departments of the meat trade. The Corporation of London in their various centres have long been interested in systematic teaching and it is now proposed to undertake a specialist course in connection with meat inspection; similar work is being done by other large corporations. This brief reference is by no means exhaustive of the educational work, special and routine which is being carried out in connection with food, and it is interesting in this connection to observe that we have had brought to our notice a series of lectures which are contained in one volume under the title, "The Packing Industry."* These lectures, which were delivered under the auspices of the American Meat Packers' Institution in co-operation with the University of Chicago, indicate that in America this relationship between science and industry is appreciated. The Institute itself is the trade and research association of the meat packing industry, the products of which exceed in value those of any other industry in America.

The lectures are comprehensive in their scope and include such diverse but inter-related subjects as live-stock, general economics, the packing plant and its equipment, and the various processes associated with preparations of which beef, lamb, pork and the bye-products form constituent elements. Finance is considered as also are scientific research and the problems associated with distribution.

The volume is worthy of perusal by all interested in this particular industry, since it clearly demonstrates the practical benefits which accrue from co-operation. Educational work on these lines is worthy of every encouragement, both financial and moral. It stimulates the new apprentice and it relieves the older man from the monotony of tedious routine since pure business conceptions become broadened by the introduc-

*Published by the University of Chicago Press. Price three dollars.

tion of an interesting scientific outlook. The public obtains a benefit as a result of improved quality of products and reduction in cost, and scientists, by the knowledge which they obtain of the problems which cause the trader loss and anxiety, are encouraged practically to apply those principles which they have acquired as the result of much hard study. Research and instruction in the problems of every day relationships still furnish useful and ample outlet for surplus energy.

PRESERVATIVES AND COLOURING MATTER IN FOOD.

A study of the recommendations of the Departmental Committee appointed in 1899 and subsequent administrative action compared with the recommendations of the Departmental Committee on the use of Preservatives and Colouring Matters in food which are set out in the report published in September last elicit two important facts. Firstly there seems to be undue delay in embodying such recommendations in legislation, and secondly the opinion of food experts on the question of preservatives in food has undergone a great change during the last quarter of a century. The first committee published a report in 1901 containing the following seven recommendations.

RECOMMENDATIONS.

- (a) That the use of formaldehyde or formalin, or preparations thereof in foods or drinks be absolutely prohibited, and that salicylic acid be not used in a greater proportion than 1 grain per pint in liquid food and 1 grain per pound in solid food. Its presence in all cases to be declared.
- (b) That the use of any preservative or colouring matter whatever in milk offered for sale in the United Kingdom be constituted an offence under the Sale of Food and Drugs Acts.
- (c) That the only preservative which it shall be lawful to use in cream be boric acid or mixtures of boric acid and borax, and in amount not exceeding 0.25 per cent. expressed as boric acid. The amount of such preservative to be notified by a label on the vessel.
- (d) That the only preservative permitted to be used in butter and margarine be boric acid or mixtures of boric acid and borax,

to be used in proportions not exceeding 0.5 per cent. expressed as boric acid.

- (e) That in the case of all dietetic preparations intended for the use of invalids or infants chemical preservatives of all kinds be prohibited.
- (f) That the use of copper salts in the so-called greening of preserved foods be prohibited.
- (g) That means be provided either by the establishment of a separate Court of Reference or by the imposition of more direct obligation on the Local Government Board to exercise supervision over the use of preservatives and colouring matters in foods, and to prepare schedules of such as may be considered inimical to the public health.

SUBSEQUENT LEGISLATION OR ADMINISTRATIVE ACTION.

- (a) *Foreign Meat Regulations*, 1908, prohibit the importation of scrap meat and Tripe treated with these preservatives.
- (b) *L.G.B. letter of 11th July*, 1906, instructs Local Authorities to refer to the use of preservatives in milk in Analysts' reports and to take action if necessary under "The Sale of Food and Drugs Acts." *Milk and Cream Regulations*, 1912, prohibit the use of preservatives in milk. *Milk and Dairies (Amendment) Act*, 1922, prohibits the use of colouring matter in milk.
- (c) *Milk and Cream Regulations*, 1912, prohibit the use of preservatives in cream containing less than 35 per cent. of milk fat. In cream containing 35 per cent. or more of milk fat, boric acid, borax or hydrogen peroxide may be used and amount declared on label. An *Amending Order* in 1917, limits the amount of boron preservatives to 0.4 per cent. of boric acid by weight.
- (d) Regulations may be made under *Section 7 of Butter and Margarine Act*, 1907, but no action has yet been taken.
- (e) Under the *Milk and Cream Amending Order*, 1917, all preserved cream must be labelled "not suitable for Infants or Invalids." *Ministry of Health Circular* 381 of 20th March, 1923, deals with boric acid in sponge cakes likely to be eaten by infants.
- (f) "Nil." See Paragraph 4, Column 3.
- (g) Reports by Special "Foods Section" of Medical Department of Local Government Board and Ministry of Health.

If we exclude a communication from the Local Government Board dated 11th July, 1906, instructing local authorities to require public analysts to report upon the presence of preservatives in milk and also that suitable action should be taken under the Sale of Food and Drugs Acts, no legislation on the lines of the above recommendations appeared on the Statute book until 1907, when the Butter and Margarine Act was passed which gave power to the Board to issue Regulations controlling the use of preservatives in butter and margarine. No regulations have yet been issued. In 1908, that is to say, seven years after the publication of the earlier report, the Foreign Meat Regulations were made which dealt in part with recommendation (a). Further administrative action followed dealing in whole or in part with the recommendations concerning the use of preservatives in food.

The only recommendation dealing with colouring matter in food in the earlier report referred to the use of copper salts in preserved vegetables and that recommendation is repeated in the later report which, however, goes much more fully into the question, and here again there is evidence of change of opinion. In this connection it is of interest to recall an editorial note in "Public Health" of January, 1902, shortly after the first report was issued, where it is stated, "In respect of colouring matters the report contains very little of interest and the general verdict of the Committee is that nobody eats enough of any coloured article to sustain injury from any pigment ordinarily employed to improve its appearance." This criticism cannot apply to the later report.

No comment is needed on the last four recommendations of the second departmental committee. Their adoption will offer a solution of many difficulties in administration met with in daily routine by the medical officer of health and sanitary inspector. The latest recommendations, which are set out below, are the seeds of public opinion. The ground is prepared for them and we trust that there will not follow as on the previous occasion, seven lean years before the harvest of legislative action.

Summary of Conclusions and Recommendations contained in the Final Report of the Departmental Committee on the use of Preservatives and Colouring Matters in Food issued in 1924.

1. Preservatives should be prohibited in all articles of food and drink offered or exposed for sale whether manufactured in this country or imported, except that

- (a) Sulphur dioxide only should be permitted
 - (1) in sausages in amounts not exceeding 3 grains per pound;
 - (2) in jam in amounts not exceeding 0.3 grain per pound;
 - (3) in dried fruits in amounts not exceeding 7 grains per pound;
 - (4) in preserved (but not dried) whole fruit or fruit pulp in amounts not exceeding 5 grains per pound;
 - (5) in beer and cider whether in cask or bottle in amounts not exceeding 5 grains per gallon;
 - (6) in alcoholic wines, non-alcoholic wines and cordials and fruit juices sweetened and unsweetened, in amounts not exceeding 3 grains per pint.

(b) Benzoic acid should only be permitted

- (1) in coffee extracts in amounts not exceeding 3 grains per pound;
- (2) in non-alcoholic wines and cordials and sweetened and unsweetened fruit juices (as an alternative to Sulphur dioxide) in amounts not exceeding 5 grains per pint;
- (3) in sweetened mineral waters and in brewed ginger beer in amounts not exceeding 1 grain per pint.

The method of estimating the foregoing preservatives should be prescribed by the Minister of Health.

2. The sale of any preparation as a food preservative or for use in such circumstances that it may be introduced into food should be declared illegal unless such preparation

(a) Bears a description clearly indicating its composition and strength.

(a) Is free from impurities and in particular contains not more than 1/100th part of 1 grain of arsenic per pound or more than 1/7th part of 1 grain of lead per pound.

3. The use of preservatives so far as they are permitted should be upon the condition that the nature and quantity of the preservative present in the article of food should be declared in a manner prescribed by the Minister of Health. In cases in which the declaration of the preservative might be difficult to enforce or might result in undue harm to the industry without compensating advantage to the consumer exception to this requirement might be made, but the exception should in no circumstances apply to sausages.

4. The employment of a copper salt to colour or preserve the colour of peas and other vegetables should be prohibited.

BRETONNEAU.

5. A schedule should be issued by the Minister of Health after such enquiry as is necessary of colouring matters the use of which may be considered non-injurious to health, such schedule to be subject to amendment or extension from time to time as occasion may require. Within a suitable period after the publication of this list the use of any other colouring matter should be prohibited unless and until it shall have been approved by the Minister.

6. Before the prohibition of preservatives or of colouring matters in food (including the use of copper salts for the so-called greening of vegetables) is enforced, a period of grace should be allowed sufficient to enable manufacturers and importers to adjust their methods and processes and to allow stocks to be cleared.

7. Improved methods in the storage and transport of food by rail, road and water, especially as regards the use of refrigeration and cool air storage, are urgently required.

8. It should be provided by law that any Regulations or Statute prohibiting or limiting the use of preservatives and colouring matters should bind the courts in proceedings taken under the Sale of Food and Drugs Acts in respect of their use.

9. An amendment of the law is required to render more expeditious the prosecution of a person actually responsible for offences under these Acts, where a warranty defence is pleaded.

10. Further powers of control by registration, licensing or inspection should be given to Local Authorities in relation to all places concerned in the production, sale, storage and distribution of food.

It may be of interest to note here that the Members of the Committee appointed in 1899 by Mr. Chaplin were: Rt. Hon. Sir Herbert Maxwell; Prof. J. Edward Thorpe, F.R.S.; Dr. H. T. Bulstrode; Dr. Francis Whittaker Tunnicliffe; with Mr. C. J. Huddart as *Secretary*.

The members of the Committee appointed in 1923, by Mr. Neville Chamberlain were: Sir H. C. Monro, K.C.B.; Professor W. E. Dixon, O.B.E., M.D., D.Sc.; Sir A. D. Hall, K.C.B., LL.D., F.R.S.; J. M. Hamill, O.B.E., M.D., D.Sc.; O. Hehner, F.I.C. (resigned); Professor F. G. Hopkins, M.B., F.R.C.P., F.R.S.; G. R. Leighton, O.B.E., M.D.; A. P. Luff, C.B.E., M.D., F.R.C.P.; C. Porter, M.D., B.Sc.; G. Stubbs, C.B.E., F.I.C.; P. A. Ellis Richards, F.I.C. (replaces Mr. Hehner); with Mr. A. M. Legge as *Secretary*.

In his presidential address on "Bretonneau: His Life and Work," delivered at the Section of the History of Medicine of the Royal Society of Medicine on October 15th, Dr. J. D. Rolleston stated that Bretonneau (1778-1862), who had been described by Lasègue as one of the greatest epidemiologists of the time, was a remarkable personality who by his clinical perspicacity in conjunction with elaborate post-mortem examinations did as much for the study of acute infections as Laennec did for chronic diseases. After a sketch of Bretonneau's life, which was accompanied by an epidiascope demonstration of photographs and autographs kindly lent by Dr. Louis Dubreuil-Chambardel, of Tours, the editor of Bretonneau's posthumous works on typhoid fever and specificity, Dr. Rolleston dealt with Bretonneau's work which he summarised as follows: (1) Bretonneau established the specificity of diphtheria and typhoid fever. At the beginning of the nineteenth century the whole subject of sore throat, including its different varieties and its relation to croup, was in a state of confusion. Bretonneau's great achievement was to have shown the identity of malignant angina and croup, and to have differentiated malignant angina from all other forms of sore throat mainly by its progressive course and contagious character. The contemporary views on the continued fevers were in much the same chaotic condition as those held regarding the different forms of sore throat. As in the case of diphtheria Bretonneau succeeded in establishing the specificity of typhoid fever, not only by a careful clinical study, but also by autopsies of 120 persons who had died of the disease.

(2) By his doctrine of specificity Bretonneau foreshadowed the germ theory of disease.

(3) In opposition to Broussais, the leader of the "physiological" school, who had discarded the materia medica and had reduced treatment to bleeding, leeching and a starvation diet, Bretonneau like Graves "fed fevers," and made several valuable contributions to therapeutics. In addition to the introduction of tracheotomy for laryngeal diphtheria and a new method of administration of quinine in malaria, Bretonneau is to be credited with the recommendation of cold affusions for scarlet fever, the resuscitation of purgatives in dysentery and of martial preparations in anaemia, the use of belladonna in constipation and enuresis and the introduction into France of cod liver oil for rickets.

(4) His researches, especially those connected with diphtheria, show the practical value of the study of the history of medicine.

RETIREMENT OF DR. F. J. ALLAN.

It would ill become the journal of the Society of Medical Officers of Health if no reference appeared in these columns to the retirement of Dr. Francis J. Allan, who has at different times over a long period occupied almost every office to which the Council or members elect. As Hon. Secretary, or Editor of this journal, and as President, he has never failed to work for the advancement of the Public Health Service, and we are glad to know that he continues to serve the Society as one of its Trustees.

Dr. Allan's interest in Public Health dates back to his student days when he took 1st class honours in the class of Hygiene and Forensic Medicine, and was initiated into practical work by Sir Henry Littlejohn to whom he acted for some time as Assistant. On coming to London he was associated in general practice for five years with a gentleman who held a part time Medical Officer of Health appointment, and for whom he frequently deputised. During this period he obtained the D.P.H., of Cambridge. On retiring from general practice he became Deputy and eventually Acting Medical Officer of Health for Harrow Urban District. On the appointment of Sir David W. Finlay to the Professorship of Medicine in Aberdeen, while so acting he was in 1891 selected to succeed Dr. Sutton as Medical Officer of Health for Shoreditch, and after two years' service was appointed to the Strand District in succession to Dr. Conway Evans. In 1901, after the formation of the City of Westminster, of which the Strand was one of the constituent districts, he was appointed first Medical Officer of Health, the Medical Officers of the other four districts retiring. These were Professor Corfield (St. George's, Hanover Square), Dr. Edmunds (St. James'), Dr. Skegg (St. Martin's), Dr. Norton (St. Margaret's and St. John). From 1892 to 1901, Dr. Allan was Lecturer in Sanitary Science at King's College, and has been Lecturer in Public Health in the Westminster Hospital Medical School since 1915.

On the outbreak of the great War, Dr. Allan at once wrote to the War Office pointing out that in the absence of R. A. M. C. Officers abroad, the services of Medical Officers of Health in London should be utilised. Dr. Allan was asked to draw up a scheme, which he did, and which was at once adopted, and

he was asked to supervise it, but instead, he recommended that Sir Shirley Murphy be appointed, which was done. Meanwhile, Dr. Allan had called a meeting of the Metropolitan Medical Officers of Health and obtained their consent to act. This scheme, based on the former recommendations of Lord Haldane and Sir Alfred Keogh, was eventually extended throughout the country with much success. Dr. Allan was given the rank of Captain, R.A.M.C. (Sanitary Service T.F.), which he still retains on the retired list, and was designated Sanitary Supervisor for the City of Westminster. At the same time he had supervision of large numbers of Refugees, and in recognition of his services in this direction, received the thanks of the Ministry and Albert Medal from the King of Belgium.

On January 1st, Dr. Allan ceased to be Medical Officer of Health for the City of Westminster, and he is well entitled to retirement after long years of useful service. We do not imagine, however, that he is now going to lead a life of idleness, and we feel quite sure that his time will be fully occupied in advancing the many good causes which he has supported in the past.

FUTURE DEVELOPMENT OF THE SOCIETY.

The report of the Special House and Journal Committee which appears on p. 154 will shortly be discussed by the Branches and Groups of the Society and it is to be hoped that prior to the discussion individual members will give the recommendations of the Committee very careful study. Only those who are in frequent attendance at the House of the Society can realise how its activities have increased during recent years, and the Council for some time past have realised that the Branches and Groups must be consulted in regard to future developments.

Pending consideration of the Report by the Branches and Groups, Dr. Herbert Jones was kindly acting as Editor of this journal, but most unfortunately he was taken seriously unwell on January 8th and was unable to prepare the present issue for press. We are sure that every member of the Society would desire us to express sincere sympathy with Dr. Jones in his illness and to wish him an early recovery. Meanwhile our readers will excuse any imperfections in this issue of their journal which has been produced in circumstances of some difficulty.

THE TEACHING OF PREVENTIVE MEDICINE.*

BY

ANDREW BALFOUR, C.B., C.M.G., M.D., Director of the London School of Hygiene and Tropical Medicine.

After accepting the kind invitation of our President to be one of the openers in this discussion I experienced a certain feeling of diffidence. It was perhaps to be expected, for a large part of my working life has been passed in the tropics, and I was for many years divorced, both from centres of public health teaching and from the active prosecution of public health work in this country. Yet I took courage from the thought that there is some truth in the old saying that "lookers on see most of the game," and I can at least assert that the separation of which I speak was bodily, not spiritual. Throughout the years of exile I kept in touch, so far as I could, with all that was best in public health literature, not with any ulterior object in view, but on account of the fascination of the subject and because I found that, year by year, the hygiene of the tropics approximated more and more closely to that of temperate lands. Happily, as a student I sat at the feet of one of the masters of hygiene—Sir Henry Littlejohn, and was at a later date privileged to work in his office where I obtained some insight into administrative and other questions. At Cambridge also I found a kindly mentor in the person of the late Dr. Bushell Anningson, one of whose methods of instruction had much to commend it. He was wont to vanish for a few days and leave me as his Deputy whereby I was forced to shoulder responsibility and gained some information as regards both urban and rural work amongst English surroundings.

All that, however, was long ago, and a great change had come over the spirit of our dreams, and still more over the relations of the Medical Officer of Health to the community he serves. You will agree that I am not claiming too much when I say that the whole hygiene outlook has been revolutionised and it is interesting to note that, in some measure at least, the change which has come about has been a reversion to ideals which obtained in the days of ancient Greece and Rome. Hygienic control has, in some degree, been diverted from the environment to the individual.

Yet it would be a grave mistake to suppose that environment has lost its importance. As I once had occasion to write, if the machinery which at present

ensures for us sanitary surroundings were suddenly to stop, the citizens of this country would speedily find themselves face to face with tragedy.

Now the Health Officer as a guardian of the public health must not only know how that machinery works, but why it works. I maintain also that he should know how it came to be assembled, for, unless he is acquainted with its history, he will never fully understand its complexities. Again, one of his duties is, or should be, to keep that machinery oiled, to facilitate its smooth-working, to detect flaws in the mechanism, and to report upon them, to suggest improvements, to adopt in short, the same kind of attitude as does McAndrew to his engines in Kipling's immortal hymn. Nowadays, however, the scope of a Medical Officer of Health's work extends far beyond sanitary or insanitary surroundings. Indeed this aspect of hygiene has largely passed, so far as detail is concerned, into the hands of the engineer and the sanitary inspector with both of whom, however, the Health Officer must be able not only to hold intelligent converse, but to hold his own. Hence, during his training, this part of preventive medicine, for which it is hard to find an entirely suitable name, must still claim attention.

It duly figures in the Provisional Scheme of Lectures and Practical Work drawn up for the new School with which I have the honour to be associated and, on thinking over matters, I felt I might do worse than take that scheme as a text and try to expound it, if not in its entirety (for in that case I would infallibly become both an opener and finisher in the discussion), at least as regards some of its provisions.

I propose to deal rather with the teaching of preventive medicine than with the training of public health staffs for, though doubtless there are many here who know more about both subjects than I do, the disparity between their knowledge and mine is probably less marked in the case of the former subject. Moreover, in the near future I am more likely to be in closer touch with the former than with the latter.

The Provisional Scheme drawn up by a special committee which no longer exists, is a formidable looking document calculated, at first sight perhaps, to strike despair into the heart of the prospective Diplomate in Public Health. Like many another thing, however, closer acquaintance with it modifies the first impression. Familiarity with it, far from breeding contempt, engenders the view that the arrangements proposed are both comprehensive and logical even if here and there they may lend themselves to criticism and suggest errors both of omission and commission.

* Opening paper in discussion at Society of Medical Officers of Health, 12th December, 1924.

Let us then consider them in some little detail, remembering that, though they represent more or less the future curriculum of the School, they are not unchangeable like the laws of the Medes and Persians. Indeed, I welcome this opportunity once again of making them public, and of collecting the comments of others, supplementing or traversing any which I may happen to make.

There are six great divisions of the work labelled as follows :—

- (1) Applied Physics, Physiology and the Principles of Hygiene.
- (2) Chemistry and Bio-Chemistry.
- (3) Immunology and Bacteriology.
- (4) Medical Zoology, Parasitology and Comparative Pathology.
- (5) Epidemiology and Statistics.
- (6) The Principles and Practice of Preventive Medicine, General Sanitation and Administration.

Let me say at once that I have no intention of entering into any dry and dreary disquisition as to how many days or hours should be devoted to this or that subject. It is all very important, it has all been worked out, both in its relation to the new regulations and the future building, but I take it that this discussion had better proceed on a broad basis, should deal with principles, and be concerned with matters of moment, not with minutiae.

Reference to the Scheme will show that in each division there are to be general and special courses, in some instances several general courses and several special courses.

The distinction, however, in some cases, is a little arbitrary as some of the so-called special courses have to be taken by candidates for the D.P.H. For example, in the first division the special courses, six in number, refer to such subjects as physics in relation to public health and meteorology and climatology, which even under the old regulations were diploma subjects. Again, in the chemistry division, one can scarcely class a course on foods, dietaries and preservatives as special.

It would be better to divide the scheme into :—

- (a) Courses of instruction required for the D.P.H.
- (b) Courses intended for advanced or research students or for those professing special lines of work.

Adopting this classification and considering the divisions in order, we note that the principles of hygiene based on applied human physiology and ecology, that is to say the influence of environment upon the organism, are to be the subject of study. This is not altogether a new development, for in

the past the public health student has received instruction in such matters as nutrition and metabolism, ventilation, body temperature and clothing, physical exercises, the effect of meteorological conditions on the body and so forth, but there is no doubt that a more intensive course on these subjects is required.

A former President of this Society, Lieut.-Colonel Fremantle, has pointed out that applied physiology must be regarded as the basis of public health training in the future, and no one is likely seriously to dispute his contention.

Moreover, of late years we have witnessed remarkable developments in certain branches of physiological knowledge having a bearing on the health and life of the individual.

For example, our knowledge of nutrition has been greatly widened by the work of McCollum, Lusk, McCay, McCarrison, and others. Of special interest is McCay's Book on "The Protein Element in Nutrition," because it deals with various races of mankind, and there can be no doubt that much can be learned by comparisons such as he institutes, while interest in the subject is thereby stimulated.

Again, the work of Leonard Hill and his colleagues has thrown fresh light on the problems of ventilation, has altered our old ideas as to the part played by carbon dioxide, and has brought into prominence, important facts concerned with the influence of external conditions upon the body temperature. Not only so, but special instruments have been devised for recording such effects. Nowadays it is essential that the public health student should be familiar with the Katathermometer, and its uses. The whole question of air-conditioning as it is called, has an important bearing on the physiology of hygiene, and, when visiting the Harvard School of Hygiene at Boston, I was impressed by the laboratories of ventilation and illumination which it now possesses.

These laboratories include a chemical room, an electrical laboratory, an illumination laboratory, a microscope and balance room, a gas chamber and an air-conditioning room. It is possible to test the effects of ranges in temperature, and of varying degrees of humidity on the human organism, and it is certainly easier, with the elaborate plant provided, to teach the students the principles underlying the sciences of ventilation and illumination than by means of lectures and diagrams. The intention is to teach these subjects, not from the purely engineering nor the purely medical standpoint, but to approach them from both aspects so that the students may have a common ground on which to meet the physician or the engineer with whom they may come in contact.

This seems to me to be highly desirable for it is important ever to bear in mind the practical side of instruction. At the same time, for the Health Officer, other branches of physiology would appear to be more important. These are duly listed in the provisional scheme. The physiology and hygiene of infants, school children and adolescents will receive attention. To all intents and purposes this constitutes a new field in public health training. It is a large subject, embracing such questions as heredity and eugenics, body growth, both normal and abnormal; physical exercises and their adaptation to suit varying needs; dental hygiene, the importance of which was made manifest during the great war; dietaries of infants and school children; a subject to which special attention is paid in the United States, and the hygiene of the eyes, ears, nose and throat, generative organs and so forth. At this time of day one need scarcely stress the significance of this development.

Not infrequently the posts of Medical Officer of Health and School Medical Officer are combined in one individual, but even where the Medical Officer of Health is not specially concerned with school hygiene it is essential that he should possess a grasp of these subjects. He has to act not only as a guardian of the public health, but as an educator in health principles, and we know what happens in the case of a blind leader of the blind. It is his business on the large scale to make the unfit fit, and the fit fitter, and a good start means half the battle. How much easier will it be for him in his general administrative work, when he can deal with a really healthy and intelligent population, a population which, from its earliest years, has known a certain degree of fostering care, and has, as it were, grown up in an atmosphere of personal hygiene. Just as personal acquaintance with a disease impresses its features upon you as can no other method, so personal experience of hygiene measures should impress their meaning, if not their value, on the plastic mind of the child. The Jesuits say, give us a child up to the age of seven, and we do not care who has charge of him thereafter. Hence the hygiene of the young is all-important, and the Medical Officer of Health should be familiar with the common defects of infancy and childhood and the measures taken to ameliorate or eradicate them.

The same is true as regards another item duly listed in Division 1, namely, the functions of the nervous system, and sense organs, and the elementary psychology of children.

As Cuvier declared the nervous system is at bottom the whole animal, and the other systems are only to serve it. That this has been recognised

is evident from the entries, to wit rest, sleep and fatigue; overstrain; the physiology of speech, reading and writing; tests of intelligence—and here I would pause for a moment to mention a very sound paper by Dolan which reviews the present situation as regards the mental testing movement which, as she says, is still in its infancy. The Medical Officer of Health should be able to advise on the accuracy and value of intelligence tests. He is certainly likely to be consulted about them for this branch of physiology is making rapid progress. To continue, the consideration of auditory, visual, sensory and motor types is listed, as is that of habits and of dull, backward and defective children. Intimately associated with these excursions into nervous phenomena is the physiology of reproduction, for procreation is a law of life, and it has mental as well as physical aspects. It would seem desirable that the budding hygienist should be fully versed in all that concerns birth control. This pressing question which will have to receive attention in the medical curriculum has its physiological side, and that must be my excuse for mentioning it here. Needless to say it has yet greater affinities with sociology and with the study of statistics.

Division 1 has a section devoted to the physiology and psychology of industrial work. In my day these subjects were not even considered, but they have now become of primary importance, and they are intimately bound up with some of the other branches of physiological hygiene that have been mentioned. The physiology of muscular work, and the methods employed in its elucidation, must be expounded, and here help will be forthcoming from research carried out in military circles, for long before the physiologist turned his attention to the ordinary labourer, the army medical officer had dealt with the soldier as a machine. Fatigue and boredom, diet and work, vocational tests, tests of intelligence, and mental deficiency, all find a place here. Let it not, however, be thought that these subjects should be taught solely or even mainly in the class room and the laboratory. The medical officer of health is in the main what may be called a field officer. If he is to do the best work his interests should largely be out-of-doors. I believe that once he has mastered the principles he will profit most by visits to the factory and the workshop, and the navy at his toil. There he will have the best chance of learning how, as Chalmers puts it, the rhythm of the work may be correlated to the physiological rhythm of the worker, and there it can best be impressed upon him how questions of efficiency and fatigue in industry do not centre in the factory, but are intimately concerned with housing, food, habits and recreation.

The last entry in Division 1 falls into our second category. It is a specialist subject, for it must be remembered that the new School of Hygiene is in addition, a School of Tropical Medicine, and that it is also intended to have imperial and indeed, international responsibilities. Hence it is not surprising to find this entry figuring—"The adaptation of various races to climatic conditions and the principles of hygiene applicable to life in tropical and arctic regions." I do not forget that this reference to the arctic has incited the critic to mild ridicule, yet it is not so bizarre as some may think it. For one thing, hygienic principles as applied to ice-bound regions played a very important part in our North Russian campaign as anyone can learn, who cares to read the last volume of the Medical History of the War, for another, the perusal of Stefansson's "The Northward Course of Empire," and especially of the chapter on the Fruitful Arctic, will show that there are more things in earth, if not in heaven also, than are dreamed of in the philosophy of some men, and that in the despised Arctic there may yet be found a solution for an overcrowded globe. It would seem that there are tracks on the road to the North Pole which may yet be centres of colonisation. I am, however, wandering a little from the main theme, so let us hie to Division 2, Chemistry and Bio-chemistry.

Chemistry need not long detain us, even if we admit that it is the basis of well-nigh every science. No good object is served in trying to turn D.P.H. students into chemical pundits. I can vividly recall the long hours spent, I had nearly said wasted, but I take it no knowledge is ever quite wasted—on abstruse chemical analyses in the B.Sc. course in public health at Edinburgh. Although I have been a Medical Officer of Health, and have also had charge of hygienic laboratories, there was never any need to repeat many of these exercises. Even those of everyday value fell to the lot of the trained chemists. The same, in a lesser degree, is true of the old D.P.H. course. Time can be saved on public health chemistry, so far as the ordinary student is concerned, though of course, he will better understand the results of any analysis if he has carried out the practical work himself. Such practical work, however, should, I think, be strictly limited. To search for metals in water or to angle for gases with strips of chemically impregnated filter paper appears to me futile. All that is required is that the future health officer should be well grounded in the principles underlying public health chemistry, should be able to evaluate intelligently an analyst's report on water, food or sewage, and also to discriminate in the selection of samples for submission to public analysts. One of the more important branches of his chemical work is that deal-

ing with food preservatives. He need not know how to carry out either a qualitative or a quantitative test for boracic acid in milk, but he must possess the kind of information contained in the report of the Committee which recently pronounced on this subject. I see that diets are to be studied from an economic standpoint. Well and good, and I suppose the thought of butter and margarine suggested the inclusion of this item in the chemical section.

When we come to Bio-chemistry, there is a different tale to be told. The future, in many directions, lies with the bio-chemist, and this is especially true in the realm of dietetics. It is essential that the student should have a sound knowledge of foods, not as mere articles of diet, but as body builders. Here the vitamin comes into its own in all its varieties and complexities. Here the food accessories require consideration, and here bio-chemistry becomes linked up with physiology. Bio-chemistry has also other relations to hygiene. I cannot consider all of these, but would mention its role in the elucidation of the etiology of certain diseases with which the student of preventive medicine is intimately concerned as for example, goitre, sprue, and rickets.

Immunology and Bacteriology constitute Division 3. It is significant that immunology stands first. It shows the trend of modern developments, but of course, without a sound knowledge of bacteriology the student cannot appreciate the intricate and far-reaching problems with which immunology is concerned. At the same time there are diseases like smallpox where the bacteriological cause, if indeed, it is bacteriological, is unknown and yet concerning which our knowledge of immunology has made considerable progress. Hence immunology to some extent stands, as it were, upon its own legs. Again, the relations of protozoology and immunology must be considered. These differ in some respects from those uniting bacteriology and immunology, and their study will link up this division with that which follows it though, as a matter of fact, protozoology figures in this division also. While immunology can, of course, be studied in the laboratory, the student of preventive medicine will gain greater insight into its complexities, and its value to the State if he is afforded opportunities of seeing the outcome of our researches on, and knowledge of, the subject. As I have said elsewhere, he should gain at first hand a familiarity with the production of vaccines and serums on the large scale so that the inculcation of precepts should be supplemented by the visual lessons of practice. I have been struck by the way in which this Society endeavours to make up for the deficiencies which so many of its Fellows experienced when they were in the stage of pupillage. In this, and

in other directions, the Society plays an important part in the further education of the Health Officer, but the time has come when the public health student must be versed in these matters so that he will be able to undertake his duties armed at all points. Although the busy Medical Officer of Health in some large centre may now and then snatch a few hours to visit some vaccine and serum institute, possibly with the help of this Society, it is impossible for many of them to obtain such opportunities and the lack of them will be less felt if they get the chance during their student careers.

So far as bacteriology is concerned, it is fortunate that the medical man who decides to devote himself to public health usually possesses a fair working knowledge of bacteria and their iniquities. Thus, some time may be saved and the instruction limited to the bearing of bacteriology upon hygiene, or perhaps, one should say, some aspects of hygiene, for, after all, the student is but mortal, and his brain capacity has limitations. Still he can acquire a good working basis without necessarily becoming a walking encyclopaedia or being driven to commit hara-kiri.

In the second category of this division you will find listed special courses on advanced work in bacteriology and immunology, on vaccines and serums, on tuberculosis and on venereal diseases. I should think it likely that we may see expansion here. For example, anthrax is a disease meriting particular attention.

Division 4 comprises Medical Zoology, Parasitology and Comparative Pathology, and in the main represents the tropical division of the School. I say in the main for, as you know, Parasitology under the new regulations has become one of the subjects for the first part of the D.P.H. I need scarcely say that this is a welcome innovation, and you will be interested to know that the School hopes to establish a course in it for the D.P.H. work next term. All three branches, helminthology, entomology and protozoology will be included. Of these, the greatest in this connection is helminthology, but entomology is not far behind in importance. In the past, training in these sciences has been either non-existent or very scrappy—indeed, not infrequently the accuracy of the knowledge imparted has left something to be desired. Hence it is imperative that it should be taught by experts and that a certain amount of practical instruction should be imparted. Both Professor Nuttall and Professor Leiper have dealt ably with this, and cognate matters. I would refer you to their papers for time presses.

Efforts have always been made to give the student some idea of the diseases of animals communicable to man. As our Book of Revelations

gains in magnitude we find this subject acquiring increased significance. I cannot discuss it to any advantage here, but two steps which should help the School in its teaching are the appointment of Dr. H. H. Scott of the Staff to be Pathologist to the Zoological Gardens, thanks largely to the kindly interest of the Council of the Zoological Society, and, as a result of Professor Leiper's representations and past work on agricultural helminthology, a valuable gift to the School by the Ministry of Agriculture in the form of a field station in the country for special work. Every year, as you know, sees closer bonds forged between human and veterinary hygiene.

Division 5 is concerned with Epidemiology and Statistics. It has, I think, been the custom religiously to lecture on epidemiology, to sandwich it in somewhere but, as I remember it, what should have been the most fascinating of all the subjects in the curriculum was reduced to a mass of dry facts. Perhaps I was specially unfortunate, but I know I got very tired of hearing about what was called a milk-walk, and the cases of diphtheria which cropped up upon it here and there. I never understood how epidemiology might be taught to the best advantage until I went to Baltimore, and saw Professor Frost and his assistants leading their students along, not a milk-walk, but a path, intricate no doubt, yet with its vistas so arranged and the facilities for its exploitation so cunningly devised, that the wayfarer was lured onwards without boredom or fatigue. I cannot enter into details regarding it. Let me only say that, like all good teaching, it was largely practical and individualistic. Seminar courses were a feature, and the student was given exercises like those he would encounter during his life's work. Moreover, he was taught to think, not crammed with facts. He was given a problem and allowed to work it out his own way. Then he was examined on his results and shown where he had gone wrong, or how he might have done better. Data from actual outbreaks of disease were served up to him, not hypothetical happenings. It was all very stimulating. I hope epidemiology will be taught on similar lines in this country. I am glad to see that the history of epidemic and endemic diseases is to be taught. A great deal can be learned from the past including the lesson of humility.

At Vital Statistics the public health student usually shies like a horse at a stiff gate. I do not blame him. It is a difficult and deadly subject for anyone who is not blessed with a gift for mathematics. Yet it has very often been made more deadly and difficult than it need be by extracting all the vitality from it. Few people think of vital statistics being taught in a laboratory, and yet it is in the laboratory that the subject can be best expounded.

Not, it is true, in a laboratory filled with glassware and provided with sinks, but a laboratory furnished with calculating machines, squared papers, wall diagrams, maps, charts, and other paraphernalia which can be seen in the Galton Laboratories at University College Hospital and in the two great Schools of Hygiene in the United States.

In teaching vital statistics seminar courses are of special value, and the subject should, wherever possible, be linked up with epidemiological observations in a practical manner. Another point on which Dr. Greenwood lays stress is the value of instituting comparisons between the statistics of different countries. This serves to quicken the student's interest and useful lessons can be inculcated by demonstrating the results achieved by the administrative and other methods adopted by different communities.

So much for Division 5, a very inadequate reference I admit, but Division 6*, the largest and most important of all, looms before us, "The principles and Practice of Preventive Medicine, General Sanitation and Administration." Here, however, I feel I may be brief, for this is the section with which most of you are most intimately concerned, and in its discussion I am much more likely to obtain than to impart useful information. In category 1, there is to be a course in the prevention of disease, non-infectious and infectious diseases, both receiving attention. I suggest that communicable is a much better term than infectious. Instruction will presumably follow the customary lines, and will embrace the principles and practice of disinfection, but the administration of fever hospitals will also be included—this is highly desirable. I found that in Toronto it received special consideration and Toronto, believe me, is very much to the fore in things hygienic.

Then comes the course devoted to public health administration and the relation of medical men to the State. I need scarcely detail its provisions which you will see on the typescript (post) you have in your hands, and would merely say that they are designed to create, as far as mere training in, I hope, both urban and rural areas, can create them, those Sanitary Statesmen of whom Sawyer speaks. I note only that social environment figures as an item and it may be said that sociology is the basis of this section, just as physiology is the basis of practically all the divisions.

No less than thirteen so-called Special Courses are grouped under the main heading. We have hygiene of Childbirth and Infancy, which no doubt covers ante-natal work; School Hygiene; Mental

* See Appendix.

Hygiene; Industrial Hygiene; Prevention of Diseases of Tropical Climates; Tuberculosis; Venereal Diseases; the Function of Local and Central Sanitary Authorities, and the Duties of Health Officers; Control of Food Supply; Sanitary Construction and Planning; the Selection and Supervision of private and of public water supplies. Geology in relation to water supply, Filtration and Sterilisation of water; Sanitary Law and Administration; Port and Marine Sanitation. Thus we arrive, somewhat breathlessly I fear, at the end. In the sheet in your hands you will find the sub-headings attached to several of the more important of the above and these, I think, might form a basis for discussion.

It is, of course, impossible for me to deal with them here, so in conclusion I would only say that I doubt if Geology, considered solely in relation to water supply, is sufficient. It is noteworthy that the course for the Edinburgh B.Sc. in Public Health, which is very comprehensive, requires study of the following:—

- (a) Dynamical Geology.
- (b) Mineralogy and Petrology.
- (c) Structural Geology.

I think this is too extensive for a Diploma course, and that (b) should be omitted. A certain amount of (a) should, however, be taught, and (c) is, of course, important, and should extend beyond what is required in connection with water supply. One would fain subtract from, rather than add to, the student's burden, but it would seem that provision should be made for the examination of the physical properties of clothing material and that some attention should be paid to the study of soil from the hygienic standpoint. I would invite opinion as to how much emphasis should be laid on Sanitary Engineering as a definite course of study, and suggest that "Disposal of the Dead" should figure in the scheme, for though one might think after its perusal, that students of preventive medicine are immortal, they can only be so in one sense!

The History of Hygiene, if not required for the Diploma, should, as I have hinted, be taught in the School, and, if properly taught, should prove both educative and stimulating. Lastly, I hope to see much accomplished through the agency of a great graphic Museum of Hygiene, which, in addition to playing its part in the education of the students and of the public generally, will be a helpful addition to those "refresher" courses for Medical Officers of Health which it is hoped may be arranged, and which I trust both they and this Society will welcome and assist by every means in their power.

Appendix.

The following summary indicates some of the Sections coming within Division 6, referred to by Dr. Balfour, p. 140:

General Course in Public Health Administration and in the Relation of Medical Men to the State.

The functions of Health Authorities and their officers; medical men and the State; the General Medical Council; registration; notification; isolation; death certification; State provided medical assistance; nursing and voluntary agencies; dispensaries, clinics and hospital services; National Insurance; health and social environment; relation of M.O.H. to the public and to other medical men; relation of general practitioners to Local Authorities.

School Hygiene.

Principles of education; order of the curriculum and its adaptation to physically and mentally abnormal children; the diagnosis of mental abnormalities; games and physical exercises; place of handicrafts in education; organisation of mental inspection and treatment; infectious diseases in schools; cleansing of children; school baths; school meals; care of the sight; school buildings; ventilation, lighting and equipment, residential schools, diets, sanatoria; employment of children; adolescence; teaching of hygiene in schools (how, what, when).

Industrial Hygiene.

The effects of various industries on health; industrial diseases and accidents; employment of women, young persons and children; hygiene of factories and workplaces; welfare work; industrial legislation and unemployment insurance, etc.

The Functions of Local and Central Sanitary Authorities and the Duties of Health Officers.

The duties of the M.O.H.; Local and Central Government; office and duty of Sanitary Inspector; sanitary inspection of a district; administrative measures in connection with notifiable diseases; vaccination; organisation of School, Infant, Maternity, Tuberculosis and V.D. Clinics; cleansing of persons and disinfection; supervision of midwives; notification of births; organisation of medical inspection of School children; health visitors and their work; popular instruction in hygiene.

Sanitary Law and Administration.

General principles; National, International and comparative law and administration; legal powers of sanitary authorities; procedure in case of statutory nuisances; procedure under Food and Drug Act; bye-laws, orders and regulations, modifications in practice rendered necessary by tropical conditions.

PARASMALLPOX.

(Synonyms Alastrim, Amaas), An acute specific infectious disease distinct from smallpox.*

BY

R. P. GARROW, M.D., D.P.H., Medical Officer of Health, Chesterfield.

MR. PRESIDENT AND GENTLEMEN,—It is a matter of common knowledge that there has prevailed during the last few years in certain districts in England, chiefly in the Midlands and north, a disease notifiable as "Smallpox." This disease presents clinical and epidemiological features which distinguish it from virulent Smallpox as commonly observed in England in recent times and as described in standard English text books of medicine and in Ricketts and Byles' classical monograph, "The Diagnosis of Smallpox."

The features which distinguish the prevailing disease from classical smallpox are so numerous, so striking, and so constant, and their practical significance to physician, epidemiologist, public health administrator and public is so important that, in the following clinical description I have adopted † "Parasmallpox" as its name in order to facilitate comparison and contrast between it and the graver disease smallpox.

The disease is, in all probability (?), the same as that known in South Africa as "Amaas" (the Kaffir word for sour milk) and in South America as "Alastrim" (from the Portuguese *Alaster*, meaning "to strew over"), but in as much as these foreign names have no obvious meaning in English, I prefer "Parasmallpox"—a name which at once conveys the meaning "a disease closely allied to smallpox." The coining of a new name is not intended to suggest the discovery of a new disease—but merely to indicate its recognition as a definite clinical entity—an acute specific infectious disease separate and distinct from smallpox—a disease moreover which is fixed in type and does not tend to assume virulence and acquire the death-dealing and disfiguring properties of smallpox.

Personal Experience.

The clinical description of parasmallpox which follows and its contrast with smallpox are based entirely on personal observation of 500 cases occurring in the Borough of Chesterfield between October, 1923, and July, 1924, before and during

* Read at a meeting of the Fever Hospital Medical Service Group of the Society of Medical Officers of Health in London, on 28th November, 1924.

† See "British Medical Journal," May 13th, 1922.

their isolation at Spital and Morton Smallpox Hospitals. The data were all collected by myself from these patients and their relatives. Any personal error involved therefore is mine—and not that of the ambulance nurse or sanitary inspector or other person concerned with the outbreak. Thanks to the kindness of colleagues in Derbyshire and elsewhere, I had opportunities for studying parasmallpox for 2½ years previous to its appearance in the Borough of Chesterfield. For example, I am indebted to Dr. Herbert Peck, Medical Officer of Health, Chesterfield Rural District, for the opportunity of observing cases from North East Derbyshire. I have also visited Ilkeston, Long Eaton, Doncaster, Gloucester, Middlesbrough and other towns where the same or a similar mild disease has prevailed, and I am grateful to Medical Officers of Health and Medical Superintendents of Smallpox Hospitals in these towns for permission to see their patients.

My experience of classical smallpox is confined to cases seen in the East during the war, but owing to the kindness of Dr. Cameron, Medical Superintendent, Smallpox Hospital, Dartford, I was enabled to refresh my memory of that loathsome disease by a visit in 1922 to the patients from the Poplar epidemic.

Brief Clinical Description.

For brevity and, so far as it goes, accuracy, I cannot better the description of his disease given by a patient in three words—"pimples following influenza."

In these three words he brought out the three most remarkable clinical features of the disease—firstly the primary toxæmia which was almost universally regarded by both patient and doctor as an ordinary attack of influenza. Secondly, the focal lesion, which, smaller and more superficial on the skin than the eruption of smallpox, is accurately described as "pimples." Thirdly, the word "following" signifies one of the most striking features of the disease—namely the fact that frequently the eruption appears after—it may be several days after—the patient has completely recovered from the initial illness.

Analysis of Clinical Signs and Symptoms of Parasmallpox with Special Reference to Comparison and Contrast with those of Smallpox.

1. Onset.

The onset of an average case of parasmallpox is gradual with headache, dizziness, aches and pains in body and limbs, and weakness of legs. These are the commonest symptoms complained of. In addition there may be shivering, nausea, vomiting, abdominal pain, backache, sore throat.

No case in this series gave the classical onset of smallpox with rigor, vomiting, lumbo-sacral pain and rapid prostration. Although not prostrated, the parasmallpox patient usually lies down to recover from what he calls influenza. His temperature in this stage is 100 to 103 and subsides by rapid lysis.

The recovery from this initial illness is rapid and complete and in the average case the patient feels perfectly well for the remainder of his attack including the stage of eruption and convalescence. The influenzal illness leaves behind no feelings of physical weakness or mental depression such as frequently follow ordinary influenzal attacks.

2. The Pause.

Whereas in smallpox the eruption appears fairly constantly in the middle of the primary toxæmia, i.e., about the third or fourth day of the illness, in parasmallpox its appearance is frequently delayed till the patient has completely recovered and in about one third of the cases an interval of one to four days of complete intermission of all symptoms occurs between illness and rash. In this quiescent period or pause, patients have returned to school or to work for days. This change in the chronological relationship of the primary toxæmia and the eruption is one of the most striking differences between parasmallpox and smallpox.

Table showing the duration of the Prodromal Illness.

Days from Onset to Eruption.	No.	2	3	4	5	6	7	8	9	10
Number of Cases	51	13	60	110	93	81	47	35	7	3
	173									

In 173 cases, or rather more than one third, the interval between onset and eruption was 6 to 10 days.

3. The Eruption.

The eruption of parasmallpox corresponds exactly with that of smallpox in one important respect—distribution. Every detail of observation made by Ricketts and Byles on smallpox in regard to the distribution of the rash may be confirmed in the case of parasmallpox. The skin lesions of parasmallpox are however, on an average, smaller and more superficially situated, not so shotty—and more rapid in the evolution through the stages of macule papule pustule to crust than those of smallpox. The final stage usually referred to as scabs or crusts in smallpox may be more aptly called "amber beads" in

parasmallpox. Instead of the opaque brown crusts formed of inspissated pus and blood seen in smallpox, the skin of the parasmallpox patient will be found studded with small round translucent bodies varying in size from pin's head to split pea, and in colour from pale straw to dark amber. These amber beads take their size and shape from the pustules which precede them and may be perfectly dome shaped or slightly flattened on the top. Their translucency indicates that the contents of the pustule was scarcely pus but little more than clear or only slightly turbid serum.

This amber bead phenomenon is best seen about the end of the first week from the appearance of the eruption, and lasts throughout the second week, when it is of great diagnostic help. A few amber beads of perfect shape and correct distribution have frequently been the only objective sign of attack—and when supported by a history of "flu" a week or two before, are absolutely diagnostic. I have not seen similar skin lesions in any other condition.

When the amber beads are shed from the skin, there remain small round glistening reddish brown areas which lose their pigmentation slowly and may be still visible some months after recovery from the attack. But pitting is rare and when it occurs it consists of a fine foveation on the nose, cheeks and forehead.

4. Secondary Fever.

When the eruption is profuse and the pustules are large and deeply situated in the skin as in smallpox (as they sometimes are), there is mild suppurative fever (100-101) in the second week, but this is rare and the majority of patients never have an ache or a pain or a temperature above 99 after admission to hospital.

5. Other features associated with smallpox of great toxicity were not observed once in this series, viz.,

Prodromal rashes.

Haemorrhages.

Further, newborn or very young infants, unprotected by vaccination, had hardly any constitutional disturbance, even when the rash was fairly copious. Infants on the breast never missed a feed and the first thing noticed by the mother was the appearance on the infant of the characteristic spots.

Complications.

Apart from secondary infections of the skin like impetigo, etc., the only complications observed in this series were connected with the eyes. The ophthalmic complications are of great interest and importance. Three inflammatory conditions were seen.

(1) Blepharitis and Conjunctivitis.

In quite a number of cases lesions occurred in the palpebral and ocular conjunctivæ. In some the margins of the lids were the seat of numerous pocks. These infected or irritated the conjunctiva giving rise to acute purulent inflammation with considerable discomfort, but in every case recovery was complete without any permanent damage.

(2) Ulceration of Cornea.

Three cases occurred in which a pustule formed at the corneo scleral margin. When this pustule ruptured, an ulcer formed at the periphery of the cornea and spread centripetally. This serpigenous ulcer was extremely slow in healing and left a small triangular opacity in the outer third of the cornea with its apex towards the centre and base on the periphery. There was no damage to vision.

(3) Keratitis Profunda.

Two cases of this rare condition provided the most interesting and important of the eye complications of parasmallpox. Both occurred in the right eyes of very young infants—one twelve days old when the eruption appeared, the other aged nine weeks.

Case 1.

Female infant born 6/12/23. No prodromal illness. Rash appeared 18/12/23 (i.e., aged 12 days). Infected from the mother whose eruption appeared on 10/12/23. Baby successfully vaccinated 15/12/23. The infant had a profuse eruption, but was not ill. It had some pustules about the eyes and there was acute conjunctivitis of both eyes—more especially the right—with some pus. This cleared up under treatment and mother and infant left hospital well on 9/1/24. Three months later my attention was called to the baby's right eye. The upper half of the right cornea was ground-glass-like. There was no conjunctival or ciliary infection and the pupil was normal in size, shape and reactions. The baby was referred for treatment to the Royal Hospital.

Case 2.

The interesting feature about the second case was that there was no indication of anything wrong with the infant's eye during its period of hospital isolation. It was not till a week after discharge from hospital that the mother noticed "a film over the baby's right eye."

Male infant born on 6/6/24, rash appeared on 9/8/24 without any prodromal illness. Admitted hospital 12/8/24. Discharged 30/8/24 after an ordinary attack without any eye trouble of any kind.

A week after discharge from hospital the mother noticed a film coming over right eye and took the infant to me at the Health Office. The condition found was very similar to that described in the first case—upper half of right cornea steamy and ground-glass-like.

My brother, Dr. A. Garrow, Ophthalmic Surgeon, Glasgow Royal Infirmary, happened to be with me in September and I am indebted to him for the diagnosis of *keratitis profunda* in these two cases.

Both cases are now under treatment by Mr. H. H. Emmerson, Ophthalmic Surgeon, Chesterfield Royal Hospital, who has kindly furnished me with the following reports dated 14/10/24.

Case 1.

14/10/24 (under ether).

Right eye. No ciliary or conjunctival injection. Under atropine pupil dilates well and evenly. Well marked central opacity of cornea—definitely in the deeper layers. No vascularisation of cornea. Fundi normal.

Case 2.

14/10/24 (under ether).

No conjunctival or ciliary injection. Under atropine pupil dilated well and evenly. Upper two thirds cornea cloudy—opacity in the deeper layers of the cornea. No vascularisation of cornea. Fundi normal.

6. Mortality of Parasmallpox.

The mortality of parasmallpox in otherwise healthy subjects is nil. It does not convey an adequate impression of the mildness of this disease to say that no patient in this series of 500 cases or in the 2,000 in the County of Derby died of parasmallpox. No case was sufficiently ill from parasmallpox to cause the slightest anxiety as to the issue.

In descriptions of the disease, the mortality is usually stated as 1 or 2 per cent.—but these deaths are frequently in very young infants or feeble old people or result from some condition

unconnected with parasmallpox. For example, although no case in this series died of parasmallpox, two of the patients died while in hospital—one from uraemic coma occurring in the course of chronic interstitial nephritis, the other from encephalitis lethargica.

Another infant aged 10 days, on admission, died about a week after discharge from hospital from a cause unconnected with parasmallpox.

So far as I have been able to ascertain from the literature and from other sources of information, the 1 to 2 per cent. mortality attributed to this disease appears to be made up of similar deaths.

My own opinion is that the case mortality of parasmallpox is nil, or for all practical purposes nil (e.g., same as in mumps, rebecca, varicella, etc.).

Extensive epidemics of this disease have been recorded running into thousands of cases without a death, and in other outbreaks the mortality figure amongst those attacked (including the deaths from prematurity, senility, etc., not properly attributable to parasmallpox) has actually been lower than the general mortality rate from all causes amongst the population from which the cases were isolated.

From such statistics emerges the amazing paradox that this disease, far from being a cause of death, is actually to some extent a protection against the fatal issue . . . The suggestion is not so silly as it sounds—for if persons suffering from a harmless disease, never in itself fatal, are taken from overcrowded houses and bad hygienic conditions where they are ill-clad and poorly fed, to a place of safety where they are well fed and cared for, they are at least protected from some forms of death—e.g., death from violence, which in these days of rapid transport and crowded streets contributes materially to the general mortality rate. It is not surprising therefore that the death rate should be lower in parasmallpox than in the healthy.

Vaccination Statistics.

The following chart presents at a glance the

Borough of Chesterfield—Vaccination State of Patients.

Age Groups	0-5	5-10	10-15	15-20	20-25	25-30	30-40	40-50	50-60	60 and over	Total
Vaccinated and Re-vaccinated	—	—	—	—	—	—	—	—	—	—	—
Vaccinated recently	—	—	—	—	—	—	—	—	—	—	—
Vaccinated in Infancy only	—	—	—	3	5	5	8	38	25	5	89
Unvaccinated	65	82	95	72	51	20	17	5	3	1	411

influence of vaccination in the prevention of parasmallpox. No person vaccinated in infancy was attacked under the age of 17 years. No person recently vaccinated was attacked. No person vaccinated in infancy and re-vaccinated at any age was attacked.

Thirty cases vaccinated successfully after exposure to infection developed the disease. The number of days between successful vaccination and the appearance of the eruption is shown in the following table:—

Table showing days elapsing between successful vaccination and the appearance of eruption in thirty cases developing disease who were vaccinated after exposure to infection.

Interval (days)	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Number of cases	1	1	—	3	4	4	8	5	2	—	—	—	—	1
	21													

There are many who believe that the identity of this mild disease with smallpox is settled by this prophylactic influence of vaccination alone. In dissenting from this view, I would remind them that even the discovery of the virus of smallpox and parasmallpox as identical organisms does not necessarily settle the question. A simple analogy will explain what I mean. The so-called *Micrococcus Militensis* (in reality a short bacillus) discovered by Bruce as the cause of Malta or Mediterranean or Undulant Fever in man is quite indistinguishable to bacteriologists from the *Bacillus Abortus* of Bang which causes contagious abortion in cattle. Yet nobody would think of suggesting that Undulant Fever and Contagious Abortion are the same disease.

Similarly, no discovery which the sciences of bacteriology and immunology may make in regard to smallpox and parasmallpox can bridge the wide clinical gulf between the two diseases.

Fixity of Type.

Granted that under the name smallpox there exist two diseases clinically distinguishable, the virulent disease commonly known as smallpox and this other mild avirulent and comparatively harmless disease which I have called parasmallpox, there still remain for discussion the crucial question:—

Do these two diseases breed true to type indefinitely under all conditions? In other words, can the mild disease, parasmallpox, be trusted implicitly to remain mild and relatively harmless, and never under any circumstances, known or unknown, assume the virulence of smallpox?

It is unnecessary to emphasise the practical importance of a correct answer to this question. Upon the answer depends administrative action influencing the lives of thousands of sufferers from the disease and involving the expenditure of large sums of public money. It is necessary to examine the evidence with an unbiased mind, and, above all things, to avoid confusing the issue with the vexed question of vaccination. So far as experience in Derbyshire goes the answer is in the affirmative. During the four summers and three winters the disease has preserved the same average level of virulence. The cases in hospital to-day are exactly the same as those seen 3½ years ago. The same fixity of type has characterised other extensive outbreaks of this disease at home and abroad.

Under these circumstances, how does it come about that the view of the majority and more particularly the official view is that this disease is merely smallpox of depressed virulence which may and does, under largely unknown circumstances, revert to a virulent type and become classical smallpox? Let us examine the evidence on which this view is based, i.e., the occasions on which the mild disease is alleged to have acquired the virulence of smallpox.

Criticism of the American Evidence.

Those who believe in the power of mild disease to acquire the virulence of smallpox frequently point to the course of events in America where smallpox is stated to be resuming its severe form after a period of extreme mildness and low mortality. It seems to be forgotten that this change is readily explained on the hypothesis of a change in the relative incidence of two diseases, one of which is mild with a mortality of nil and the other severe with a mortality of anything up to 40 per cent. By mixing these diseases in varying proportions you can obtain a total case mortality rate of any figure from nil to 40 per cent. This explanation of the American experience is just as reasonable as the hypothesis that the increasing mortality from smallpox in America is due to the enhanced virulence of a single disease.

Let us examine more closely a specific instance in the American epidemiology of smallpox of "the mild type suddenly assuming virulence," namely the outbreak at Windsor, Ontario, in the early part of 1924.

The English Journal, the *Medical Officer* of April 5th, 1924, devotes its editorial article to a commentary on the official circular of the Provincial Board of Health of Ontario, issued to the Medical Officer of Health of the province. The editorial says:—

"It appears that in the last quarter of 1923 there was a mild epidemic of smallpox in Detroit on the other side of the boundary between Canada and the United States, whence cases were traced to the Canadian border towns, including Windsor where there occurred in February a fatal case of haemorrhagic smallpox, in an unvaccinated man, which was not, however, definitely diagnosed as such until after his death, and when persons who had been in contact with him were taken ill with the disease in a particularly virulent form. Up to 3rd March there were 40 cases with 12 deaths in Windsor, and in the adjoining districts there were 20 cases—6 of which proved fatal. As many as 42 cases were traced to the undiagnosed case, the origin of which, however, it was not found possible definitely to determine; in all probability it was due to the Detroit outbreak—an instance of a mild type suddenly assuming virulence."

The official circular from which this description is culled mentions an alternative source of infection, namely "the northern part of the province where irregular types of smallpox are often seen." This is omitted in the *Medical Officer's* commentary. Another significant fact inadvertently omitted from the article referred to is mentioned in the official circular in giving a classification of the Windsor cases.

- (a) *Mild cases in individuals with a history of an old successful vaccination over twelve years ago, also an occasional unvaccinated case who had been infected in Detroit.* (The italics are mine.)
- (b) Severe confluent and semi-confluent cases all in unvaccinated persons.
- (c) Haemorrhagic cases all in unvaccinated persons and all fatal.

From this classification the interesting fact emerges that, far from being an instance of a mild type of smallpox suddenly assuming virulence, this was actually an example of the mild Detroit disease preserving its mild type, even in unvaccinated persons in Windsor, in the midst of an outbreak of smallpox of overwhelming severity and high mortality.

The South Africa Evidence.

Let us turn now to the South African evidence. In "The Lancet," of October 14th, 1922, Dr. J. A. Mitchell, Secretary for Public Health and Chief Health Officer, Union of South Africa, contributes an important article on "Smallpox and Amaas in South Africa." He states emphatically that the mild disease commonly called "Amaas" in South Africa "is merely a form of smallpox ordinarily mild and with low mortality, but

capable, under largely unknown conditions, of taking on virulent characters and causing the severe disfiguring and highly fatal type of classical smallpox." He further asserts that—

"Here, in South Africa, the belief amongst some medical men and a large section of the public that the disease is not smallpox, and that it is of permanently mild type and comparatively unimportant, has repeatedly led to unfortunate results."

According to Dr. Mitchell "every Government health officer in South Africa during the past twenty-five or thirty years has come to the same conclusion."

This opinion coming from such high authority calls for the most careful examination of the evidence upon which it is based. Dr. Mitchell in the course of the article quoted gives four instances where a mild strain of infection, causing disease of the type commonly known as Amaas, has become virulent, the later cases being severe and in all respect typical smallpox, with a high mortality rate. These were:—

(1) In 1898 Port Elizabeth had 96 cases with 29 deaths (case mortality 30 per cent.) following infection introduced from Graaff Reinet where there was an outbreak of the ordinary mild type.

(2) Early in 1904 cases of the disease "of remarkably mild type" occurred in the Ixopo district of Natal, the disease subsequently spreading to Estcourt where, "owing to the mildness of its manifestations, it escaped early detection under the assumed garb of chickenpox."

The infection later became disseminated throughout the greater part of Natal and took on very virulent characters. The final statistics of the epidemic show a total of 1,238 cases with 361 deaths—a case mortality of 29 per cent.

(3) An instance of a similar kind has occurred under Dr. Mitchell's own observation and is described by him in these words:—

"In 1900 I was research bacteriologist to the Robben Island Leper Asylum. There was at the time some sporadic prevalence of mild smallpox or amaas in the southern suburbs of Cape Town and the Malmesbury district adjoining, and people from these areas daily came to the Island to visit friends in the Asylum. The first two cases were very mild, but a large percentage of the subsequent ones were typical smallpox of disfiguring and dangerous type. Twenty-one cases in all occurred with eight deaths, a case mortality of 38 per cent. The patients, all coloured female adults, were lepers, but most of them were strong and in good general health."

(4) "Again, in 1903, whilst I was at Port Elizabeth dealing with an outbreak of plague, cases of smallpox of the usual mild type occurred amongst natives of the Sunday's River Valley, south of Graaff Reinet. The disease spread down the Valley and eventually to the town of Port Elizabeth. The earlier cases were very mild but later the type became much more severe. The final figures for the outbreak show 222 cases with 17 deaths—a case mortality of 7.6 per cent."

Criticism of Dr. Mitchell's Evidence.

This South African evidence is entirely unsatisfactory for the reason that in none of these four instances are we furnished with an analysis of the statistics giving the number of cases and the number of deaths before and after the alleged change in the virulence of the disease.

The evidence required to satisfy a critical mind on this "change of type of disease" is

- (a) the occurrence of a considerable number of cases of the mild disease of the character described in this article without a death (deaths from other causes excepted). The larger the outbreak of the mild disease without a death, the better is this evidence because it establishes more firmly the mild pedigree.
- (b) Reasonably convincing evidence that direct infection from this mild source caused smallpox of virulent type with high mortality amongst a sufficient number of patients to exclude constitutional disease or infancy or senility as contributing factors in the fatal result. To make this evidence reasonably convincing the possibility of another source of infection of virulent smallpox in the vicinity should be excluded.

As already indicated, Dr. Mitchell's evidence does not satisfy these requirements. In each instance all we are told is that the early cases were "of mild type" or "of remarkably mild type."

In order to ascertain precisely what Dr. Mitchell meant by the "sporadic prevalence of mild smallpox or amaas in the southern suburbs of Cape Town and the Malmesbury district adjoining," which he suggests was the origin of an outbreak of virulent smallpox with a case mortality of 38 per cent. amongst the lepers on Robben Island, I asked the Medical Officer of Health, Cape Town, if he would be good enough to furnish me with information about the cases occurring in Cape Town and district in 1900. Dr. T. Shadick Higgins has very kindly sent me a copy of such descriptions of the cases as were

actually recorded in the register of cases treated at the Cape Town Smallpox Hospital.

The Robben Island outbreak commenced in October, so that the group of 13 cases recorded in the register for August and September, 1900, would appear to be the cases involved.

Of these 13 cases:—

- 2 are described as fatal,
- 3 " " " severe confluent (one with loss of one eye),
- 1 is " " " confluent,
- 1 " " " mild confluent,
- 1 " " " medium discrete,
- 4 are " " " mild discrete,
- 1 is not described.

13

I venture to submit that, had Dr. Mitchell consulted the records before writing his article, he would not have described these cases as a "sporadic prevalence of mild smallpox or amaas." I further submit that his opinion that mild smallpox or amaas becomes virulent smallpox, is not supported by any evidence which will bear looking into.

Conclusions.

- (1) Parasmallpox is a disease sui generis.
- (2) It is distinguishable clinically from smallpox on the one hand and chickenpox on the other.
- (3) It preserves its type as rigidly as does smallpox or chickenpox or any other of the acute specific infectious diseases.
- (4) Its mortality amongst healthy subjects is nil, and there is no good evidence to show that the disease ever assumes virulence.
- (5) Vaccination with the calf lymph used to protect against smallpox is equally protective against parasmallpox.
- (6) Administrative measures for the control of the disease could with advantage be modified in the light of these conclusions.

Discussion.

The President of the Group (Dr. C. B. Ker, Medical Superintendent, City Hospital, Edinburgh), voiced the indebtedness of the meeting to Dr. Garrow for the trouble he had taken in compiling a most interesting record and going into the histories of so many cases. Their best thanks were due to him for the admirable way in which he had put the matter before them.

Dr. William Butler (London County Council Health Department) expressed agreement with the reader of the paper and said that in his view

they had a disease so distinct from smallpox as to deserve another name and to be treated quite differently. One striking point in relation to this so-called para-smallpox was that they were faced with a disease that did not kill, whereas in smallpox one-third of the cases proved fatal. That in itself was a significant fact and would lead to a desire to know the points of identity with smallpox, with which it had been associated; apart, however, from its reaction to vaccination there appeared to be none. Considered epidemiologically it presented an entirely different picture from that of the outbreaks that had occurred for some years past. While smallpox epidemics in this country had been of comparatively short duration, this para-smallpox, as it was termed, has been endemic, chiefly in the North of England, for nearly ten years. It was a striking thing that para-smallpox had not been met with in London; if smallpox occurred in the metropolis it was smallpox.

Dr. A. F. Cameron (Medical Superintendent, River Hospital Service, Metropolitan Asylums Board), said that clinically the so-called para-smallpox and smallpox seemed to be identical. The most important condition to be dealt with was the fact of vaccination. Smallpox anti-vaccine was a material derived definitely from cases of smallpox as they recognised it. That vaccine protected against itself, in other words, a vaccinated patient could not be vaccinated again within a reasonable time. It protected against smallpox—that was acknowledged. It also protected against para-smallpox. If they had a disease clinically indistinguishable from smallpox they had the three sets of facts—vaccinia, alastrim, and smallpox. Surely it meant that para-smallpox was simply a milder form of the disease from which that vaccine was derived. Dr. Butler had pointed out that London rather appeared to be free from smallpox and the reason for this was solely that the local authorities in the metropolis were so vigilant against an epidemic and had got their method of dealing with an outbreak of smallpox so crystallized and immediate in its effect that the disease had no chance.

Dr. J. B. Byles (Medical Superintendent, Brook Hospital, Metropolitan Asylums Board) agreed with Dr. Cameron that it was very difficult if these diseases were indeed separate entities that vaccination should protect equally against both. He noted that the situation was entirely different from that in the case of para-typhoid and typhoid in which the vaccine that protected against typhoid

did not protect against para-typhoid, and vice versa.

Dr. Frederic Thozason (Medical Superintendent, North-Eastern Hospital, Metropolitan Asylums Board) said that Dr. Cameron and Dr. Byles had expressed his views exactly. He added that he did not think that the reference to the disease being a non-fatal one was a very important point. The same sort of thing happened with scarlet fever.

Dr. Andrew Balfour, C.B., C.M.G. (Director, London School of Hygiene and Tropical Medicine) remarked that he would have been glad if Dr. Garrow had considered the matter more from an historical standpoint, and had told them what the old clinicians had thought about it. The point in regard to para-typhoid he considered a very strong one. It seemed unfortunate that the term "para-smallpox" had been employed for the condition partly for the reason that they would be landed with "parasmallpox" A, B, C, and so on, and it was as well not to multiply the nomenclature in that way. One would like to ask if Dr. Garrow was quite confident that the disease was identifiable with alastrim, which had been described in many parts of the world. In Trinidad the matter had been carefully gone into some years ago and the conclusion reached that alastrim was only a smallpox running in a mild form.

Dr. Butler, invited to speak again, referred to the lack of identity in the two diseases. Smallpox was one of the most definite and constant diseases they had, and conformed well to type, whereas parasmallpox was most variable, and the course of the disease was not like that in smallpox at all. Scarlet fever, it was true, had had its fatality rate very greatly reduced, but one never knew which case was going to revert to the old type. In parasmallpox this reversion did not take place. With such differences as those to call them by the same name was to fail to recognise what was quite definitely a different thing, however related it might be to smallpox. When they were able to put parasmallpox in its place their etiology of smallpox would be considerably enlarged.

The President remarked that it was interesting to note that the disease had not shown itself in those parts of the country where most attention had been paid to vaccination. So far as he knew they had not seen a case of that particular type of smallpox across the border. Scotland had been an extremely well vaccinated country for many years and only recently had lost ground in that respect. Re-vaccination so far as the Lowlands

were concerned had been very efficiently carried out at about ten yearly intervals during the last thirty years. One could not help feeling that if there were a drifting into the attitude that the diseases were separate and there was no attempt to meet it by vaccination they might at any time be faced with a catastrophe, though, of course, it might be said that there was an advantage in letting it run broadcast as it would take the place of vaccination. The President concluded by saying that he should be disinclined to admit that there were two different diseases.

Dr. Garrow replied to a number of questions and said he was pleased to find that he had, at any rate, one speaker (Dr. Butler) agreeing with him, and he insisted with him that in spite of what had been said to the contrary the clinical differences between these diseases when compared in the mass were numerous, striking, and constant.

A hearty vote of thanks was accorded to Dr. Garrow for his paper.

THE TEACHING OF PREVENTIVE MEDICINE AND THE TRAINING OF PUBLIC HEALTH STAFFS.

At the meeting of the Society held on Friday, December 12th, 1924, a discussion took place on "The Teaching of Preventive Medicine and the Training of Public Health Staffs."

The President, Dr. R. A. Lyster, in asking Dr. Kenwood to open the discussion, said that the subject to be dealt with, though neglected in the past, was one of the utmost importance to them as a Society, and it should be their immediate aim to influence both under-graduate and post-graduate training, and to obtain control of the means of entry to the public health service, for if they could do so most of their grievances as a service would be in their own hands. It was necessary to create a definite bias for the preventive aspect of medicine: public health and preventive medicine were still given a very small part in the medical curriculum, and it was a matter for regret that the revised syllabus issued by the General Medical Council failed to remedy the state of affairs to any extent. The teaching of the under-graduate in preventive medicine was characterised by extraordinary irregularity in different schools, and in some schools it was for all practical purposes absent. Even in qualifying examinations there was a marked divergency in the standards required, and in some qualifying examinations there was apparently no real requirements in the subject of public health.

Post-graduate teaching was similarly characterised by extreme irregularity, due largely to the entire lack of supervision or co-ordination. As the result of the present system men were gaining entrance into the public health service without such training and qualifications as were obviously desirable, both in the interests of the public and of the public health service. The new D.P.H. regulations gave great opportunities for improvement and he (Dr. Lyster) was able to announce with very great pleasure that a committee of the Society had been set up to deal with a very important matter in connection with the new D.P.H. Regulations, *viz.*, the framing of minimum conditions under which it could recommend its members to sign the certificate of candidates as having completed six months training in practical public health work. In dealing with the whole question the Society had the valuable co-operation of the Director of the new School of Hygiene, and they were delighted to know that he viewed the subject from a standpoint similar to their own.

Prof. H. R. Kenwood, C.M.G., said that at the present time it was considered that the medical undergraduate's time was so fully taken up by what were regarded by the medical profession generally as subjects of so much greater importance than hygiene that there was the greatest difficulty in obtaining a bare three months of two meetings a week in which to convey a knowledge of personal hygiene and to endeavour to create the thought and action of preventive medicine in the student. The work had always seemed to partake very largely of the nature of propaganda, and the first concern of the propagandist was to get to know something of the ways of the people upon whom he wished to make an impression. It was necessary to bear in mind the mental attitude which the medical student would continue to adopt towards the prevention of disease. Trained in an atmosphere of diagnosis and cure the direct results of treatment appealed to him, and he asked how prevention concerned him, for were there not medical officers of health whose special work it was to inform the public in such matters. Those lines of thought must be assumed when tackling medical students, and must be encountered, in the first lecture which, so far as the speaker was concerned, dealt with the aims, scope and benefits of preventive medicine and indicated the following essential facts: that preventive medicine included all diseases which knowledge and care could prevent; that the aim of preventive medicine is mainly to protect against disease, but that it also aimed at securing the early diagnosis, treatment and cure of all disease—again for preventive reasons; that the application of the laws of healthy living has a value not only in preventing

disease, but also in curing it. The importance of prevention was being appreciated more and more by the general public and questions to the general practitioner on the subject would greatly increase, and he must know how to answer them. Under the National Insurance scheme the doctor had a close personal interest in keeping his patient well, and with the extension of that scheme, which was inevitable, his interest would grow greater still. The subject of preventive medicine was what might be termed a two-handed job. In the first place, the teaching must be partly done by the physicians and surgeons in the hospitals of the medical schools, and secondly it must be carried out by a specialist public health lecturer. Thirdly, both must be helped by the chief medical and surgical text books read by students. There should be collaboration with the present authors of text books with a view to the addition of suitable paragraphs on the lines of prevention in regard to each disease. By that means the student would grow to connect the two, and would be impressed by the important relation between them, and when thinking of one would be trained to think of the other. The soil would thus be well prepared and the student would come to them in a much more sympathetic frame of mind than he did at present. As to the public health lecturer, judging from results he had not been a success in the past. He had not attuned his subject to the needs of his audience, and as a rule had not "got home." Devoting the major portion of time to sanitary appliances and such like he had said relatively little of preventive medicine. Owing to the lack of appeal to the students in one school with which he was acquainted the attendances had dwindled until out of a class of from 60 to 80 at the beginning of the course, it had not been uncommon to find only two sit for the class examination at the end. Under an entirely different procedure, details of which Prof. Kenwood gave, the numbers were not only better maintained, but judging from the number who later proceeded to the D. P. H. examinations, a definite liking for preventive medicine had been obtained. There was also the necessity for enabling the student, by visits to maternity and child welfare centres, tuberculosis dispensaries, venereal disease clinics, and so forth, to see something of what was being done on preventive lines. Referring to the new D. P. H. regulations, Prof. Kenwood held that they called for too many lectures, though it was understood that a broad interpretation could be put upon the term "lecture" and that it would not be necessary to get in so many set lectures as the new regulations appeared to indicate. He had always held the view that there was no need to give lectures to medical undergraduates on matters which

were dealt with in the text-books they were advised to read. The Seminar system, though not suitable for the undergraduate, worked well in a post-graduate course, for the post-graduate man knew how to read his text-books. The effective lecture in hygiene and public health was the man engaged in public health work as well, and who could supplement his teaching by drawing on his own experiences. There were objections to the engagement as teachers in public health of those who were pure chemists, pure physicists, or indeed, pure anything in science. The extension of time laid down in the new regulations he greeted as a step in the right direction. As the question of what arrangements should be made for making the most of the six months training was receiving the consideration of the Society he would not, at that stage, venture to offer any suggestions. In conclusion, Prof. Kenwood referred to the need in this country of a good public health museum on the lines of those to be found on the Continent. The Parkes Museum dealt in an excellent way with one side of the subject—sanitary appliances, etc., but the hygiene museum he had in mind would cover a wider field and include models, capable of being taken to pieces, of hospitals, sewage works, water works, the equipment of clinics, etc.

Dr. Andrew Balfour, C.B., C.M.G., expressed his great pleasure at being able to co-operate with the Society in carrying out the principles of the new School of Hygiene. He proceeded: Let me say at the outset that I read a different and, as I now know, an erroneous meaning into the title of the discussion. As this is a Society of Medical Officers of Health I thought, perhaps naturally, that the teaching of preventive medicine was intended to refer to the instruction given to students preparing for diplomas, and degrees in public health, and that the training of public health staffs was meant to indicate the methods of imparting knowledge in the office, and the field to those who assist the M.O.H. in the carrying out of his duties. Perhaps you would kindly bear this in mind when listening to what follows. (Dr. Balfour's paper appears on p. 135).

Prof. A. Bostock Hill said that the training of the medical officer of health must begin with the medical student, and the first essential was to inculcate the idea of prevention. In the past the medical student had received very little instruction in hygiene and preventive medicine, and those subjects in which he had been instructed had not been dealt with on the lines of prevention rather than cure. One could not help teaching hygiene according to what had been demanded by the examination and accentuated in the text-books, which had not advanced in the same sense that as science of preventive medicine had. Public health had altogether

altered its scope, and it was necessary to impress upon the minds of examiners the importance of prevention. In referring to the Insurance Act, Prof. Hill held the view that it had been a powerful lever in giving to the public and to the profession the idea of prevention, and he believed that they of the preventive service were going to benefit immensely by the insurance service. The Seminar system he, of course, approved of, and added in regard to the delivery of lectures that there should be an endeavour to give the facts of hygiene through one's own mentality and personality. Though beginning life as a Professor of Chemistry, he was convinced from his own personal experience as a teacher that there was nothing more fallacious than the handing over of the scientific teaching of the student in public health to the pure scientist in the chemical laboratory.

Dr. E. Colston Williams (County Medical Officer, Glamorgan), pressed the need for the social training of the student in relation to public health, and suggested the giving of a preliminary notion that theoretical hygiene was only applicable with certain limitations. Knowledge of the organization of society, the actual condition of the people in their homes, and at their work, though it took time to acquire, was essential.

Col. H. P. W. Barrow, C.M.G., D.S.O., O.B.E., (Director of Hygiene, War Office), remarked that in his view the Seminar system was a very essential method of teaching. In the Army they went even further by encouraging the men to lecture, and he was certain the scheme had very far-reaching results.

Dr. W. W. Jameson (Medical Officer of Health, Finchley) said that in his opinion the new regulations for the D.P.H. had endeavoured to substitute a theoretical course for what should be a purely practical experience. The people who had done best of all in their public health training, were those who had been qualified for a number of years and had not wasted their time during that period. After a period of residence at a hospital and in private practice, the practitioner acquired a proper viewpoint in medicine, and was more likely to be a better public health servant than the man who had seized the point of view from the beginning and stuck to it right through. The science of administration could be learned only by the contact obtainable in actually doing the work, but there seemed to be an attempt to cram into a theoretical course those things which were better learned in the rough and tumble of public health work.

Lieut.-Col. J. A. Anderson (Royal Army Medical College), urged that in dealing with the

undergraduate much more emphasis should be placed upon hygiene as a science of health in the surroundings of daily life. Objection had been taken to the old system of teaching in regard to chemistry, but it seemed to him that in the present post-graduate training in public health there was a tendency to make the same error in regard to bacteriology, which would certainly not form part of the duties of the public health officer of the future. Another aspect was the teaching not of the undergraduate or of the post-graduate student, but of the great mass of the general public, for after all, the ideal aim was to teach them to lead the healthy life that was to promote their physiological and mental fitness.

Dr. E. W. Goodall, O.B.E. (Medical Supt., N.W. Fever Hospital, Metropolitan Asylums Board), referred to the difficulties occasioned by overlapping in the arrangements for public health teaching in London, and gave details of instances that had come to his notice as a teacher. There appeared to be a want of collaboration and co-ordination between the teachers in the metropolis, which he gathered was not the case in the provinces.

Dr. E. H. T. Nash (M.O.H., Heston and Isleworth), said that it was an excellent arrangement to set aside a certain portion of each lecture period for questions. The students were greatly interested in asking questions, and these could be answered either in class or individually, afterwards.

Prof. Kenwood, invited to reply to points raised, said that he quite agreed with Dr. Colston Williams that it was important to see that students made themselves familiar with the setting in which their work would lie. He agreed, too, with Dr. Goodall, that there should be more collaboration between the teachers in London.

Dr. Balfour also made reference to several matters, expressing agreement with the view that chemistry and physiology could be better taught by someone who knew how to apply the subjects in their public health aspects. A difficulty of the new school in this connection was that it was not only a teaching institution, but was to carry out research work. He hoped the School itself would form a co-ordinating force the need of which Dr. Goodall had voiced, and that all would work together for the good of the service and of humanity.

PROFESSOR CHARLES HUNTER STEWART, F.R.S.E., M.B., C.M., D.Sc., of Melville Street, Edinburgh, Professor of Public Health in the University of Edinburgh, who died on 30th June, aged 69, left personal estate in Great Britain valued for probate at £23,461.

Society of Medical Officers of Health.

COUNCIL MEETING.

A meeting of the Council was held on Friday, 16th January, 1925, the President (Dr. R. A. Lyster), in the chair. There were present Lord Dawson, Lt.-Col. F. E. Fremantle, M.P., Drs. Banks, Sanders, Garstang, Flemming, J. T. C. Nash, Snell, Stocks, G. F. Buchan, Porter, Cates, Barlow, Frederic Thomson, Fenton, Veitch Clark, Wheatley, Wilshaw, Joseph, Ridley Bailey, Mililgan, R. D. Pedley, Beard, Stirk and Eustace Hill.

Apologies for absence were received from Prof. Kenwood, Dr. G. H. Pearce, Prof. F. E. Wynne, and Dr. Thos. Evans.

The minutes of the last meeting were approved and signed.

Correspondence.—(1) From the Sanitary Inspectors' Association in reference to the Local Government and other Officers Superannuation Bill. It was agreed to co-operate with the B.M.A., N.A.L.G.O., and other bodies to secure an amendment giving Local Authorities power to add years of service (up to 10) to employees possessing specialist qualifications not ordinarily acquired in the service of the Authority when calculating allowances under the Act. (2) From the Maternity and Child Welfare Group, notifying the election of Dr. R. W. Stocks to the Council, in place of Dr. Scurfield, resigned. (3) From a County Medical Officer forwarding the decision of an Inspector of Taxes explaining that while subscriptions to Societies and Journals were tax-free in the case of Medical practitioners under Income Tax Schedule D, medical men in the service of Local Authorities were assessable under Schedule E, and subscriptions were allowed exemption "only in those cases in which continued membership is an *indispensable* condition of the tenure of the particular appointment." It was agreed that the Ministry of Health should be asked to take steps in this matter so that medical officials might enjoy the same exemptions from taxation in regard to subscriptions to Societies and Journals as are allowed in the case of private practitioners.

The Royal Commission on National Health Insurance.—The special Committee appointed to draft a memorandum of evidence for submission before the Royal Commission presented their report which was discussed in detail and adopted with amendments. Lord Dawson, Dr. Flemming and others spoke in high terms of the able way in which the Memorandum had been drafted and the President expressed the thanks of the

Council to Dr. J. J. Buchan (chairman), Dr. Fenton (Hon. Sec.), and the other members of the Committee. It was agreed that the President and Dr. J. J. Buchan should give evidence before the Royal Commission on the lines laid down in the Memorandum.

[The revised Memorandum will be published in an early issue of "Public Health."]

The Scale of Salaries.—Dr. G. F. Buchan submitted the following report of the Salaries Committee:

1. Your Committee report that they met at the Society's House on Friday, 9th January, 1925, at 2.30 p.m. Present: Dr. George F. Buchan (in the chair), Drs. Lyster, Wolsey, Stocks, Cates, Petgrave Johnson, Joseph, A. E. Cameron, Barlow, Ward, C. J. Thomas, Sanders, Kenwood, Howarth and Snell.

2. Your Committee have had under careful consideration a letter addressed by the Ministry of Health dated 28th July, 1924, to the Associations of Local Authorities on Public Health Salaries and various communications thereon. They consider that the attention of the British Medical Association should be directed to the following matters which they do not consider to be satisfactorily dealt with in the letter of the Ministry and hope that the British Medical Association will be able in the near future to secure the necessary alterations:—

- That the British Medical Association has not the same right as Local Authorities to submit a case to the Committee to be set up for the adjustment of salary disputes.
- That the minimum salary of £800 for whole-time Medical Officers of Health has been reduced to £750.
- That three scales of salaries have been adopted for whole-time Medical Officers of Health.
- That the wide range of the scale of salaries for Senior Medical Officers is likely to lead to constant attempts to pay these responsible officers on the minimum scale with consequent disputes and the general disrepute of the agreed scales.
- That the abolition of definite annual increments up to at least 25 per cent. of the minimum makes no provision for subsequent increases as with an agreed scale reasonable annual increments which are at present the exception will become almost unknown.
- That the wider limits of population adopted for purposes of enabling Local Authorities to exercise discretion in fixing minimum commencing salaries is likely to operate unfairly and lead to dissatisfaction and disputes.
- That the range of minimum commencing salaries between minima and maxima is likely, almost invariably, to result in a Local Authority within the limits of population fixing the salary on the lower limit of the scale. It should be stated that Local Authorities are expected to fix their minimum commencing salaries reasonably in accord with their population unless special circumstances are shown.

3. Nevertheless the Salaries Committee desire to express their appreciation of the work that has been done by the British Medical Association and would desire to thank the Council of the Association and particularly the Chairman, Dr. Bolam, and Dr. Cox, Secretary, for their

strenuous labours on behalf of the Public Health Service. The Salaries Committee fully appreciate the difficulties which have confronted the negotiators and in all circumstances recommend the Council to adopt the following resolution:—

- That the Council of the Society of Medical Officers of Health are prepared to accept the scales of salaries set out in the letter of the Ministry of Health dated 28th July, 1924, and addressed to the Associations of Local Authorities on Public Health Salaries provided there is substantial agreement.
- That in the absence of substantial agreement the British Medical Association be asked to convene an early conference with the Salaries Committee to discuss the position created.
- That the best thanks of the Council of the Society of Medical Officers of Health be tendered to the Council of the British Medical Association and particularly to Dr. Bolam and Dr. Cox, Secretary, for their strenuous labours on behalf of the Public Health Service.
- That a copy of this report be forwarded to the British Medical Association.

The Report was adopted *nem. con.*, and on the proposal of Dr. Cates a cordial vote of thanks was passed to Dr. G. F. Buchan for the untiring services which had done so much to bring about the recognition of a Scale of Salaries by the Ministry of Health. The vote of thanks was extended to the Executive Secretary for his work in the same connection.

The Council approved the attendance of the Salaries Committee at a conference with representatives of the B.M.A. on January 29th, 1925, when it was agreed that the Association should be asked (1) to take further action in reference to the letter from Ministry of Health dated July 28th, 1924, on Public Health Salaries; (2) to consider what steps can be taken to improve the position of existing medical officers under Local Authorities; (3) to consider the desirability of issuing a general warning under "Important Notices" in the *British Medical Journal*, without specifying the Local Authorities concerned.

In reference to the grading of officials by Birkenhead Corporation, the Council agreed that the B.M.A. be asked to indicate that the salary of the existing medical officer of health should be £1,300, and that if necessary the Corporation be asked to receive a deputation in support of this recommendation.

Milk Legislation.—Recommendations adopted by the Council of the National Clean Milk Society in regard to immediate future milk legislation, were discussed and generally approved.

Representation of the Society.—The following were elected as representatives of the Society (a) *Central Midwives Board*: Dr. R. A. Lyster; (b) *Sanitary Inspectors' Examination Board*: Dr. R. A. Lyster, Dr. T. W. Naylor Barlow, Dr.

E. H. Snell; (c) *National Milk Publicity Council*: Dr. James Wheatley; (d) *B.M.A. Parliamentary Sub-Committee*: Dr. Snell; (e) *B.M.A. Factory Acts Sub-Committee*: Dr. Cyril Banks; (f) *B.M.A. Insurance Acts Committee*: Dr. Fenton; (g) *General Council for Registration of Plumbers*: Dr. Porter; (h) *Dental Board (Propaganda Committee)*: Dr. J. Wheatley.

Vacancy on Council.—Dr. J. Howard-Jones was elected to the vacant seat on the Council under No. 19(d) of the Society's Articles.

County Surveys.—The Council expressed approval of a model county survey submitted by the Naval, Military and Air Force Hygiene Group. It was agreed to forward copies to the Ministry of Health, Admiralty, War Office and Air Ministry, asking if the completion of similar surveys for other counties would be of assistance to those departments in the event of a national emergency.

Circulation of Questionnaires.—Dr. Barlow drew attention to a questionnaire circulated by a voluntary organisation in reference to Ante-natal Work, and reported a resolution of the N.W. Branch to the effect that information of the kind suggested should only be supplied through the Society. The resolution of the N.W. Branch was adopted and the Executive Secretary was directed to communicate its terms to other Branches.

Co-operation with Life Assurance Companies.—The Council adopted the following resolution forwarded by N.W. Branch:

"That it be a recommendation of this Branch to the Council of the Society that steps be taken to set up (if this be found possible), a joint standing Consultative Committee, composed of representatives of Life Insurance Companies on the one hand, and of Medical Officers of Health on the other, with the following objects: (a) to interchange statistical and other information; (b) to discuss problems of common interest; (c) continuously to promote the work of preventing disease and prolonging life."

It was agreed that a circular should be addressed to the Insurance Companies asking if the above proposal met with their approval and suggesting a preliminary conference to discuss the formation of a Joint Committee.

Dental Dressers.—Communications were received from the School Dentists' Society and Dr. Sidney Barwise in reference to the employment of dental dressers. It was agreed to appoint a committee consisting of Drs. Sanders and Milligan to represent the Council, and two nominees of the Dental Group, with the President as chairman, to discuss the communications and report their recommendations to the Council.

Poor Law Officers' Superannuation Act, 1896.—Following on representations of the Fever Hospitals Medical Service Group, the Council adopted the following resolution:

"That the attention of the Council of the Society of Medical Officers of Health has been directed by many of the members of the Society to the disability suffered by the dependants of Medical Officers who, being subject to the provisions of the Poor Law Officers' Superannuation Act (1896), die in service, in as much as no dependants shall become entitled to benefit accruing from the annual deductions made from the salary of the deceased officer and humbly pray that the Act should be amended in order that the claims of the dependants of deceased officers shall receive statutory recognition."

Committee Meetings.—Dr. Barlow having drawn attention to the difficulties of provincial members in regard to attendance at committee meetings it was agreed that as far as possible such meetings should not be held on the same days as Council Meetings.

Special House and Journal Committee.—On the proposal of Dr. Snell the Council adopted the appended report for the consideration of the Branches and Groups.

The Council then adjourned.

REPORT OF SPECIAL HOUSE AND JOURNAL COMMITTEE.

1. Your Committee have held three meetings and have carefully considered the matters referred to them in respect of the house and journal of the Society.

1, Upper Montague Street.

2. In accordance with the resolution of Council (21st November, 1924), the Solicitors of the Society have investigated the lease of this house and it is expected to complete the purchase on January 31st next. The Society's bankers have approved the necessary arrangements for financing the purchase.

Journal.

3. The present cost of "Public Health" is approximately £1,000 per annum and the income from "Public Health" by way of advertisements, sales, etc., is about £600 per annum. The net cost per annum therefore is about £400 per annum.

4. Your Committee has considered the matter of the publication of a quarterly journal of the nature of a scientific international public health journal. They have also considered the question of a monthly publication and a weekly publication.

5. Your Committee are unanimously of opinion that the Society should publish only one journal.

6. Your Committee are further of opinion that it is advisable to have a weekly publication for the following reasons:—

- To keep members well informed as to the work of the Society so as to maintain enthusiasm and increase membership.
- To keep members up-to-date with public health movements and methods.
- To present the public health point of view in connection with various questions which arise, recent examples being—the establishment and completion of a Ministry of Health, the Factories Bill before the last Parliament and National Health Insurance questions now before a Royal Commission.
- To maintain public health propaganda so that the public may be informed of the doings in the public health world and kept alive to the need for public health progress.
- To maintain propaganda as to the need for encouraging medical graduates of promise to devote themselves to the public health medical service provided proper terms of remuneration are secured.
- To serve as the means of linking up the work of Public Health Medical Officers with the work of private general medical practitioners and generally to promote good relations between these classes of practitioners and to maintain their common interests.
- To maintain the status and improve the conditions of service of Public Health Medical Officers.
- Generally to serve as the means of organising the Society and the Public Health Medical Service.

7. The weekly journal known as the *Medical Officer* has come to be regarded as fulfilling the majority of the functions which a weekly journal run by the Society would carry out. The *Medical Officer* has no official relationship with the Society of Medical Officers of Health but nevertheless has always given very valuable assistance to the Society and your Committee desire to record their appreciation of its work. Your Committee feel they would like to possess the *Medical Officer* as the official organ of the Society, but the cost is prohibitive having regard to the present resources of the Society.

8. At the present time the Society is no more than paying its way and the increased indebtedness caused by the termination of the existing lease of the house and the necessary purchase

amounting to approximately £150 per annum is likely to result in a debit balance, the income and expenditure of the Society for the past 7 years having been as follows:—

	Income	Expenditure	Credit Balance	Debit Balance
1917-18 ...	£977	£1146	—	£169
1918-19 ...	£1624	£1524	£100	—
1919-20 ...	£1972	£2042	—	£70
1920-21 ...	£2166	£2415	—	£249
*1921-22 ...	£2663	£2541	£122	—
1922-23 ...	£2876	£2853	£23	—
1923-24 ...	£2966	£2824	£142	—

* Annual Subscription of £1 1s. was increased as from 1st October, 1921, for whole-time Medical Officers to £1 11s. 6d. but not for part-time or retired Medical Officers.

9. The Honorary Treasurer in reporting on the financial position for the year 1923-24 made the following remarks as to arrears in subscriptions:—

"Many members do not pay their subscriptions within a reasonable time from the commencement of the session and many have failed to pay during the current session. Arrears of subscriptions for two or more years have also accrued in some cases. Altogether at 21st September, 1924, 286 members were owing £603 15s. These members have been communicated with on several occasions and some of this money has been collected since the date mentioned. The names of those still in arrears have been forwarded to Branch Secretaries. In the event of continued default I propose reporting the names of the members concerned to the Council with a view to further action. The trouble and expense of collecting overdue subscriptions is very considerable and I hope the Council will take a serious view of this matter."

Your Committee desire to emphasise the importance of this matter and to express the hope that all members of the Society will pay their annual subscriptions as soon as possible after the 1st October of each year and that members in arrears will immediately pay.

10. Having regard to all these financial considerations your Committee are unable to recommend the Council to embark on the purchase or maintenance of a weekly journal at the present time, but they feel that considerable improvements could be effected in "Public Health" as a monthly publication at an outlay which it is recommended the society should be prepared to meet.

11. Your Committee are of opinion that it is impossible to secure an Editor to devote the required time to the Journal of the Society without an honorarium, and we therefore propose that the 100 guineas per annum previously paid to the Editor be payable for the services of the next Editor or Editors appointed.

12. Your Committee consider it is especially desirable that funds shall be available for the collection and collation of information likely to assist members of the Society in the discharge of their duties. Complaint has recently been made

of the circulation of questionnaires by outside associations in reference to professional matters and it has been pointed out that enquiries of this kind should properly be conducted through the Society. It is a cause of congratulation that the headquarters of the Society is being increasingly consulted by members and public bodies on a wide range of matters so that the Executive Secretary finds it difficult to cope with the daily correspondence. In the opinion of your Committee the Society can render very valuable service both to the members and the community by justifying its claim to be the recognised clearing-house of all information in regard to Public Health Administration.

13. Your Committee further feel that the aims and objects of the society cannot be achieved, nor can the Society undertake the extended activities which your Committee consider essential unless some reserve is accumulated. At the present time there are approximately 1,730 members of the society of whom 1,000 pay £1 11s. 6d. and 730 £1 1s. To meet therefore the increased indebtedness occasioned by the purchase of a house, namely £150 per annum, and the payment of an honorarium to the editor, namely £105 per annum, and to accumulate a reserve for the acquisition of a weekly journal and to press home the continued need for the improvement of the status and conditions of service of medical officers of the public health service and efficient recruitment it is suggested that the subscription to the Society be increased by 10/6 all round. At the same time your Committee fully appreciate the difficulties and possible drawbacks which exist in the way of again increasing the membership subscription, but can see no other solution of the problems which the Society has to face. On the basis of the present membership this increased subscription should increase the annual income of the Society by £850, which should enable the Society to accumulate a reserve at the rate of £500-£600 per annum and achieve the objects enumerated in this report.

14. Your Committee feel justified in recommending this increase because of the large benefits gained by members as a direct result of the work of the Society, especially during the last five years. When normal working was resumed after the War it was agreed that the most pressing duty before the Society was to secure such terms of employment for our members as would attract and retain the right type of candidate for public health appointments. How much has been achieved in this direction is best realised

by comparing the advertisements appearing in the professional journals in successive years since 1918. Results so easily demonstrated convince your Committee that an increased payment of 10s. 6d. per annum should be regarded by medical officers as a moderate contribution towards the organisation that promotes and safeguards their interests.

15. Your Committee also desire to state that they find that the membership of the Society is approximately 1,730 while there is a potential membership of something like 3,000. Your Committee are of opinion that the membership could be raised to 2,500 and they would like to impress on the Council and on Branch Secretaries the importance to the Society of having the fullest possible membership not only so as to secure the financial position, but also to be able to assure the Government and Local Authorities that the voice of the Society is the voice of the service. The Society can only work for its members if its members will work for the Society and the best support the members of the Public Health Service can give the Society is by at once enrolling themselves as members.

In this connection it may be pointed out that medical officers of the Public Health Service who do not seek election to the Society are reaping substantial advantages at the expense of their colleagues. This matter should be discussed by every Branch and Group so that non-members may be urged to bear their fair share of the expenditure by which they benefit.

YOUR COMMITTEE RECOMMEND:—

- (1) That the Society publish only one journal.
- (2) That it is advisable for the Society to have a weekly publication.
- (3) That it is inadvisable to embark on a weekly publication until sufficient reserve funds are in hand.
- (4) That the annual subscription be increased by half-a-guinea (whole-time medical officers to pay 2 guineas, and part time and retired medical officers 1½ guineas) for the following among other reasons:—
 - (a) to meet the increased indebtedness (about £150 per annum) caused by the purchase of the house.
 - (b) to improve the present monthly publication of "Public Health."
 - (c) to give an honorarium of £105 to the editor.
 - (d) to accumulate a reserve so as to be able to publish a weekly periodical and to press home the continued need

for the improvement of the status and conditions of service of public health medical officers and generally to further the objects outlined in this report.

- (5) That it be impressed upon members that annual subscription should be paid within a reasonable time of the commencement of the financial year on the 1st October, and that all members in arrears should pay arrears immediately.
- (6) That it be impressed on Branch Secretaries and members generally that the membership of the Society can be effectively increased and that each member should act as a recruiting agent.
- (7) That the foregoing resolutions be forwarded to the Branches for their observations returnable not later than May 1st, 1925.

(Signed) E. H. SNELL,
Chairman.

Dec. 12th, 1924.

ORDINARY MEETING.

An Ordinary Meeting of the Society was held at 1, Upper Montague Street, W.C. 1, on Friday, January 16th, 1925, the President (Dr. R. A. Lyster) in the Chair. There was a good attendance.

The Minutes of the last meeting having been confirmed and signed, the following Candidates were elected to the Society:—

As Fellows: Brown, Isobel Campbell, M.B., Ch.B., Aberd., D.P.H.; Dowdall, Francis Joseph, M.B., B.Ch., B.A.O., N.U.I.; Evers, Henry, M.S., Durh., F.R.C.S.; Fulton, Adam, B.A., M.B., B.Ch., R.U.I., J.P.; Mackintosh, James MacAlister, M.A., M.D., Glasg., D.P.H.; Malcolm, Alexander John, M.R.C.S., L.R.C.P., D.P.H.; Scott, Mary, M.B., Ch.B., Glasg.; Watkin, Arthur Christopher, M.R.C.S., L.R.C.P., D.P.H.

A number of Candidates were nominated for election at the next meeting.

A discussion on "School Health Administration as an essential part of the general Public Health Department" was opened by Dr. T. W. Naylor Barlow and Dr. C. J. Thomas. Others who spoke were, Drs. Stocks, E. H. T. Nash, H. P. Newsholme, J. G. Forbes and Eustace Hill. A report of the discussion will appear in an early issue of PUBLIC HEALTH.

NORTH-WESTERN BRANCH.

A Meeting of the Branch was held in Manchester on Friday, 12th December, when there were present Dr. J. Beard (President) in the

Chair, Drs. T. W. N. Barlow, H. H. I. Hitchon, J. B. Wilkinson, J. J. Butterworth, E. H. Walker, J. M. Gibson, F. W. C. Brown, A. E. Glass, W. Allen Young, M. R. Grahame, H. Paul, W. H. Blackburn, F. Hauxwell, C. O. Stallybrass, J. E. Spence, F. T. H. Wood, Morley Mathieson, and G. W. N. Joseph (Hon. Secy.).

Dr. T. W. N. Barlow drew attention to a questionnaire that had recently been received from a Voluntary Organisation by some Medical Officers dealing with ante-natal work. He stated that in his opinion the Society of Medical Officers of Health ought to lead public opinion in all matters of health and that lay associations should not obtain this information direct and then claim credit for it.

Dr. F. T. H. Wood considered that the motive behind this circular was a good one and one must have some sympathy with it, however he was prepared to support Dr. Barlow if the Society would take some action that would obviate the necessity for outside organisations to make such inquiries. After further discussion it was resolved that "This meeting of the N.W. Branch is of opinion that it is not advisable that members should reply to the questionnaire before the matter had been considered by the Council of the Society and that it be a recommendation to the Council to take such steps as would obviate the necessity for outside organisations to send such circulars."

Dr. Morley Mathieson then read a most interesting paper on "Life Insurance Companies and the Public Health Service."

He discussed the comparatively recent evolution of the conception of the prevention of disease and the subsequent development of the Public Health Service and then sketched the rise of Life Insurance Companies from haphazard and highly speculative beginnings to their present position of great financial strength and scientific exactness of method.

Further he showed how the Life Insurance Service and the Public Health Service are equally concerned with the diminution of preventable sickness and the prolongation of life; and how each has accumulated an enormous mass of exact knowledge and experience which might, with the greatest advantage, be made accessible to the other.

In conclusion he moved a resolution "That it be a recommendation of this Branch to the Council of the Society that steps be taken to set up (if this be found possible) a joint standing Consultative Committee, composed of representative of Life Insurance Companies on the one hand,

and of Medical Officers of Health on the other, with the following objects:—

- (a) to interchange statistical and other information;
- (b) to discuss problems of common interest;
- (c) continuously to promote the work of preventing disease and prolonging life."

Dr. Wood seconded and expressed the view that each service had special experiences which ought to be pooled and he endorsed any attempt at closer co-operation for the advantage of the community otherwise there was a real danger that propaganda material might be left to be prepared by Medical Officers of Insurance Companies whose experience had been chiefly clinical.

Dr. Stallybrass referred to the work of Insurance Companies in America in investigating disease.

Dr. Barlow and the President also supported the motion which was carried *nem. con.*

A hearty vote of thanks was accorded to Dr. Mathieson for his excellent paper.

The Annual Dinner of the Branch was held at the Queen's Hotel, Piccadilly, the same evening when about 30 were present including among the guests, Alderman Jackson (Deputy and Ex-Lord Mayor of Manchester), Dr. Tom Watts, M.P., Professors Ramsbottom and Topley and Dr. Corsar Sturrock (Hon. Secy. Lancs. and Cheshire Division B.M.A.). The Right Hon. Stephen Walsh, M.P., and Colonel Sir Walter De Frece, M.P., were unfortunately unable to attend at the last moment.

The President of the Branch, Dr. Joseph Beard (Carlisle), was in the Chair. Alderman Jackson, in proposing the toast of the evening, congratulated the Society upon the fact that its objects were not devoted entirely to the interests of its own members, but to the improvement of a Public Service which, with the possible exception of education, was the most important of all services. The question of the remuneration of the Public Medical Officer was not only important to himself, but a matter of grave public concern. It was a service to the State which could not be estimated in terms of cash. The M.O.H. had not only to meet the General Practitioner on equal terms, but he had to be a Specialist, and several kinds of specialist at once. He had to understand sociological as well as medical problems; he had to have technical knowledge of such matters as housing, he needed legal knowledge at every turn and when it came, as it so frequently did, to the preparation of statistics he had to be a first rate mathematician. Added to all that he had to be

well abreast of the latest medical knowledge and a good organiser, and to have the courage to oppose either his Chairman or his Committee when it was necessary. The service in which he was employed required the best brains that were to be had and it was a matter of the first public importance that such brains should be attracted to the Service.

In reply the President thanked Mr. Alderman Jackson for his kind remarks in introducing the Toast, both on behalf of the Society and on his own behalf. He said it would be appreciated by everyone present what a thorough grasp Alderman Jackson had of the multifarious duties of Medical Officers of Health, his complete idea of the kind of individual who should be entrusted with them and the difficulties connected with the carrying out of these responsibilities. He felt that it was unnecessary for him to traverse the ground which had been so ably and completely covered by Alderman Jackson, in whose trust he personally felt that the Medical Officer of Health could safely repose his confidence.

As there was a long and excellent musical programme to follow the President said he would refrain from dilating upon the history and activities of the Society, which he thought were sufficiently well known to everyone present, but in alluding to past Presidents whose excellent work was now reflected in the extent and success of the Society's activities, although he did not intend to mention any names, he could scarcely refrain from mentioning that of Dr. Barlow, who was with them, as he was the only Medical Officer of Health present who had been President of both the Society and the North-Western Branch, and for whose enthusiasm both were very much indebted.

Dr. T. W. N. Barlow, O.B.E., in a humorous speech punctuated by many stories proposed the Toast of "Our Guests" which was replied to by Dr. Tom Watts, M.P., Professor Ramsbottom, Professor Topley and Dr. Corsar Sturrock.

The proceedings were enlivened too during the evening by numerous songs splendidly rendered by Drs. Corsar Sturrock, Victor Lambert and Mr. Abrahams, who were accompanied on the piano by Mr. F. G. Webster, of Carlisle.

A meeting of this Branch was held at Manchester, on January 9th, 1924, with Dr. J. Beard (President) in the Chair.

The question of the nomination for the Presidency of the Society for the year 1925-26 was discussed, and it was unanimously decided that this Branch nomin-

ate as President Dr. G. F. Buchan, Medical Officer of Health, Willesden.

The recent death of Dr. E. C. McCarthy (Stalybridge) was reported, and it was stated that the Secretary had written to the widow expressing the deep regret of the Branch at the loss of this member, and tendering to the widow the Branch's sympathy in her bereavement.

A letter was read from Professor Topley, Director of the Department of Bacteriology and Preventive Medicine, University of Manchester, offering the Branch the use of accommodation at the University for holding their monthly meetings, and the Hon. Secretary, was instructed to write thanking Prof. Topley for his kind offer, and to state that as the Branch will be meeting in the University in the month of February, any decision regarding change of meeting place will be left over until that meeting.

Dr. C. W. Paget Moffatt then opened a most interesting discussion on the status and salaries of professional, and technical members of the public health staff. He pointed out that Medical Officers of Health were called upon to advise their Committees with regard to the remuneration of all members of Public Health Staffs and that Medical Officers of Health were, therefore under a moral obligation as to what was fair and reasonable remunerations for the various non-medical posts in Public Health staffs. Writing round to other Authorities to enquire what they were paying established a vicious circle which could not possibly lead to a fair solution of the problem.

As regards the basic salary of many non-medical posts in the Public Health Service, such salaries had been fixed at a time when the duties of these posts, and consequently the training, tact and intelligence required of those filling them, were of a very different order to what they are now, but that the basic salary remained practically unchanged.

The remuneration paid to the Nursing Staff of our Institutions made it impossible for the members of such staffs to make provision for old age.

He asked that the Society of Medical Officers of Health should take the whole question into consideration so that Medical Officers of Health, when consulted by their Committee, should have something authoritative to appeal to.

Some branches of the Public Health Service had formulated scales of salaries. Medical Officers of Health were not bound to accept these, but they should receive careful consideration from the Society of Medical Officers of Health as a whole. The discussion was continued by Dr. Veitch Clark, who emphasised the very varied type of work of Sanitary Inspector and Health Visitor, and the desirability of getting the proper type of person for the work

with the necessary qualifications. He pointed out that whilst to a great extent local circumstances must determine the value of the services, it should be recognised that these persons had to have a high standard of technical training. He also emphasised the outlook in the case of the Hospital Nurse who, after a life spent amongst many restrictions, was required by reason of her work to resign before it had been possible owing to the low salaries paid, to provide for her later years.

Dr. Clay Beckitt seconded the vote of thanks to Dr. Moffatt, and in continuing the discussion, pointed out the difficulty of the standard of analogy. Practically all the members present took part in the discussion and amongst other points raised, was the question of the high fee required to be paid by a Nurse sitting for the examination of the General Nursing Council.

In conclusion it was resolved "that it be a recommendation of this Branch to the Council of the Society that the Society take into consideration the question of the salaries of all technical and professional (but non-medical) members of the Public Health Service, and take such steps as they consider advisable to improve the status and salaries of these members.

METROPOLITAN BRANCH.

The second meeting of the 1924-25 Session of the Metropolitan Branch was held at the House of the Society on Friday, 28th November, 1924, the President of the Branch, Dr. Charles Porter, occupying the Chair. Seventeen members were present and Professor Leathers, of the United States, attended at the invitation of the President.

Dr. Charles Porter delivered his Presidential Address to the Branch, choosing as his subject, "Policy and Progress in Relation to Environmental Hygiene." The Address was full of interest and reached the high standard which the members of the Branch expected from their new President. Following appreciative speeches by Sir William Hamer, Dr. Allen, Dr. Wellesley Harris, Professor Leathers and others, a cordial vote of thanks was unanimously accorded the President for his paper.

The question of imposing a probationary period of service for assistant tuberculosis officers was placed before the Branch in a communication submitted by Sir William Hamer, County Medical Officer of Health for London. It will be remembered that in May last, after receiving the views of the Tuberculosis Group, the Branch disapproved of a probationary period in the case of tuberculosis officers.

It was decided to reply to the County Medical Officer of Health that the Branch similarly disapprove of this innovation in the case of assistant tuberculosis officers. The Hon. Secretary was directed to convey this decision to the Tuberculosis Group of the Society.

After considering the Draft Public Health (Prevention of Tuberculosis) Regulations of 1924, it was decided to communicate with the Minister of Health asking that the following suggestions be considered before the Regulations are issued:—

- (1) THAT Milk Purveyors should be required to submit to the Medical Officer of Health twice yearly the name and address of every person employed by them, the procedure to be adopted being similar to that now followed in the case of Outworkers under the Factory and Workshops Acts; or, alternatively, that the Medical Officer of Health should be empowered to call upon any Milk Purveyor for a list of the names and addresses of his employees at any time.
- (2) THAT in the event of the Medical Officer of Health receiving information that a person suffering from tuberculosis is engaged in the milk trade in contravention of the Regulations in some other district, the Medical Officer of Health should be authorized to transfer the information to the Medical Officer of Health for the district in which such person may be engaged.
- (3) THAT in the event of any person deeming himself aggrieved by a decision of a Local Authority under the Regulations and appealing to a Court of Summary Jurisdiction he should be required to give notice of such appeal to the Local authority.

The Branch considered the Final Report of the Departmental Committee on Preservatives and Colouring Matters in Food and expressed satisfaction with the recommendations contained therein.

A communication from Dr. A. Louise McIlroy, of the Royal Free Hospital, requesting that consideration be given to the question of hospital arrangements for tuberculous women during their confinements, was before the Branch and it was decided to adjourn the matter until the next meeting in order that Dr. McIlroy may be present. This meeting will be held on Friday, January 9th next, when Dr. McIlroy will open a discussion on the institutional treatment of tuberculosis complicated with pregnancy.

HOME COUNTIES BRANCH.

The Fourth Meeting of the session 1924-25 of the Home Counties' branch of the Society of Medical Officers of Health was held at the house of the Society on Friday, 2nd January, 1925, at 3.30 p.m.

The minutes of the previous meeting were read and approved.

Apologies for absence were received from Drs. J. Holroyd, A. B. MacMaster, A. E. Porter, Kerr Simpson. The Secretary read a letter from the Secretary of the Midland branch in which the branch was asked to support the nomination of Dr. T. Ridley Bailey for the Presidency of the Society for the session 1925-26. The President then called upon the Secretary to report the proceedings of a Meeting of the Executive Committee. It was unanimously decided to accept the recommendation of the Executive Committee to forward the nomination of Dr. George F. Buchan for the Presidency of the Society for the session 1925-26. Dr. Greenwood then formally moved, and Dr. Cates seconded, the nomination of Dr. George F. Buchan, who agreed to accept the nomination. The Secretary was instructed to write to other branches of the Society, asking for their support. The meeting also unanimously decided to place on record in the minutes, the very magnanimous and public-spirited action of Dr. Greenwood, the President, for so cordially supporting the nomination of Dr. Buchan.

Dr. McIntosh then opened a discussion—"Holland—Health Administration"—commenting on the differences and similarities in the Dutch and British character to which some of the differences in their public health administration might be traced. He emphasized the independence of the Local Authorities and the fact that much of the public health work like Tuberculosis, Maternity and Child Welfare and even Venereal Diseases, was carried on by voluntary associations.

He compared the city of Amsterdam with Manchester and emphasized the centralization of medical administration in the former. He enumerated branches dealing with the treatment of indigent persons at home and in hospital or polyclinic, the treatment of accidents, the treatment of public employees, the control of admission of patients to hospital, all under the control of the local authority.

The vital statistics of the two cities were compared to the general advantage of Amsterdam. The incidence of typhoid was much greater in Holland, often milk-borne, and generally due to

the low-lying nature of the country and the easy chance of sewage pollution.

Generally speaking the arrangements for school medical inspection are similar to our own, but treatment is not provided except as part of the general arrangement or in the case of mental defectives. Though there is no legal power in Holland to enforce the removal of infected persons to hospital, in practice the results are much the same as in England.

There are more notifiable diseases in England, but those which most occupy medical authorities are the same. Methods of treatment are not dissimilar, but there are no special hospitals for infectious diseases, which are treated in separate pavilions of general hospitals.

Dr. Nankivell, continuing, after discussing aspects of Dutch character, devoted most of his attention to food inspection. Elaborate arrangements were made for meat inspection by highly qualified veterinary inspectors. He also commented on milk-borne enteric and on an extensive but unsuccessful attempt to achieve tubercle-free herds. Arrangements for sampling and analysis of foods were more extensive in Holland than in England. Methods of port sanitation and disinfection, hospital control and administration, and domestic and municipal hygiene were also considered.

The President moved a cordial vote of thanks to Drs. McIntosh and Nankivell.

Owing to the fact that the President had to leave, Dr. Bostock Hill took the chair for the remainder of the meeting.

No formal discussion took place, but Dr. McIntosh answered numerous questions arising from the papers.

MATERNITY AND CHILD WELFARE GROUP.

A meeting of the group was held at the Society's house in London, on Friday, December 12th, 1924.

Dr. Flora Shepherd, Asst. M.O.H. (M. & C.W.), Hornsey, who occupied the Chair, said that, owing to the illness of Dr. R. Woolsey Stocks, M.O.H., West Bromwich, the Group Hon. Secretary, there had been some misunderstanding as to sending out of the notices for the meeting, with the result that the attendance was not so large as it otherwise would have been to hear Dr. J. J. Buchan, M.O.H., Bradford, open the discussion on "The Effect of Probable Extension of the National Health Insurance Acts upon the Works of Maternity and Child Welfare Centres." It was intended that as a result of the

discussion, a statement would be submitted to the Council of the Society with a view to producing evidence for the Royal Commission dealing with the National Insurance Act.

At the conclusion of the discussion it was decided to send forward the suggestions contained in Dr. Buchan's paper.

A hearty vote of thanks to Dr. Buchan for his interesting and exhaustive statement brought the meeting to a close.

MIDLAND TUBERCULOSIS SUB-GROUP.

The first meeting of the Session was held at the Council House, Birmingham, on Saturday, 24th October, 1924, at 2.30 p.m., when there were present Drs. J. A. Watt, President (in the Chair), J. Bell Ferguson, P. Heffernan, H. Gordon-Smith, B. S. Nicholson, W. H. Davison, P. J. Boddington, A. B. Hamilton, W. Parker, A. G. P. Campbell, G. B. Dixon, J. A. M. Clarke, and C. W. Shapley (Hon. Secretary).

The minutes of the last meeting were read and signed.

The Accounts of the last meeting were read and signed.

Election of Officers: Dr. J. Bell Ferguson was unanimously elected President; Dr. B. D. F. Elliott, Tuberculosis Officer, Shropshire, was elected Vice-President.

The following were re-elected Members of the Committee: Drs. J. A. Clarke, T. R. Elliott, A. G. P. Campbell, G. B. Dixon, P. Heffernan, and J. R. Todhunter. Dr. Gordon-Smith was elected in place of Dr. P. A. Dormer, who has left the area.

Dr. Shapley was re-elected Hon. Secretary, and Drs. Dixon, Gordon-Smith and Bell Ferguson were elected representatives of the Sub-Group on the Central Group of the Society.

The President proposed a vote of thanks to the retiring President for his kind hospitality in entertaining the members of the sub-group to luncheon at the Imperial Hotel.

The proposition was seconded by Dr. Heffernan and carried unanimously.

Dr. A. J. Watt read a paper on "Pulmonary Tuberculosis in Children." A discussion followed in which there took part the President, Drs. Dixon, Burke, Todhunter, Parker, Nicholson and Campbell. The paper will appear in a future number of Public Health.

The Hon. Secretary was instructed to write to the Lord Mayor of Birmingham thanking him for the use of rooms in the Council House for the meeting.

Reviews.

RATS AND HOW TO DESTROY THEM, by MARK HOVELL, F.R.C.S. With Introduction by S. L. BENSUSAN. London: John Bale, Sons and Danielsson, Ltd. Demy 8vo. pp. 464 and 51 Illustrations. Price, 10s. 6d. net. 1924.

Mr. Mark Hovell, who is a distinguished surgeon, has brought to bear on the problem of rat destruction all the patience and ingenuity that make for success in his own particular branch of the medical profession. In this book he recounts his experiences in dealing with rats in various classes of property and in the process he reviews most known methods of rat destruction and adds much valuable information of his own.

The author's golden rules for the destruction of rats are:—

(1) "Never attempt to clear rats from infested premises by trapping. Begin by blocking, flooding, ferreting or poisoning, or all these methods in combination. This will serve to reduce the number to insignificance, and traps may then be used.

(2) Keep run-traps set throughout the year against the outside of every house and building that rats are likely to approach and in any other place where runs indicate their presence.

(3) Keep all doors leading into buildings closed throughout the night, and stop or protect every hole or aperture through which rats may possibly obtain entrance into a house or building. Close all holes as soon as the rats that occupy them have been killed.

(4) Never allow a rat that can be killed today to live till to-morrow."

The book is well illustrated, all appliances recommended are carefully described and, what is equally important, their place of purchase indicated. There is not a direction missing; there is not a trap or shelter for the trap mentioned that the author has not made with his own hands, tried on his own property, and found worthy of public acceptance and use. Some readers may perhaps resent what appears to be an unnecessary amount of repetition but, as the introduction states, the work is written for learned folk and simple, for experts who can handle tools with precision and for amateurs who will go wrong if left so much as a loophole for mistake.

Of special interest are the chapters on traps and trapping, on blocking, on poisoning, on the habits of rats and on dogs and ferrets. The

method of "blocking" is little known and seldom practised, and yet it may well be tried in suitable cases with remarkable results. The first step is to feed the rats for some days in a room or cellar they are accustomed to frequent. All the entrances and exits save one are then temporarily stopped and on the night selected, while the rats are enjoying their meal, someone operating some distance from the room suddenly closes the only remaining opening in one or other of the ways indicated by the author. The rats are thus trapped in the room and are destroyed by men and dogs. This method a little while ago accounted for a bag of more than four cwt. of rats in an outhouse at a knackery in Berkshire.

No mention is made of the fumigation of ships by hydrogen cyanide. This is the only notable omission in a book that might well have been entitled "The Compleat Rat-Catcher."

ANAEMIA: ITS CAUSES AND MODERN TREATMENT, with a Chapter on NEURASTHENIA, by A. W. FULLER, M.D. Edin. London: H. K. Lewis and Co., Ltd. Cr. 8vo. pp. 138. Price, 6s. net. 1924.

This commendable monograph contains three main themes. The first is that anaemia is not generally recognised in its earlier stages, the second that its treatment is best secured by the deep hypodermic or intra-areolar injection of collidal iron with strychnine and sodium cacodylate in isotonic serum, and the third is that due attention to personal and communal hygiene is essential in all cases both for prevention and cure. From these main themes the author branches out into all the bye-ways leading from or to them and along these he conducts us to a number of most interesting clinical and hygienic fields.

The numerous causes of anaemia are fully discussed and the treatment of its different manifestations is given clearly and succinctly. Neurasthenia as a consequential condition is brought under review and the possibilities of psycho-analysis and psycho-therapy are sanely summarised.

The public health aspects of anaemia receive an all too brief consideration and we should have welcomed a greatly amplified version of the author's views which are everywhere sound. In particular we commend attention to his remarks on smoke and dust and to his condemnation of the reckless dissemination of the poisonous exhaust gases from motor vehicles.

If we have any criticism at all of this small volume it arises from the staccato style which is so much in evidence. In spoken words this usually makes for emphasis but in written words it renders retention of facts more difficult. The book as a whole is worthy of close study by all physicians and if it only impresses on them the importance of the early recognition of anaemia and the fact that the proper treatment of this condition will prevent the onset of a vast amount of organic disease it will have achieved a great advance in public health.

Correspondence.

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

NOTES ON THE ADVISABILITY OF THE TEACHING OF CONTRACEPTIVE METHODS.

From Dr. Duncan Forbes.

Sir,—To many the discussion of this difficult subject is distasteful and it is only because there may be grave decisions taken with regard to it in the near future that I venture to ask you to publish a considered opinion as set out in the following notes dealing with certain aspects of the subject.

The effect on the unmarried.

The married man who does not practice self restraint and certainly the man who adopts contraceptive methods other than abstinence cannot condemn the unmarried man who has sexual relations with an unmarried woman and is prepared to accept responsibility for the results of his action. If contraception is widely adopted and it is generally known that married persons regularly have connection whilst carefully avoiding procreation, young unmarried persons will argue with reason that if it is necessary for staid married folk to have connection then, apart from social convention, it is right for them with the stronger passions of youth to have it also. These young persons will ignore the fact that abstention is more difficult for the married man who sleeps with his wife. Difficult though it may be for the married man in many cases, his admittedly greater temptation provides no sufficient ground for the introduction of contraceptive methods. The occupation of separate beds provides the best means of assisting abstinence; these are in every way more hygienic and do not detract from married happiness.

The more thought I give to this matter from the aspect just stated, the more I feel that self restraint and abstinence are the only sound methods that can be advocated. If we depart from these we find ourselves making all sorts of doubtful although perhaps popular compromises.

The British Race.

Britons have to view this subject from the racial standpoint. The British race has proved itself second to none in world service, it has in its colonies enormous tracts of land undeveloped; it is therefore to be regretted that any steps should be taken likely to accelerate the present steady fall in our birth-rate, the more so as there is no reason why emigration should not relieve us of any surplus population in these small islands and at the same time strengthen our colonies and enable them to utilize to a greater extent their vast undeveloped resources.

The other point affecting the race is that the birth contraception instrument is inserted before coitus, is left in position overnight and is removed in the morning, the removal being preceded and followed by a douche. It is evident that care and trouble must be taken and that the method will be used relatively commonly by the intelligent artisan class, less by the more ignorant classes and still less if at all by the mentally defective. If these premises are correct and if such methods are generally adopted the result will be that the future race will be bred to an even greater extent from the ignorant and careless which, from the point of view of eugenics, is unsound.

The Individual.

(a) *It may be dangerous* in some few instances for the woman to have another child owing to physical defect or disease or from exhaustion from a long series of pregnancies. In such exceptional cases if the husband refuses to abstain medical men will always be prepared to do what they can to help a woman to avoid pregnancy. Unfortunately many doctors know little regarding methods of contraception and the profession should lose no time in giving general practitioners opportunities to acquire such knowledge.

(b) *Persons suffering from transmissible defect* may marry, for instance, mentally defectives, epileptics, deaf mutes, and so on. The State should prevent such marriages as far as possible, and when such have taken place should sterilise the man; the minor operation required

can be done without danger and without rendering the man incapable of the sexual act. To advocate contraceptive methods as a hopeful way of controlling procreation by the mentally defective is to my mind futile.

Any Teaching Should be by Voluntary Bodies.

If birth control in the sense that it is now being advocated is to be tolerated by the State then the teaching of such practices should be left to voluntary bodies, the work being carried on under the direct supervision of qualified medical practitioners. Citizens are strongly divided regarding this matter of contraception, many feeling that birth control except by abstinence is immoral. To levy even a small rate for the teaching of practices considered to be immoral by large bodies of citizens is wrong. Besides this, the mere fact that such teaching was State-aided would lead many unthinking persons to take it for granted that such practices were right.

I am,

Yours faithfully,

DUNCAN FORBES,

Medical Officer of Health.

Town Hall, Brighton.

9th January 1925.

From Mr. Robert Lindsay, L.D.S.

SIR,—I have read with interest your Editorial Article on "The Health of the School Child" in the issue of Public Health for January, 1925.

May I be allowed to call your attention to an inaccuracy in your reference to the available number of dentists from which an adequate School Dental Service could be staffed.

At the end of the third paragraph in the first column on page 102, the following sentence occurs:—

"Assuming that there are 6,000,000 children and that a full time dentist can deal with 5,000-6,000 children yearly, about 1,000 school dentists would be required or more than two-thirds of the number at present on the Dental Register."

There are at present about 14,000 dentists on the Register, and of these nearly 6,000 are fully qualified dental surgeons.

I am, Sir, Yours faithfully,

ROBERT LINDSAY,

Dental Secretary,

British Dental Association.

MEAT REGULATIONS.

The Minister of Health, the Right Hon. Neville Chamberlain, M.P., has addressed the following letter to the Right Hon. The Lord Banbury, of Southam, and Sir Henry Cautley, Bart., K.C., M.P., who have consulted him as to certain provisions of the Public Health (Meat) Regulations, 1924, and the Rural District Councils (Slaughter-houses) Order, 1924 :—

22nd January, 1925.

I have heard of your interest in the suggestion which has been widely made that the new Meat Regulations have the effect of prohibiting the occasional slaughter of animals on farms. As there seems to be a rather general misconception as to the effect of the Regulations I think it would be well to send you a full explanation.

I have recently issued two documents relating to the slaughter of animals for human consumption, namely, The Public Health (Meat) Regulations, 1924, and the Rural District Councils (Slaughter-houses) Order, 1924. I enclose copies of both of these documents for your information.

The Regulations, which are designed to give effect to certain of the recommendations of the Departmental Committee on Meat Inspection, do not impose any limitation as to the persons who may slaughter animals or as to the places at which animals may be slaughtered. What they do require is that where an animal is slaughtered for sale for human consumption notice must be given to the local authority and the carcass must be retained for a few hours to give the Inspector an opportunity of inspecting it if the local authority desire that this should be done. This is a very important provision for preventing traffic in diseased meat inasmuch as inspection can only be satisfactorily carried out at the time of slaughter when all the organs are available for examination. I may point out, however, that this provision only applies where the meat is intended for sale and that the requirement as to the retention of a carcass does not apply in the case of a sheep, the danger of disease in sheep being relatively small.

The effect of the Rural District Councils' Order is to put in force throughout the whole country the provisions of the Public Health Acts as to slaughter-houses which were already in force in all Urban and a good many Rural areas.

The only section I need mention here is one which provides in effect that no place shall be used or occupied as a slaughter-house which was not in such use and occupation at the date of commencement of the Order unless it is licensed by the local authority. Places which were so used before the date of the Order become automatically registered. The term "slaughter-house" is defined as including any building or place used for slaughtering animals of any description for sale. This implies some sort of regular user and I am advised that the occasional slaughter of a pig or sheep on a farm does not constitute the place of slaughter a "slaughter-house."

I think you will agree on reading the Regulations and the Order that there is nothing in either of them which has the effect suggested in the newspaper cutting, and I am confident that local authorities generally will administer the Regulations in a common sense manner.

As this question has been raised in various parts of the country I propose to publish this letter in the Press.

USE OF PRESERVATIVES AND COLOURING MATTER IN FOOD.

The Minister of Health, the Right Hon. Neville Chamberlain, M.P., who was accompanied by Sir Kingsley Wood, M.P., and officials of the Department, received on the 22nd January a deputation from the London Chamber of Commerce, introduced by Mr. W. Dawson-Warren, Deputy Chairman, Provision Trades Section.

Members of the Deputation, representing various sections of the food trade submitted reasons for considering that in their particular sections the recommendations of the Committee could not be carried into effect without detriment both to the trade and to the general public on account of difficulties of the storage of food and of the price at which it would be possible to sell it under the changed conditions. It was also suggested that the Departmental Committee had no evidence that the public health was prejudiced by the use of preservatives in any one food.

The Minister, in replying to the deputation, said that he welcomed the general recognition of the fact that the position could not be left as it was at present and the offer of help in any necessary reforms. He agreed that to give full effect to the Committee's recommendations legislation would be necessary; and he stated that the consolidation of the existing legislation as to food and drugs was part of his programme. In the meantime he was advised that he had adequate powers to carry out many of the recommendations of the Committee, and he proposed shortly to circulate draft Regulations on which he would welcome the very fullest discussion between his own expert advisers and the members of the trade at which it would be possible to go into in detail the arguments put before him by the various branches of the trade that morning. Though it might be true that particular instances could not be given of damage to health due to the use of preservatives in any one food, the deputation must remember that the public were now consuming many kinds of food containing preservatives, and the cumulative effect might be considerable. He also referred to the practical consideration that the Departmental Committee in recommending prohibition of preservatives had pointed out the large extent to which some sections of the trade in this country or the whole of it in other countries were now getting along without preservatives. He promised before any Regulations were brought into effect that he would give full and careful consideration to everything that had been put before him by the Deputation.

Public Health

THE JOURNAL OF

The Society of Medical Officers of Health.

No. 6.

MARCH, 1925.

VOL. XXXVIII.

Subscription price, 31s. 6d. per annum, post free in advance. Single copies, 2s. 6d., post free.

CONTENTS.

	PAGE
EDITORIAL—	
National Health Insurance	165
Health Authorities and Hospital Accommodation	167
Voluntary Organisations in Relation to Tuberculosis Care Work	168
Diet in Residential Schools	169
The Supervision of Restaurant and Hotel Kitchens	169
British Rainfall 1923	170
Visit of Foreign Health Officers	170
OBITUARY—	
Prof. E. E. Klein, F.R.S.	171
Dr. Sidney Barwise	171
Dr. A. G. Shurlock	172
Dr. Thomas Buckham	172
National Health Insurance	173
National Health Insurance. Memorandum on Maternity Benefit in Relation to Public Health Work (By William J. Howarth, C.B.E., M.D., Medical Officer of Health, City of London)	179
Maternity and Child Welfare and the Insurance Acts (By J. J. Buchan, M.D., Ch.B., D.P.H., Medical Officer of Health, Bradford C.B.)	181
The Provision of Midwives and the General Working of the Midwives Acts	185
SOCIETY OF MEDICAL OFFICERS OF HEALTH—	
Ordinary Meeting	192
Metropolitan Branch	192
Midland Branch	192
Northern Branch	193
Tuberculosis Group	193
School Medical Group	194
REVIEWS—	
An Introduction to Practical Bacteriology as Applied to Medicine and Public Health	194
An Investigation of the Salmonella Group with Special Reference to Food Poisoning	195
"The New Decalogue of Science."	195
CORRESPONDENCE—	
The Teaching of Contraceptive Methods	195

Editorial.

NATIONAL HEALTH INSURANCE.

The draft of the evidence to be submitted by Dr. R. A. Lyster (President) and Dr. J. J. Buchan, before the Royal Commission on National Health Insurance on behalf of the Society of Medical Officers of Health, calls for careful study by every member of the Public Health Service.

National Health Insurance was introduced in this country as an early instalment of a somewhat comprehensive programme of social reform to promote the health and efficiency of the working classes, and to do something to prevent them from falling in times of economic stress through sickness upon such measures for public assistance as the Poor Law affords. Its introduction marked a departure from the procedure in operation in this country by inaugurating a system of compulsory contributions from special classes of the community to provide the bulk of the necessary funds, and consequent upon this methods of raising money, new bodies were introduced to administer and control it. These bodies were of two kinds; associations of insured persons known as approved societies, and composite committees with insured persons in the majority, known as insurance committees. To each of these bodies, special duties were given subject to a very general supervision, now of the Minister of Health.

Upon insured persons, therefore, the main duty lay of controlling funds to which they had made a relatively small contribution, but the manner in which this control was exercised has been theoretical rather than real. The organisation of insured persons into approved societies has from the first been singularly defective. It was thought that the approved societies would be formed on the lines of the old friendly societies, but this system of voluntarily providing benefits against sickness and distress had from various reasons never won general acceptance from the working classes of the country, and these friendly societies found it impossible to expand their operations to meet the increased needs of the people.

Large trading companies, realising the opportunity afforded of promoting their other business, stepped in and formed approved societies which, by a general system of canvas, became the principal approved societies of the country and the controlling power, therefore, in the administration of insurance funds. The older friendly societies had, of course, largely increased their membership, but this increase was insignificant compared with the rise in the trading company approved society. The older friendly societies, while narrow in their point of view with respect to sickness and health and thrift, were nevertheless actuated with high ideals in their endeavour to promote better social conditions amongst the working classes. The new approved societies of the trading companies did not, of course, cherish the same ideals. Primarily the members had joined these societies by an active system of canvas and by the want of interest and general lethargy and ignorance of the persons who found themselves insured. They took no interest whatever in their approved society, and left all its management in the hands of agents and salaried directors of the companies. The result has been that insurance funds have ceased in large measure to be controlled by the insured, and they are controlled to the greatest extent by persons, the main spring of whose interest is financial rather than the promotion of the increased well being of the working classes. National Health Insurance as an organisation for public welfare has thereby suffered a large measure of public neglect, and national insurance has become a rather disordered system of collecting for benefits in sickness and for certain other benefits at special times.

We have seen an almost complete departure in the last 14 years from the high ideals upon which the system was introduced, and these ideals cannot now be attained without material amendments of the whole National Health Insurance Scheme. During this time there has been much progress in public thought and action with respect to such subjects as health and sickness; old age pensions; the care of motherhood and the welfare of the child, and provision for the disabled. In all these directions, and in many others the main advance has taken place quite independently of national insurance so that now the insurance scheme stands as an isolated and lesser unit in the general programme of social reform for the better health and increased efficiency of the working classes.

The original scheme suffered from being too close a copy of the Workmen's Compulsory Insurance System of Germany, but the lines of health and social development in Germany differ materially from those in this country. This country enjoys in

every part, a large measure of local government, whereby each community manages its own affairs, especially with respect to health and public assistance. The councils of all communities have interested the persons dwelling in their area, in some cases, by the power of local rating and in others, through a genuine concern in matters vitally affecting themselves. The local councils, especially those in the working class districts, are held in high regard by the people as upon them has fallen for the past century the duty of making arrangements to meet the urgent and pressing needs of town life. They have demonstrated to the people, the possible attainments of local communal action which no new system could afford to despise. The failure of the organisation of National Health Insurance and its consequent failure in attainments in health and public welfare has been due in most part to the inappreciation of the influence of local councils in promoting such work. These councils have, as far as opportunity has been afforded in the statute, co-operated and seconded the efforts of the national insurance system, and any success which the system has had in health problems has been due entirely to this co-operation and assistance, but the arrangements for bringing in councils were too defective to secure that help from them which was essential for the success of a national health programme.

The main change, therefore, which any amendment of the National Health Insurance Act should bring about is a much closer co-ordination and correlation between the work under the system and that of local councils. Approved societies as at present existing are quite uncorrelated with local authorities. Their management and interests are national rather than local, and while this broad basis may be good financially, it is markedly imperfect when the health and social conditions of different communities have to be considered. Approved societies, to take any part in the consideration of these latter, must be organised along lines of local government as at present existing in this country, but even when so organised, their outlook and methods only fit them for dealing with purely financial benefits. On the whole such approved societies could be made not unsatisfactory instruments for the distribution of financial benefits so long as the administration of these benefits was closely co-ordinated with other local health and social efforts.

The present insurance committees are bodies corporate and independent from local councils, although possessing from the latter a small representation. Their constitution is so peculiar that they have ceased to possess any influence upon the communal life of the locality, and they have ceased

to exercise, to any great extent a beneficial effect upon the health conditions of their area. Whatever useful purpose they may have served in the past as separate entities they now no longer effectively perform. All their duties could readily be undertaken by separate committees of the local authority, and if any extension of the provisions of National Health Insurance in the direction of health or medical benefits is to be made, such a change is urgently required. Insurance committees, with their majority representation from approved societies are no longer possible authorities to consider questions arising in maternity and child welfare, in the extension of maternity benefit, in the extension of medical benefit to dependents, or in the provision of hospital treatment for the insured and their dependents. A vast number of questions vitally affecting the health and well being of the working classes are ripe for solution, but the solution can only be reached through the local government authorities of the country acting along with the Ministry of Health.

HEALTH AUTHORITIES AND HOSPITAL ACCOMMODATION.

When giving evidence before the Hospital Services (Scotland) Committee, Dr. William Robertson, Medical Officer of Health, Edinburgh, recently discussed a number of important points and made valuable suggestions clearly showing that he had employed his able and constructive mind on the whole subject of hospital accommodation. In the space at our disposal we can only refer to some of his evidence but the whole should be read* by Medical Officers of Health and all who are connected with the administration of Preventive Medicine.

In discussing the hospital isolation of infectious diseases Dr. Robertson says that one bed for every 1,000 of the population might be satisfactory in rural areas but that for cities the rate of one to every 800 was found necessary. It is a good many years since the rate of one in 1,000 was suggested and since that time opportunities for contact infection have considerably increased. It is doubtless desirable that some guide should be given as to the proportion of beds to be provided in a population for the infectious diseases, yet the figure should not be precise since the needs of different cities vary according to density of population and in other respects. The prediction of some sanguine authorities that medical inspection of school children would arrest the incidence of infectious diseases has not been

borne out by experience and this specially applied to such diseases as scarlet fever, measles and whooping cough. In the case of diphtheria, however, Dr. Robertson considers the position different because "they could pick out from a class or school all those who were most likely to spread that particular disease, and by doing so could separate the carriers from the healthy children." Undoubtedly this is the course to adopt with diphtheria but to carry it out efficiently, and it should be done efficiently, entails care and a considerable amount of work. It will not be enough to take a swab from each child's throat; to earmark some of the diphtheria carriers in a school it will be necessary to take a swab at least once a week for a number of weeks, yet unknown, but certainly four. Further when the diphtheria bacillus is found it will be necessary to apply the virulence test. Finally it must not be forgotten that the individual who takes the swabs must exercise scrupulous cleanliness else he may actually be conveying the disease which he is desirous of preventing. It would be interesting to know Dr. Robertson's procedure in his schools and in his view on how it has effected the incidence of this disease in Edinburgh.

Dr. Robertson draws attention to the fact that the seriousness of measles and whooping cough has not been properly realised by the people of this country and that very little has been done to deal effectually with them. He thinks that with the abatement of diphtheria and the reduction of the admissions of scarlet fever the accommodation of measles and whooping cough could be more confidently undertaken. We gather that the abatement of diphtheria is expected by the production of active immunity and Dr. Robertson's work on this is well known and watched with great interest. The reduction of the admissions of scarlet fever is apparently to be brought about by the encouragement of home treatment especially in the mild type of scarlet fever. It is only reasonable to expect that the home treatment of scarlet fever will give rise to an added incidence of the disease, and that sufferers will be less well cared for. Further it is well to remember that the past history of scarlet fever shows its tendency to become severe after periods of mildness when hospital treatment would become desirable if not essential.

Dr. Robertson goes on to say if real and more or less lasting benefit was to be secured children convalescing from measles and whooping cough should be removed from the acute wards to others where a period of fresh air treatment could be

* "The Medical Officer," Feb. 14, 1925, p. 78.

provided. He adds that the need for this was ever apparent to those who were called upon to treat weakly children whose lungs had been crippled with measles and whooping cough. Here we think he touches upon a most important problem, his objective apparently being not to rest content with sending the patient home when he is free from infection but as far as possible to render the patient a healthy member of the community before discharge. We have every sympathy with such a suggestion and we would include sufferers crippled by other infectious diseases. Doubtless this is done to a certain extent in some hospitals but the proceeding is not regulated. Yet it is desirable that a child should as far as possible be physically fit to battle with home conditions before discharge from hospital and we think it probable that were such the custom of the country many diseases might be avoided which now help to fill the wards of children's hospitals. But Dr. Robertson goes further still and we are with him heart and soul. He says, and indeed we know it well, "there were always numbers of children seen at child welfare clinics whose pitiable appearance suggested the urgent need for good feeding, careful nursing, good light and the provision of fresh air." He adds that to a very limited extent there was provision made by local authorities for these sickly and jaded mites. Every member of the Public Health Service would like to see hospitals provided to restore these mites to health and that such provision should be made cannot be doubted by anyone cognisant of the facts, for much disease and suffering would be so prevented.

VOLUNTARY ORGANISATIONS IN RELATION TO TUBERCULOSIS CARE WORK.

Even at the present advanced stage of the campaign against tuberculosis, the group of activities classed together under the heading of "care" or "after-care" work, form in most areas an insignificant part of the machinery for dealing with the disease. There can be no doubt as to the present general trend towards the development of this most important aspect of prevention, and local authorities which have not already formulated their tuberculosis care schemes are not unlikely to have to face frankly a decision as to the channel through which the work shall be conducted. In many districts there are in existence social organisations uniting the various charitable agencies of the area in such a way as to eliminate

overlapping and to standardise the methods by which assistance can be given; and in these cases it will be a matter for serious consideration whether the development of tuberculosis care work should not be entrusted to such a body, which by its constitution gives access to the inevitable means of help, and by its principles favours the avoidance of duplication of assistance. On the other hand, areas with an active labour representation on the Council are likely to find a strong desire expressed that the representatives elected by the burgesses should be directly responsible for tuberculosis care work, as for other branches of public health work; and it is obvious, without labouring the point, that much might be said in favour of either course.

The legal powers bearing on the establishment of Tuberculosis Care Committees show a similar sharp contrast between two distinct methods of procedure. The Local Government Board circular of April, 1915, dealing among other points with the establishment of Tuberculosis Care Committees, labels these deliberately as "voluntary" Care Committees, pointing out that "much of the work to be undertaken by these Committees is outside the powers of local authorities," and hence that "the Committees will have to rely largely on voluntary contributions." The Public Health (Tuberculosis) Act, 1921, on the other hand, gives powers to County and to County Borough Councils to make a Committee or a Sub-Committee of the Council responsible for arrangements "for the after-care of persons who have suffered from tuberculosis"; and for that purpose persons of special experience, not members of the Council, may be co-opted to the Committee, subject to a limitation as to the relative number of Council members and co-opted members. Looked at superficially, therefore, it would appear that either course is open, and the labour element, which commonly feels that assistance given through public funds is less obnoxious than that allocated by charitable agencies and derived from private benevolence, is likely to give strong support to the establishment of Statutory Care Committees of the Council for the purpose of tuberculosis care work. It is however to be noted that the powers given under the 1921 Act are expressly limited to the care of the patient, and do not extend to the care of his household. It is fundamental that in tuberculosis care work the household and not the patient should be regarded as the unit, and any Tuberculosis Care Committee thus limited in its scope would be altogether crippled in regard to a most important aspect of its work. It seems

therefore clear that in some form the voluntary element continues to be essential to the proper working of a well balanced care scheme, and that this end is not gained by the mere co-optation of interested persons on to a Committee established under the 1921 Act. Pending further legal powers, it appears to be still necessary that care work in regard to the household of a tuberculous patient, so far as this involves monetary expenditure, should be in the hands of voluntary organisations. It will be of interest to observe the varying methods used in various areas for welding together the official and the voluntary ingredients in the full tuberculosis care scheme.

DIET IN RESIDENTIAL SCHOOLS.

Parents of children receiving their education at boarding schools have from time to time occasion for more or less anxious surmise as to whether the school diet has had as much consideration as is given to other physical aspects of the child's education. There can be no doubt that in many residential schools the importance of modern views on diet has not been at all adequately realised. The Public Health Service should for that reason be all the more deeply indebted to the Home Office for the wisdom shown in reprinting, through the Stationery Office, a paper by Dr. G. H. Culverwell, H. M. Inspector of the Children's Branch, Home Office, on "Some Problems of Feeding in Home Office Schools." While the problem has no doubt been regarded specially from the angle of the Home Office schools, it is in its general outline, as in practically all its more detailed suggestions, applicable to the ordinary boarding school. Dr. Culverwell, in discussing the new light thrown on dietetics by recent research, emphasises in particular the need for meeting individual needs—and particularly the need of the child somewhat out of the normal—and for seeing that there is sufficient variety to allow every child to pass well beyond the margin between insufficiency and safety in respect of vitamin-content. The problem is one not merely of a sufficiency of well-balanced foodstuffs, but, beyond this, one of service and distribution. Dr. Culverwell regards a really *ad libitum* supply of bread with a suitable fat as going far towards safeguarding the dietary as a whole, and he has practical suggestions to offer in this direction. At the same time he suggests that distribution can be made instrumental in meeting individual needs by forming the children into two or more groups in the dining-hall, according to age and

stage of growth, and by modifying the relative amounts of food given so as to meet the needs of each group. The final paragraph of the paper, while covering only a fraction of the many practical points considered, will serve to convey something of their spirit. . . . "More—and yet more—care is necessary to meet the food needs of the individual child. Try to secure the free supply of bread and fat. Try to include in your dietary a full supply of readily assimilable protein food. Include all the milk you can afford. Regard a failure in the fresh vegetable supply much as you would a failure in the school water supply. If you cannot get fresh vegetables, give oranges and increase the dripping. Bear in mind that dried pulses cannot take the place of fresh vegetables. Avoid over-eating. Never forget that bread, margarine, lard, rice and tinned meat will not help with your vitamin supply. If any number of the children in your school are not making the physical progress that they should, make certain the fault is not with the dietary."

We commend the paper* to the notice of medical officers of health, and venture to suggest that distribution of information of this type by Public Health Committees to the boarding schools in the respective areas would be a very practical piece of Public Health likely to lead to immediate benefit, particularly where it can be followed up by friendly consultation between the heads of such schools and the medical officer of health.

THE SUPERVISION OF RESTAURANT AND HOTEL KITCHENS.

In spite of the publicity given to such topics as the elimination of preservatives from foodstuffs, and the improvement in standards of preparation and storage and supply of foods, no corresponding agitation is apparent among the general public in regard to the conditions under which foods are cooked and served, and utensils cleansed and stored in the kitchens of the restaurants, eating-houses and hotels frequented by so large a proportion of town dwellers on five or six days out of seven. Yet the public conscience would be profoundly shocked could it see the vast difference which all too frequently exists between the daintiness of the portion of the restaurant devoted to customers and the squalid conditions of its kitchen annexe. The standard of elementary cleanliness is often deplorably low. In the cleansing of cutlery, for example, it is not uncommon to find the soiled

* Some Problems of Feeding in Home Office Schools, by G. H. Culverwell, M.D., D.P.H. H.M. Stationery Office, 1925. Price, 3d. net.

articles dipped into a bath of tepid fluid, of the colour and almost of the opacity of pea-soup, changed twice only during the course of the entire day. Boots and clothing will perhaps be found arranged in juxtaposition with shelves supporting dishes of hors d'oeuvres or other delicacies. Washing arrangements and towels in connection with the lavatories for the kitchen staff may be conspicuous by their absence. It is no exaggeration to say that such conditions are common in areas where no particular pains have been taken by the Public Health department to take an interest in the matter. We would venture a plea for a more active attention on the part of Public Health staffs to this aspect of the restaurant kitchen, and not merely to the limited standpoint of inspection of the premises as a workplace under the Factories and Workshops Act. However ill-defined the statutory powers of the medical officer of health in relation to the details of the processes and apparatus used in food preparation in such premises, there can be no doubt that a spirit of somewhat inquisitive interest, particularly by a medical member of the staff, at once arouses its response in the shape of greater attention on the part of the chef and his assistants.

BRITISH RAINFALL 1923.

"British Rainfall 1923" has now been published by H.M. Stationery Office and can be obtained through any bookseller, price 15s. The volume contains the usual thorough analysis of the rainfall of the year. It will be remembered that 1923 was decidedly a wet year though not so wet as 1924. The excess was greatest in Scotland. In parts of the Hebrides the rainfall of the year was 55 per cent. above normal and the loss of crops was very serious. In general Scottish stations had rain on 41 days more than the average.

The most dramatic weather of the year occurred in July. On July 8th there was a great downpour near Carrbridge on the Highland Railway. No measurements of the actual rainfall are available but the damage done by the torrents is well shown by three photographs reproduced in this volume. The railway embankment was washed away leaving the metals and sleepers suspended in mid-air. On the following day the great all-night thunderstorm occurred in London when nearly 7,000 flashes of lightning were recorded in six hours. The heaviest rain on that occasion was in Sussex, no less than 4.55 inches being measured at Rottingdean. In November, 1923, there were great floods in Lancashire. The rain which produced

these floods was very persistent. It is found that there was a belt of country stretching from Falmouth to Lerwick with more than 12 hours of rain on November 13th. At Skipton there were 40 hours of rain during the two days, November 12th and 13th.

In addition to numerous maps and other tables "British Rainfall" contains a great General Table in which the total rainfall for the year at each of 4,864 stations is placed on record.

VISIT OF FOREIGN HEALTH OFFICERS.

For the third year in succession the League of Nations has sent a party of foreign health officers to study English methods of public health administration. By request of the Ministry of Health the course again this year is being organised by the Society of Medical Officers of Health and it was at the house of the Society that the visitors were formally welcomed on February 8th. Amongst those present at the reception were Prof. H. R. Kenwood, C.M.G. (Past-President), Lt.-Col. S. P. James and Dr. A. C. Parsons (Ministry of Health), Major Norman Lothian and Capt. J. F. Johnston Watson (Health Section, League of Nations), Dr. and Mrs. C. W. Hutt, Dr. John Tate, and Dr. T. S. McIntosh.

In the unavoidable absence of the President, Prof. Kenwood expressed the pleasure it gave the Society to receive their colleagues from other countries and to exchange ideas with those who like themselves were concerned with the prevention of sickness and disease, and the betterment of the public health. It was by no means only the visitors who profited by these courses, for the medical officers who had the privilege of demonstrating English methods of administration could learn much from the criticisms of those who examined our public health problems in the light of experience gained elsewhere. Col. James conveyed a message of welcome to the party from the Ministry of Health and from Sir George Buchanan, a Vice-President of the Health Section of the League of Nations, who was too unwell to be present. Dr. Horst (Holland), on behalf of the visitors, made a brief acknowledgement of the kindly way in which they had been received, and said how much they appreciated the opportunity to observe the working of English public health departments.

On Monday last the party was received by the Minister of Health, Mr. Neville Chamberlain, who promised them any assistance from his department that would make their stay in this country

more profitable. The participants were each in turn presented to the Minister by Dr. R. A. Lyster (President, Society of Medical Officers of Health), and Major Norman Lothian, of the League of Nations' Health Section, thanked Mr. Chamberlain on behalf of the party for the personal compliment conveyed by his presence to greet them. Sir George Newman then opened the work of the course with a lucid address on, "English Public Health Administration."

Later in the day the party divided into groups for the study of public health administration and practice in urban and rural areas outside London, as follows:

Group A.—Middlesex (Dr. John Tate) and Willesden (Dr. G. F. Buchan); Dr. Pilleboue (France), Prof. Schlossmann (Esthonia), Dr. Hoffer (Italy), Dr. Braguine (Russia), Dr. Wodehouse (Canada).

Group B.—Yorks, W.R. (Dr. J. R. Kaye) and Leeds (Dr. J. J. Jervis); Dr. Christian (U.S.A.), Dr. Metz (Denmark), Dr. Tosti (Norway), Dr. Kloninger (Germany), Dr. Bogdanovitch (Poland).

Group C.—Staffordshire (Dr. W. D. Carruthers) and Wolverhampton (Dr. H. H. H. Jolly); Dr. M. D. Horst (Holland), Dr. Robin (France), Dr. Jakovljevič (Jugo-Slavia), Dr. Lenz (Germany), Dr. Katsoyannis (Greece).

The full roll of the participants, with the offices they fill in their respective countries, is as follows:

Denmark: Dr. A. Metz, County M.O.H., Holbaek; Esthonia: Prof. K. Schlossmann, Director of Bacteriological Laboratories, University of Tartu (Dorpat); France: Dr. L. M. Pilleboue, M.O.H., Department de l'Herault; Dr. E. Robin, M.O.H., City of Nantes; Germany: Dr. Walter Kloninger, M.O.H., Auenau, District of Coblenz; Dr. Lenz, M.O.H., District Bartenstein, East Prussia; Greece: Dr. T. Katsoyannis, Director, Section of Infectious Diseases, Ministry of Health, Athens; Holland: Dr. M. D. Horst, M.O.H., City of Leyden; Italy: Dr. G. Hoffer, Port M.O.H., Venice; Jugo-Slavia: Dr. M. Jakovljevič, District M.O.H., Djeveljija; Serbia; Norway: Dr. Ivar Tosti, Asst. M.O.H., City of Oslo; Poland: Dr. Jan Bogdanovitch, M.O. (M. & C.W.), Ministry of Labour, Warsaw; Russia: Dr. E. Braguine, M.O., Ministry of Health, Moscow; United States of America: Dr. S. L. Christian, U.S.A. Public Health Service; Canada: Dr. Wodehouse, Secretary, National Tuberculosis Association of Canada.

The whole party will re-assemble in London on March 9th, for the study of Health Schemes and Institutions in the Metropolitan area. On March 24th they will leave England for the closing Conference to be held at Geneva on the four following days.

OBITUARY.

PROF. E. E. KLEIN, F.R.S.

The death occurred on 9th February, of Professor Edward Emanuel Klein, M.D., F.R.S., the eminent bacteriologist. Born in 1845, near Vienna, he early became known for his research work, and in 1869 he was sent to England by his former tutor, Professor

Stricker, of Vienna, to arrange for the publication of an English edition of the "Manual of Human and Comparative Histology," which Stricker had edited. Klein's own work thus became known to English scientists, and in 1871 he was invited by the medical department of the Local Government Board to pursue in this country his histological and pathological studies. He accepted and was appointed assistant professor at the Brown institute, where he laid the foundations of modern bacteriology. His contributions to Preventive Medicine were remarkable, and in the reports of the medical officer of the Local Government Board he published a series of papers on his investigations into the causation of a number of diseases. Dr. Klein was appointed lecturer on histology at St. Bartholomew's Hospital in 1873, and in 1902 lecturer on advanced bacteriology there. He was elected a Fellow of the Royal Society in 1875, and he was an Honorary Fellow of the Society of Medical Officers of Health.

DR. SIDNEY BARWISE.

The Public Health Service suffers a serious loss by the death of Dr. Sidney Barwise, County Medical Officer of Health for Derbyshire, which occurred suddenly at a social gathering on 24th January. Born in 1862, he received his medical education at Queen's College, Birmingham, and qualified as L.S.A. in 1884, becoming a M.R.C.S. a year later. He then took the M.B. of London University, and the D.P.H., Cambridge, completing his qualifications with the M.D. (State Medicine) of London in 1899. After holding various resident appointments he was appointed medical officer of health for Blackburn. In 1891 he was selected to be the first medical officer of health for Derbyshire, and the story of what he achieved for that county is recorded in the series of thirty-four reports of which the last, referring to 1923, was published last September.

Professor A. Bostock Hill sends us the following personal tribute:—

I suppose no one in the Public Health World had an earlier association with Barwise than I did, for, as long ago as 1879, he entered my class in chemistry in the Birmingham Medical School. At that time, I was acknowledged as an extra-mural lecturer for Edinburgh University and was required to give one hundred lectures on Chemistry and Chemical Physics in the winter term. These Barwise attended diligently and I have no doubt that his early work in chemistry had more than a little, to do in determining his future in the direction of Sanitary Science. After quali-

fyng in Medicine and Surgery, he entered the newly formed whole-time Poor Law Service of the Birmingham Board of Guardians and while so occupied became a worker in my private laboratory and also read with me for his degree in State Medicine. In these early days of his medical career, I saw much of him and was much impressed by his ability and earnestness. Shortly after this he went to Blackburn as Medical Officer of Health and there laid the foundations of his future success in Public Health. His great opportunity came, however, when he was appointed the first Medical Officer of Health for the County of Derby.

In that comparatively remote period the work of the County M.O.H. was in the making. Very few statutory duties were laid down. It was an opinion widely held that the office was redundant. Open or veiled hostility was met on all hands. District Councils and their officers were suspicious and in many instances at least the office was not a bed of roses. It speaks volumes therefore for the ability, knowledge and tact of Barwise, that he overcame all his early difficulties and finally established for himself a position of regard among those for whom and with whom, he worked. In the early years of this century, in conjunction with George Reid and myself he did much work in relation to the then newly developed system of Bacterial Sewage purification, and he read one of the papers on this subject at the special meeting of the Congress of the Royal Sanitary Institute. He also published a book dealing with sewage purification, which was of great value to the sewage works manager.

Later on he devoted much time and thought to school hygiene and child welfare work, while his somewhat controversial method of dealing with dental hygiene in schools is fresh in the memory of all. He was extremely earnest in everything he took up and this perhaps was the reason why at times he became a little spasmodic. He was rather apt to startle some of his old colleagues, by the sudden way he declared he had solved a difficult problem in the simplest manner, so much so that in time, some of us were rather inclined to smile at each new suggestion he sprung upon us. Some few years ago he had a very serious accident, doing himself much damage; after this he aged considerably and in my opinion never became his former self. He was a fairly regular attendant at the meetings of the Association of County Medical Officers, and in the earlier days at the Midland Branch of the Society, but he did not take a very active part in

sanitary politics. He was a loyal friend to his brother officials and was much esteemed by the public bodies he served. Now he is gone, some of us think prematurely, he leaves behind a record of strong endeavour and valued accomplishment. His work in Public Health will long stand out as an example to those who follow, for he reached a standard of good work achieved under many difficulties and left not only the County he served but the whole Public Health Service his debtors.

DR. A. G. SHURLOCK.

We record with great regret the death of Dr. A. G. Shurlock, an assistant medical officer in the Hampshire county health department, at the early age of 30. He was the son of Mr. F. W. Shurlock, principal of Derby Technical College, and was born at Bristol on 9th July, 1894. After education at Derby school and Derby Technical College, he proceeded with an open scholarship to Jesus College, Cambridge, where he was a scholar and prizeman, and obtained a first-class in the Natural Science Tripos, Part I. Subsequently he was awarded a senior entrance scholarship in science at St. Bartholomew's Hospital. He became qualified in 1918, at once taking a commission in the army. After some service in France he was appointed a pathologist to the British Expeditionary Force, and served in three of the large military hospitals. In October, 1920, he returned to St. Bartholomew's Hospital, graduated M.B. and B.Ch. Camb. in 1921, and held house-physicianships at the City of London Hospital for Diseases of the Chest and the East London Hospital for Children. As soon as he had obtained his D.P.H. he was appointed (1922) assistant county medical officer for Hampshire, and was soon recognised as thoroughly reliable and efficient. His keenness in the work and his excellent academic record seemed to guarantee Shurlock a brilliant career in the public health service, and his untimely death represents a real loss to the community.

DR. THOMAS BUCKHAM.

We regret to record the death of Dr. Thomas Buckham, medical officer of health for the Lanchester R.D.C., and a Fellow of the Society of Medical Officers of Health. He took the medical courses at the Newcastle-on-Tyne School of Medicine, graduating M.B., B.S., in 1890, and B.Hy. in the following year. He died after only a few days' illness in his fifty-seventh year, and leaves a widow, daughter of the late Mr. Ralph Walton, of Lanchester.

NATIONAL HEALTH INSURANCE.

Memorandum of Evidence for submission by representatives of the Society of Medical Officers of Health before the Royal Commission on National Health Insurance.

(1) The Society of Medical Officers of Health represents a large majority of members of the medical profession engaged in the health service of the country. This service, primarily concerned in the preservation of health generally, has from the beginning recognised the impossibility of adequately discharging its function in disassociation from measures for the restoration of health to individuals. The health service is, therefore, not only engaged in all those broader aspects of public health such as are comprised in the improvement of housing, environment, education and food supplies of the people, the prevention of disease and the like, but is also deeply engaged in more intimate matters relating to the health of individuals in the community. A large variety of health workers are included in the service, among which may be mentioned, medical officers of health; pathologists and bacteriologists; school medical officers; maternity and child welfare medical officers; tuberculosis medical officers; venereal medical officers; hospital medical officers; dental officers; medical specialists and others officially connected with the work, all of whom the Society of Medical Officers of Health represent.

(2) Medical Officers of Health and other medical officers of Local Authorities, have been associated with the National Health Insurance Scheme since its inauguration and they have followed closely and sympathetically its developments and changes, more especially in its effects on the health of the Nation. From the commencement their concern has been solely that of the improvement of the general and individual health of the people, and they feel themselves in a good position to express a fair and unprejudiced opinion of the results obtained under the Scheme.

(3) While the Society of Medical Officers of Health fully recognise that much of the improvement in the social and economic and health conditions of the people is the outcome more or less indirect of the National Health Insurance Scheme, it can be stated at once that no real attempt has been made so far to attain many of the most important objects from a health point of view of the original scheme. Making every allowance for the exceptional circumstances and times under, and during which the scheme has

been in operation, it has become evident that the present system of National Health Insurance suffers great limitations in its possibility for promoting health, and that profound changes are required if the improvement in the health of the people is to continue to be aided and not impeded by it.

Administration.

(4) The National Health Insurance Scheme provides certain forms of assistance to a large portion of the population when physical disablement arises. It is not a pure mutual insurance scheme in which the funds are wholly subscribed by the insured persons, but it is essentially an aided insurance scheme, in which the largest portion of the funds are contributed by the State and by employers through the operation of the statutes. In greater part the scheme is one for social and health improvement maintained and enforced by the State, yet it is to a great extent isolated from the other schemes of the State in operation and doing essentially similar work. On the one hand, the relationship of such work to that done by local authorities should be of a most intimate nature because (a) the work of local authorities in preventing sickness and physical incapacity and ameliorating disease reduces the demands on National Health Insurance and (b) the material assistance and medical treatment provided promotes the general health of the community. On the other hand a relationship of such insurance work exists with that done by the Poor Law authorities in so far as both are schemes of material assistance, the former preventing or lessening the demands on the latter. It is neither practicable nor advisable to attempt to set up at the present time any co-ordination with Poor Law authorities as at present constituted, except as will so far subsequently appear. It is more urgently necessary in the revision of the insurance scheme closely to co-ordinate the work done under it with that of the local health authorities, so that each community should secure the maximum benefit from a joint effort. Centrally it is true that the administrations are amalgamated in one Government Department, but such an amalgamation is of comparatively little value if the practical and detailed working of each in local areas is ill-co-ordinated or impossible.

(5) Every attempt at co-ordination, either central or local, must have regard to points of difference as well as to points of similarity, and the chief point of difference between National Insurance work and that of local authorities, has

relation to the source of funds financing each. In national Insurance the funds are subscribed by the insured person and his employer, while the funds of local authorities are raised by rates; in both cases contributions are made from the national exchequer. The funds in National Insurance are not ear-marked for each benefit, but the contribution by the national exchequer is nearly sufficient to meet the benefit in kind at present provided (medical benefit) while the money payments (the sickness, disablement and maternity benefits) are more than sufficiently covered by the other contributions. It is reasonable that the administration of such funds as accrue from the whole contributions by insured persons and part of the contributions by employers should rest largely in the hands of the insured persons themselves, subject only to such general control as is required to protect public and individual interests.

(6) The voluntary groupings of insured persons in approved societies for the purpose of controlling these funds as at present existing in this country, is defective and requires regulation and amendment. The approved societies are usually formed on national lines and without any regard to the health sub-division of the country, so that although their liabilities for sickness and disablement are largely affected by local health activity, relationships with the authorities responsible for the latter are practically non-existent. While this formation, no doubt, has advantages in averaging the liabilities of approved societies, it has the disadvantage, that it obscures the very intimate association that exists between the efficiency of local health work, and the work of the societies, and the support which each should give the other, is lost. The organisation of approved societies mainly on a national basis has not fostered the development of an interest in their work on the part of the insured persons themselves. Approved Societies are of many kinds and show considerable differences in this respect, but in general it can be said that the great mass of insured persons take little, or no, interest in their societies, and in the case of the societies formed at the instigation of insurance companies which cover more than half of the insured persons in this country, such an interest does not exist, and has never existed. Approved Societies as at present existing, can have little, or no, part or function in the health insurance scheme unless they can so arrange their operations that they secure a genuine local interest in their work and a local management of their funds. This is a change of a drastic nature for the approved

societies, involving many financial and other considerations, but in the interests of the public, the insured persons and the societies alike, it is one which can now be regarded as essential, if the aims of the original scheme are not to be abandoned. The approved societies in each area should be required to form themselves into a council for the area for purposes of negotiation and consultation with the local authority.

(7) Representatives of the approved societies form the majority of the members of Insurance Committees which administer medical benefit and the benefits for deposit contributors, the remaining members being appointed by the County or the County Borough Council, the medical profession and the Minister of Health. This is not a committee of any other body, but is itself a body corporate. The great bulk of its funds represent the national contribution to the Insurance Scheme.

Insurance Committees have certain general public duties, but they have failed to be efficient instruments in the promotion of better health conditions on account of (a) the very indefinite character of their duties (b) their very peculiar constitution which results in their being composed, to a considerable extent, of men and women without a sense of responsibility to the public at large and (c) the disregard of the public for a body which has never been representative of them. Insurance Committees as separate bodies corporate are no longer required. Their duties would be more efficiently carried out by the local health authority, and any advantage that may be thought to accrue from a committee for this matter could as easily be secured by requiring the local authority to appoint such a committee with representation added for the interests involved. On such a new committee the local authority, and not the approved societies, should have a majority representation. Such a new Insurance Committee should, in addition to having to discharge the duties of the present Insurance Committees, have imposed upon it the duty of investigating the incidence of sickness among insured persons in the area as revealed in the records of medical sickness and disablement benefits, and advising the local authority thereon. For this latter purpose, approved societies and panel medical practitioners should be required to make such returns and reports to this Committee as the Minister of Health approves.

Sickness and Disablement Benefits.

(8) The Society of Medical Officers of Health regard Sickness and Disablement Benefits as most important provisions in the restoration to

health of the insured person, and the maintenance of health of his dependents. These benefits frequently form the chief source of income in families at a time of increased expenditure. The lengthened experience now of medical officers of health, particularly in tuberculosis, maternity and child welfare, and the health of the school child, has convinced them of the great part nutritional considerations play both in the preservation of health and the cure of disease, and local authorities in each of the departments of the work mentioned have regarded it as necessary, after consideration of special medical and other circumstances, in many cases, to make arrangements for additional nourishment to be supplied. Sickness and disablement benefits should not, therefore, be divorced in their administration from the general health work of the area, but they should, nevertheless, continue to be managed and controlled by approved societies. These benefits should not be uniform, but they should be fixed in amount within certain limits. The societies should have power to extend the amount beyond the minimum according to the needs of the individual and the nature of the illness, or condition, necessitating the benefit. Societies should not be permitted to increase a sickness or disablement benefit on account of the nature of the illness or similar condition without a proper medical certification of its necessity. The initial step in this matter should be able to be taken by either the society or the medical practitioner attending the case. No increase should operate without the consent of the local authority's insurance committee. Insured persons applying for an increased benefit should also have a right of appeal to the insurance committee. Societies should have power to call upon local authorities to supplement, or contribute, towards the continuance of the benefits in all cases where, but for the existence of increased sickness or disablement benefit, the insured person would require to be relieved by the poor or other rate. Further, the Society of Medical Officers of Health feel that sickness and disablement benefit should be able to be administered so as to form an augmentation of income in sick or disabled persons actually employed. In many diseases, notably tuberculosis, a commencement of work is to be regarded as actually part of the treatment of the case, and the abrupt termination of sickness and disablement benefits where anything of the kind is attempted, leads to a delay in recovery in many cases and in some to the ultimate failure of the treatment altogether. The Society realise the difficult administrative procedure which such a

system of payment of partial sickness or disablement benefit during attempted work would entail, but they feel that if the whole matter were gone into carefully in each disease some arrangements, as for example tuberculosis workshops, could be made which would help to solve the difficulties involved.

Maternity Benefit.

(9) This at present is said to be a mother's benefit in confinement administered by approved societies in the interests of the mother and child in cash or otherwise. In actual practice, in the great majority of cases, it is nothing of the kind, it is merely a cash payment made in confinement which is used by the recipient in any manner which she, or her husband, sees fit. It is clearly impossible for approved societies to administer this benefit properly in any other form than money payments, as apart from the fact that these societies do not possess the knowledge of the essential needs of maternity to enable them to administer the benefit in kind, they have no local relationships, and arrangements for its administration in kind in Penzance would not necessarily be feasible in Berwick. Local authorities have for many years now paid special attention to the health needs of their communities so far as maternity and child welfare are concerned. Since 1915, Maternity and Child Welfare Committees have been set up in each district of England and Wales and there has been developed a large and important public service which has brought about an enormous improvement in the conditions affecting motherhood and infancy. Local authorities feel fully justified by their results to advance still further on the lines already laid down, and many, apart from any question of insurance will undoubtedly do so. Maternity Benefit so long as it is administered in money payments has aided, rather than impeded, the development of the work, but if any attempt were made by approved societies to administer it in kind, a chaotic condition of affairs would result and the whole work would be jeopardised. The Maternity and Child Welfare Schemes have involved local authorities in large expenditures frequently greatly exceeding the total amount of maternity benefit paid in their district. In one area, for example, the cost of this work for motherhood and infancy exceeds £5 per birth per annum over all the births in that locality. These schemes are of the same essential nature as maternity benefit, and the only practical method by which this latter benefit can be administered in the interests of the mother and child is by requiring local authorities to administer it through their statutory Maternity and

Child Welfare Committees. Many local authorities are at present maintaining a maternity hospital; or beds in a maternity hospital; they are running consultation centres for expectant women and they are paying medical fees when necessary in cases of midwifery. In order to administer this benefit satisfactorily provision must be made for (a) medical supervision and examination during pregnancy (b) attendance by a doctor or certified midwife during the antenatal period, the normal labour and the puerperium (c) the attendance by a registered medical practitioner when required during these periods and requested by the midwife and (d) institutional accommodation when necessary. Medical supervision in maternity must not be considered as a part of ordinary medical treatment and antenatal medical supervision of the mother should be regarded as an essential requisite to obtaining maternity benefit. In no case should double maternity benefit be given, even when the wife of an insured person is herself an insured person, and maternity benefit, even in money value, should vary according to the necessities of the mother and the medical character of the case both before and after confinement. Arrangement should be made to bring in the whole medical profession to co-operate in a fuller fashion in the health work of maternity and child welfare committees, but the present maternity and Child Welfare centres of local authorities must be maintained.

Local authorities should be required to prepare and maintain a list of all medical practitioners in their area who are willing to undertake duties in connection with maternity benefit, and copies of this list should be supplied to all midwives practising in the area.

Medical Benefit.

(10) So far medical benefit in the National Health Insurance Scheme has been curtailed to mean such domiciliary medical treatment and attendance as can reasonably be expected from general medical practitioners. The Society of Medical Officers of Health desire to record their opinion that the maintenance of a high standard of work in general medical practice is of the first importance in public health, but they are bound to recognise that the whole needs of insured persons in the preservation of, and restoration to, health cannot be met in this fashion. Medical science and treatment has become increasingly complex, and while this makes ever more exacting demands on the general practitioner, it opens up new lines of treatment which cannot be followed with advantage under the

present curtailed arrangements for administering medical benefit. Financial considerations have in the past led to a restricted meaning of the words "Medical Benefit," with the result that local authorities and voluntary hospitals have felt themselves compelled to make provision of various forms of medical benefits, both of which have become increasingly popular with the public. The fact is not to be lost sight of that insurance funds other than the State contribution have up to the present done exceedingly little to provide such medical benefit as exists for insured persons, and it is safe to predict that whatever sums may become available in the future, these will be insufficient to provide for an adequate medical benefit for insured persons and their dependents. The Insurance Acts contain provisions for contributions by local authorities towards medical benefit, but it is easy to understand why this has not been acted upon.

On the other hand local authorities themselves have spent large sums on services which are covered by a wider reading of the term "medical benefit," thus one local authority is already paying for general hospital treatment alone more than the total amount paid to all panel practitioners in their area for medical benefit. Medical benefit should be administered by the local authority through its Insurance Committee, and a commencement should be made to give medical benefit its true meaning by including (a) facilities to the medical profession for laboratory diagnosis (b) specialist advice and treatment (c) dental treatment (d) treatment in general hospitals and other like institutions (e) further accommodation for the treatment of tuberculosis, especially surgical tuberculosis (f) treatment in convalescent homes (g) home nursing when required (h) all other necessary medical advice and treatment (including the provision of such nursing, dressings and equipment as may be necessary). This is an extensive and costly programme which has already been begun by many local authorities but which will take many years to carry out fully. It is unlikely to be attempted under the Scheme of National Health Insurance as it at present exists.

(11) The need for some genuine co-ordination of all the medical agencies in every area has long been severely felt, and the intricate and costly nature of the provision necessary for the people constitutes an additional reason for a full co-operation of all the institutions and personnel taking part in this work. The medical profession as a whole have been too exclusively concerned in the curative aspect of their work, and

it is essential in the general health interest of the country that they should be encouraged, by every reasonable means, to take a more active part in the prevention of illness. Medical benefit should, therefore, be regarded as not merely a means of restoration to health, but also as a means of preservation of health, and it should include a health supervision of persons not already ill. Health authorities and medical officers of health earnestly desire a closer co-operation and an increasing interest of the medical profession in preventive work. While it is true that this in a general way has been attained under the present arrangements of the National Health Insurance Scheme, it is believed that medical practitioners should in the future have a direct interest in maintaining the patients' health. Varying payments should, therefore, be made to medical practitioners for work in this capacity, the funds for such payments being drawn from any saving resulting from decreased sickness or disablement payments. The Society of Medical Officers of Health does not desire to discuss methods of payment for medical benefit except to point out that up to the present there has been no special inducement, or reward, for good work, and there has been no inducement for preventive work. They would like to add that in many cases coming under their notice, a uniform flat rate payment is unsuitable, as for example, in tuberculosis, when a patient for the preservation of his health requires, it may be for many years, constant medical supervision.

Further, in order to promote a full co-operation of the medical profession with the local health authority, there should be established in each area, a local medical committee for consultation with the authority on the medical work of the area and for taking over the work now done by the existing Local Panel Committee and the existing Local Medical Committee, both of which should be abolished. The new Local Medical Committee should be representative of all registered medical practitioners practising in the area and its approved administrative costs should be borne by the local authority.

Extension of Benefits.

(12) Reference has already been made to the changes necessary in existing benefits which, under the Insurance Scheme, are treated as additional benefits. The extension of benefits to persons not already insured, is, however, a different matter. Two classes of these persons call for attention—(a) dependents of insured persons and (b) poor persons without earned income. In the first of these classes, the need for medical

treatment of the wives and children of insured persons is, from a national and health point of view, even greater than that for the medical treatment of the insured person himself. Reference has already been made to the costly nature of the provision necessary for adequately dealing with this subject and to the fact that a start has already been made by most local authorities to meet the more important needs of their populations in this respect. These authorities are already deeply interested in the health of the children up to five years of age, in the health of the school child up to the time he commences work, and they would be able to link up the various agencies required in each locality in a way which no other bodies could do. For the supervision of the health, and the restoration to health, of dependents of insured persons, arrangements are required somewhat similar to those for the insured person himself, but in the case of young life, the preventive aspects of medicine and the detection of defect or disease in its earliest stage are of even greater importance than in the adult. The health and school medical services during the past 18 years have been developing organisations and institutions for this latter work especially, which now cover the country and have reached large dimensions. The results of this work have been so encouraging that the authorities concerned feel justified in its fuller development and with the experience they have gained, this would not be a difficult matter. Here again, the general medical practitioner would be required to play an important part, not merely in the cure of disease but also in its prevention. Much greater benefit would be derived by the community by the further development of the work done by local authorities, than by any extension of medical benefit to dependents, as medical benefit is understood in the present Insurance Scheme. It is to be clearly understood that all the work done for these dependents of insured persons by local authorities is equally available to dependents similarly situated who have no relationship to an insured person, and it would be unwise for any community to make a distinction in the matter.

For the poor a medical service at present exists under the Poor Law comparable with that under the present medical benefit arrangements. The service is handicapped by the fact that it is controlled by an authority usually disliked by the respectable poor. This causes delay in many instances in seeking medical aid, and there is now no reason why the sick poor should be dealt with as a separate class of sick, and the Society of

Medical Officers of Health is strongly of opinion that whatever arrangements are made for the insured sick should be made available for the poor sick, and that the poor law medical service, at least so far as its out-door work is concerned, should be abolished. Such a change would be readily and inexpensively made by transferring the administration of medical benefit, as extended, to the local authorities.

Miscellaneous.

(13) The present duties of insurance committees in relation to propaganda and education in matters affecting health, have been very fitfully carried out, and with advantage these duties could be placed on local authorities.

The approved societies should be encouraged to take an interest in all questions of health and excessive sickness and should be free to make such representations to the local authorities as they see fit, and ultimately to the Minister of Health.

The administration of all the benefits in all their details should be subject to the Minister of Health, who should form an ultimate Court of Appeal, and who should retain in his hands the right of collective bargaining on behalf of local authorities, if he sees fit. With respect, however, to any matters dealing with professional ethics, involving in any degree by implication conduct infamous in a professional respect, the Court of Appeal shall be the General Medical Council.

SUMMARY.

1. The main function of the National Health Insurance Scheme is to promote the health and social welfare of the people by the distribution of money payments under certain conditions, and by the institution, or furtherance, of measures for the preservation of, and restoration to, health. The scheme is at present so isolated from kindred branches of public work that it suffers great limitations in its power of carrying out its function.

2. The need for a closer relationship between the National Health Insurance Scheme and public activities of a like kind is felt, both centrally and locally, and there is in local and detailed administration an absence of any effective system of co-ordination and mutual co-operation in endeavouring to attain the same ends.

3. For the purpose of distributing payments in money, groupings of insured persons in approved societies form a not unsatisfactory instrument.

4. The distribution of money payments in sickness and disablement has a definite and close relationship to health conditions. Great advantages would,

therefore, follow the grouping of insured persons in Approved Societies on the lines of the areas of local health administration in the country. Approved societies should be empowered and required to carry out their function of distributing money payments so as to secure the maximum benefits both from a health and a social point of view.

5. The present insurance committees have failed to make full use of their opportunities to help materially the health progress of the nation. Their constitution is faulty: they do not command sufficient local respect and their health functions are very indefinite.

6. Insurance Committees should cease to be bodies corporate and committees of local authorities should be substituted in their place.

7. In order to promote a full measure of co-ordination and co-operation, in each area there should be established:

(a) Where more than one approved society is operating in the area, a Council of approved societies for purposes of negotiation and consultation with the local authority.

(b) A local medical committee representative of all registered medical practitioners practising in the area, for purposes of consultation with the local authority on medical matters and for undertaking the duties of the existing panel committee and the existing local medical committee, both of which should be abolished.

8. Sickness and disability benefits should not be administered at a uniform rate, but within prescribed limits in accordance with the needs of the insured.

9. Sickness and disablement benefits should in certain circumstances be able to be paid in part even when the insured person is partly employed.

10. Maternity benefit, whether in its present, or in an extended form, should cease to be administered by approved societies and be administered both in money and kind by local authorities; which, in their turn, should be made definitely responsible for providing medical attention. The attendance upon maternity cases should not be an obligation upon a panel practitioner.

11. Maternity benefit should provide for all necessary medical attendance in pregnancy and maternity, and medical benefit should be understood to be exclusive of such medical attendance.

12. Medical benefit should be administered by local authorities through their committees, with, or without, outside members.

13. Medical benefit should be extended so as to provide insured persons with all necessary treatment and nursing in illness.

14. Medical benefit should be so administered that good work done by medical practitioners in the preservation of health should be rewarded.

15. The advantages of medical benefit as extended should, as far as possible be made available to the dependents of insured persons.

16. The advantages of medical benefit, as extended, should be made available to the poor and the Poor Law Medical System abolished.

NATIONAL HEALTH INSURANCE. MEMORANDUM ON MATERNITY BENEFIT IN RELATION TO PUBLIC HEALTH WORK.

BY

WILLIAM J. HOWARTH, C.B.E., M.D.,
Medical Officer of Health, City of London.

In view of the fact that a Royal Commission is now sitting to consider the various aspects of National Health Insurance, it is desirable that public health officers should give consideration to the problems arising thereon. No sub-division is more important than that of the maternity benefit, and if, as seems probable, a recommendation should be made that the existing benefit be extended so as to include wives and dependants, the importance of the subject is correspondingly magnified.

Financial considerations will play a great part in any decision as to extension, and questions relating to contributions must be regarded as matters of high statesmanship. If, however, the principles of national health insurance are accepted as being satisfactory, but extension is limited for financial reasons I would arrange the importance of medical benefits for purely public health reasons as maternity and child welfare first, medical benefits for persons up to the age of 16 years second, and the present beneficiaries, namely, the workers over 16 years of age, last. The reasons for this grouping, which is purely a personal opinion, need not be set out here.

It is perhaps advisable in the first instance briefly to state the nature of the maternity benefit as it at present exists. It allows £2 for an insured woman or the wife of an insured man, and the amount is increased to £4 when the wife of an insured man is also an insured woman.

It will be remembered that there are two classes of insured persons, namely, those who are members of approved societies and those who are grouped as deposit contributors.

The maternity benefit is administered by approved societies so far as their members are concerned and by Insurance Committees in the case of deposit contributors.

In addition to the maternity benefit of the National Health Insurance Act it will be remembered that local authorities are empowered to pay medical practitioners called in by a certified midwife to attend women in confinement under circumstances laid down by the rules of the Central Midwives Board. For this service fees are paid on a scale approved by the Ministry of Health. In addition many municipal and county authorities have made arrangements for dealing with maternity work in connection with maternity and child welfare clinics and centres, and there are, in addition, facilities available under the Poor Law organisation. The clinics vary in their activities and in the scope of their responsibilities. Beds are available for in-patient treatment at a few; and ante-natal advice is given at most. A feature of the work is the interest taken in respect of the home provision for the anticipated confinement. In other districts beds are available by arrangement with the local authority for cases of either difficult labour, or where home conditions are inadequate. It cannot, however, be said that provision for these purposes is adequate.

The local authority is interested also in the supervision of midwives, the responsibility varying with the grade of authority and whether the designated authority has delegated all or any of its functions under the authorising Act.

The responsibility of the insurance practitioner for parturient women is limited to a "responsibility for examination and advice during the pre-natal period." He is not responsible for the confinement and it is not incumbent upon him to make the examination stated personally, he may transfer that responsibility to another practitioner if he so desires, but payment for such transference would be his personal affair and not the liability of his patient.

It will be noted that the cash maternity benefit is payable without being earmarked for any particular purpose and the women may use it either by expenditure on kind in whole or part, or to assist her to defray the cost of either the midwife, the doctor, or both. The actual legal liability of anyone to provide skilled attendance is limited to that devolving on the local authority to arrange for the services of the medical practitioner to assist a certified midwife as already stated in respect of conditions laid down by the Central Midwives Board.

Maternity benefit is a direct interest of the State. Healthy citizens must be born and nurtured, and undue restraining influences must, in the national interest, be avoided, especially such as are due to the disablement of the women owing to lack of skilled attention, or to the effects of hardship which may follow the depletion of the family's monies as a consequence of the considerable expenditure necessary to obtain assistance at the confinement or afterwards.

In a contributory scheme a woman may be assumed to pay partially for the benefits she receives from insurance. If her contributions are insufficient the balance is made up by the State, which means by the whole community, and this latter portion of the contribution may be asserted as the State's recognition of its responsibilities in connection with child-bearing. A woman, therefore, should be assured of at least the minimum of skilled assistance for the confinement, and she ought, like her better-off sister, to be able to avail herself of skilled attention during the pre-natal stage. It is this latter service which brings to light physical disabilities which may render the confinement dangerous, for many of these dangers can be minimised by a previous knowledge of their existence. There should be skilled assistance available for the confinement and equally skilled attention in the period between conception and confinement.

Notwithstanding these safeguards a woman may have an abnormal confinement or an illness following it which is directly the result of the confinement. Such a condition and such illness again require skilled treatment which may be exceedingly expensive. If the cost has to be borne by the patient it may be to the detriment of the whole family, and though it may be argued that child-bearing is a reasonable responsibility of all citizens, there would be few I think who would object to the contention that the costs of abnormal confinements should be borne, at least in part, by the community. This is the present position in certain specified instances.

Occasions also arise where it is essential that women should be kept under observation during the greater part of the pre-natal stage, and it is surely essential that those women who do not possess sufficient knowledge of the subject should be properly educated during that stage. This appears to be one of the main objects associated with clinics or schools for mothers, and in any extension of maternity benefit it is desirable that this branch of the work should be energetically encouraged. It is a fact also that many doctors

refuse midwifery cases, and I think it will be accepted as a general proposition that if a practitioner is unwilling to attend, if desired, the actual confinement, that he shall have no responsibility for the same woman in the pre-natal stage.

I have already directed attention to the fact that the panel practitioner is only responsible for examination and attendance at this stage and is not under any obligation to undertake the confinement. A system of maternity benefit which would allow the doctor to transfer his insurance responsibility to another doctor for the period covered by the pregnancy and the confinement is not a very sound one, and if such a system were arranged I think it might be assumed that a doctor who so acted would become a panel practitioner with practically only single persons on his list, for there is no greater inducement in the selection of the family doctor than satisfactory attention given to pregnant women. A temporary transfer of this kind would therefore create difficulties.

These preliminary considerations preface a series of suggestions and these are as follows:—

1. In any scheme of national health insurance, advice and treatment for all conditions of labour as well as those of pregnancy should be included, and in any scheme provision should be made for the following: (i.) medical examination and supervision during pregnancy; (ii.) attendance by registered midwife during the normal labour and during puerperium, and (iii.) attendance by a registered medical practitioner during labour and puerperium when attendance is requested by the midwife under the conditions set out by the Central Midwives Board at any given date.

It will be noted that in the above group it is suggested the attendance at a normal labour should be by a registered midwife. There are three possibilities in this connection (a) attendance by a midwife at a normal labour with a right to the assistance of a medical man under prescribed conditions, (b) attendance by a medical man without provision for assistance by midwife, nurse or help, and (c) attendance by a medical man with the assistance of midwife, nurse or help. The ideal attendance would be that under (c), but it is more than probable that financial considerations would prevent such being put into practice and the alternative is either (a) or (b). In the case of a normal labour there can be no doubt in my mind that the woman who cannot afford both doctor and midwife is better off with the services of a midwife than with the services of a doctor. If she can afford both then I think the doctor should

replace the midwife as the responsible skilled attendant. It may be suggested if this is the case why cannot an insured person be granted the alternative of selecting either midwife or doctor and accept responsibility for the higher charge which might result? Personally I do not agree to any alternative for where such is granted it is not difficult to recognise the possibilities of abuse. A woman will probably continue to receive a grant of money if the State provides her with a midwife, and she can if necessary arrange for the attendance of a doctor. In the case of abnormal labour a doctor should be available as under present arrangements.

2. An efficient scheme should provide for institutional treatment for septic patients or for those whose home conditions make confinement unusually dangerous or who require operative interference of a major character.

3. There should exist an efficient service of registered midwives.

4. There should be a satisfactory organisation designed specially to give effect to the proposals. It appears to me that maternity benefit should be regarded as a consideration apart from other medical provision. If a capitation fee is paid for medical attention and benefits for a man, the same capitation fee should be paid in respect of a woman, but for women at child-bearing ages a separate fund for the special services which each woman requires, and which cannot be regarded as illness, should be set apart. In view of these considerations and the fact already mentioned that all medical men are not willing to attend confinements, and the further circumstance that the local authority to-day is interested in safe-guarding women in the ante-natal and puerperal periods it is of first importance that the responsibility for the organisation of the medical part of this work should devolve upon local authorities whatever may be considered advisable regarding the organisation of other branches of national health insurance. I therefore suggest (a) that attendance at confinement and ante-natal supervision should be no part of the duty of the ordinary insurance practitioner, (b) that a special panel be created in every district of medical men who are willing to undertake this work, (c) that women may select their own doctors from this panel, (d) that payment for this service should be an agreed fee for services which may be rendered up to the time of confinement, and (e) that the local authority be made responsible for the organisation and administration of the maternity benefit. The actual local authority would be defined subsequently, e.g., perhaps in a county

area the county council might take over the rural or even some part of the urban work.

Payment for abnormal confinements would still remain a special charge, and the local authority in its turn would institute, and extend the scope of the functions of, its ante-natal clinics; it could be responsible for the service of specialists and it would be responsible for institutional treatment. It might as part of the organisation be arranged that at some stage of the pregnancy one of the practitioners on the special panel who has made the necessary examinations and given appropriate advice should notify an officer of the local authority of the fact and of the conditions observed. In order to avoid any suspicion of compulsory notification of pregnancy a practitioner could enquire of his patient whether she desired the information obtained to be regarded as confidential as is the case to-day in tuberculosis work. In many instances he would consider it advisable that the patient should be under observation by officers of the clinic and he would persuade the patient accordingly.

The above appears to me to be the simplest way of carrying out this work. It would be satisfactory to the local authority and would enable them to extend their preventive work which has been of gratifying value in the past, and it is surely a method which would satisfy the practitioners and which would in addition ensure that the interests of the insured women were fully safeguarded.

MATERNITY AND CHILD WELFARE AND THE INSURANCE ACTS.*

BY

J. J. BUCHAN, M.D., Ch.B., D.P.H., Medical Officer of Health, Bradford C.B.

It is impossible to estimate accurately the effect for good or ill of the present Insurance Acts upon health in general and Maternity and Child Welfare in particular, but no health officer will seriously controvert the statement that arguing from a purely general standpoint the result of these measures on the health of the community, including mothers and children, must have been good, as they have helped very large numbers of the people to meet essential needs in times of sickness, maternity and economic stress. I take it, however, that the object of this discussion this evening is not to content itself by endeavouring to prove some general correlation of this kind, but to review in more detail the present

* Read before the Maternity and Child Welfare Group of the Society of Medical Officers of Health in London, 12th December, 1924.

position, and to formulate some ideas of what, if anything, ought to be done in National Insurance to forward directly the work of promoting better health among mothers and children.

The National Health Insurance Act, 1924, provides in Section 10 (1) (e) for what are called additional benefits being secured to insured persons, and the first of these additional benefits mentioned in the schedule of the Act is medical treatment and attendance for any person dependent upon the labour of a member, while the sixth is an increase of maternity benefit. These additional benefits may come into force where, on a valuation of the assets and liabilities of an Approved Society at the expiration of every five years, a surplus is certified by the valuer to be disposable. The additional benefits are to be administered by the Society except where the benefits are in the nature of medical benefit, when they are administered by the Insurance Committee. The Insurance Act also provided for a future extension of benefits when the sums credited to Approved Societies as reserved values have been written off.

Additional benefits, or extension of benefits, might, therefore, materially affect the work of Maternity and Child Welfare in this country. Under the National Health Insurance Act of 1924, medical benefit has a very circumscribed meaning. It has quite definitely in contemplation the provision of domiciliary medical treatment and attendance on the insured person; medical benefit may be said not to include hospital, dispensary or institutional treatment, or medical treatment and attendance along those lines. There is a power given in the Act to Approved Societies and Insurance Committees to make subscriptions or donations to hospitals, dispensaries and other charitable institutions, and for district nurses and district visitors, and these sums are treated as such benefits as may be prescribed by regulations. This has been done by several Approved Societies, but I believe in each case it has been treated as sickness benefit, and not as any additional medical benefit, for the administration of these benefits has remained in the hands of Approved Societies.

Maternity Benefit, to those fully entitled to it, must be a sum of 40s. given to the mother, who may be either an insured person herself, or the wife of an insured person, or she may be both, in which case the benefit becomes 80s. Maternity Benefit may be in cash, or otherwise, but as it must be 40s. or 80s. as the case may be, it can only become a benefit in kind when an additional benefit is given by way of an increase in Maternity

Benefit. Maternity Benefit may be administered in the interests, not only of the mother, but also of the child, but it is difficult to see how it could be given in the special interests of the child unless it was given in kind (i.e., as an additional benefit). In all cases except that of the deposit contributors, maternity benefit is administered by the Approved Societies.

In the proper sense, the Maternity and Child Welfare Work of local authorities, is work for the preservation of health, and it could hardly be brought within the very restricted meaning of medical benefit in the Insurance Acts. The institutions and district visiting at present constituting a large part of every maternity and child welfare scheme, are, although very different in their ideals, methods and objects, more akin to those hospitals, dispensaries, and district nurses and visitors to which contributions are allowed by Approved Societies which at present constitute almost invariably a sickness, and not a medical benefit. Maternity Benefit enabling the mother to meet the greater economic stress at the time of her confinement is more truly health work, but from the conditions under which this benefit is given, the effect on the health of mothers and infants, while very great, is very indirect in its action.

Up to now the existence of Maternity and Medical Benefit has had little effect in either furthering or retarding the maternity and child welfare work of local authorities. But in all health work a point is sooner or later reached which seems to lie in the ground of both preventive and curative medicine, and this point is reached earlier in Maternity and Child Welfare than in any other branch. Although, therefore, insurance work and the Maternity and Child Welfare Work of Local Authorities have few points of contact at present, any additional benefits by way of medical benefit to dependents or an increase in maternity benefit, or an additional sickness benefit as described, would almost at once raise a position of no little difficulty. From the point of view of the State, the position indeed would soon become intolerable, and if it were allowed to develop, it would demand an almost immediate solution. It is, however, difficult to see how any change in the working of present insurance schemes can influence for good or ill the Maternity and Child Welfare Work of Local Authorities. It is impossible to conceive an increase of maternity benefit administered in kind by hundreds of approved societies, each in its own way, in the areas of hundreds of local authorities, materially helping the Maternity and Child Welfare Work

of these authorities. No good administration would be possible; confusion and waste would be the chief result. It is nearly equally impossible to believe that medical benefit, as defined at present, given as an additional benefit to dependents, would materially affect Child Welfare Work. The character of the medical treatment and attendance in disease at all ages is of comparatively little moment to the health of the community, and while it is greater where the young are concerned, it is really quite a small matter here also.

Maternity and Child Welfare Work by Local Authorities is a work that has already reached very considerable dimensions; in the area of some Local Authorities in this work there is wholly employed a number of medical practitioners that equals 10 per cent. of the total number of practitioners who are working as part-time panel practitioners in the area. It is work that is called for by the State and it is work that has had astoundingly good results. It is worth doing and it is worth extending and it will extend in directions which we now can see and in directions which we are now hardly able to contemplate. It ought to be medically taken with its health ideals into the homes of the mothers and children in each locality and the natural way to do this would be to utilise the medical profession practising in these homes. It is true that a small number of practitioners have never had any health ideals and some have lost what they had, but practitioners have had singularly little encouragement and incentive to cultivate and promote this kind of work. Whatever we may think of the proportion of such practitioners the state in this work can only utilise the material at its disposal and that material will improve with time and use and ultimately become a most potent factor in promoting better health conditions among the mothers and children. But this cannot be done by extending medical benefit as the Insurance Acts know it, and it cannot be done by any additional benefit or any other procedure formulated or contemplated in these Acts. Some changes, much more drastic, are required, changes that will make it possible to break down the barrier between preventive medicine and curative medicine. It is a bold and hazardous undertaking to attempt to set out in detail what all these changes should be, and whoever should attempt it will almost certainly be found a false prophet. But, at no little risk, I will state what I believe are the changes required at the present time in the light of our present experience.

First: The whole health insurance system should be broken in two, a part dealing with the payments in money, e.g., sickness and disablement benefits and like measures of relief, and a part dealing with benefits in kind, of which medical benefit as extended and altered maternity benefit, hospitals, etc., benefit, district nurses and visitors benefit, and the like would be the chief.

Second: The first of these two parts should be administered by associations of insured persons themselves in approved Societies and the second by the Local Authorities through their appropriate Committees.

Third: Medical Benefit should be altered and extended in character and it should be extended to dependents. Local Authorities should be required to specifically co-ordinate preventive medical and curative medical work in their area having special regard to Maternity and Child Welfare Work.

Fourth: Maternity Benefit should have special relationship to the needs of the mothers and infants, it should be dependent on adequate ante-natal supervision, and in no case should it automatically be doubled as in the present Acts.

Fifth: Arrangements should be made to bring in the whole medical profession to co-operate in a fuller fashion in the health work of the community, especially in regard to Maternity and Child Welfare.

These changes would render possible a further step forward towards the betterment of the health of the nation and an improvement in its medical practice, but the full good effect of the change would only be got after some years, when a better understanding by the public of the problems involved had grown up, and a fuller, freer and more harmonious co-operation of the medical profession in all its branches in this work had become possible.

Discussion.

Dr. Flora Shepherd, who occupied the chair, in throwing the subject open to general discussion, stated that she was under the impression that the Society had already put forward a suggestion that maternity benefit should be given only upon the production of a certificate from either a doctor at a clinic or a private doctor that ante-natal examination had been made. There was another practical suggestion that might go forward, viz., the education of the people themselves in the art of keeping well. Rather than attempt to do this by lectures, as had been suggested, better results would be obtained if the teaching were done individually, and it might be possible for maternity and child

welfare committees to obtain a grant for work on those lines. Reference had so far not been made to the important part played by the Health Visitor. Whatever position the general practitioner occupied in the future it was difficult to imagine him acting as the connecting link between the sanitary authority and the people in the same way that the health visitor did.

The Chairman then read the following statement from Dr. Stocks:—

"If as a result of the findings of the Royal Commission on the National Health Insurance Acts the Medical Benefit is extended so as to be available for the dependents of insured persons there will automatically be a much greater accessibility of the general practitioner as far as expectant mothers and infants are concerned. This would for the time being be detrimental to existing maternity and child welfare work in two main respects. (1) The majority of general practitioners are not at present conversant with the modern methods and requirements of infant feeding or modern midwifery. (2) Local authorities and voluntary institutions will say as the voluntary hospitals said to a very large number of out-patients when the original Act came into force, 'The panel doctor is being paid for this service—the people must go to him, and we will only continue our service as far as providing consultants is concerned,' i.e., they will cut down their staffs and reduce the amount of work done.

"With regard to (2) this would undoubtedly be ideal if the general standard of knowledge and advice obtainable from general practitioners were reasonably high and uniform. With regard to (1) quite definite steps should be taken by local authorities in conjunction with the Ministry of Health, the British Medical Association and the Society of Medical Officers of Health to ensure that general practitioners take advantage of the facilities at their disposal of obtaining post-graduate experience at existing infant welfare centres and ante-natal clinics, so that in time these centres may, from the medical staffing aspect, pass out of the control of the local authority to the control of a local medical committee who should arrange for a whole-time medical officer or properly experienced part-time general practitioners (on a rota of 2 years) to do the clinical work. Payment to be made from a Central Pool of the Insurance Act Funds.

"The transition would take time, i.e., 5-10 years but would ultimately be to the great advantage of the medical profession, the maternity and child welfare centres, and the community as a whole, in that the general standard of knowledge

of these important and comparatively new subjects would be greatly raised, and the general practitioner would become as he should be now, the first line of defence against the existence of disease and disability."

Dr. Stella Churchill, late Asst. M.O.H., St. Pancras, expressed a desire to ask Dr. Buchan if he really thought the future was as gloomy as one would foretell from Dr. Stocks' statement regarding the filling of medical posts at clinics from a rota of general practitioners, whose living at present depended upon people getting ill. The general practitioner had had his chance many years ago, when the infant mortality rate was 150, but the rate had not gone down until the work was well organised. Though the reduction might be due in some measure to other influences, the maternity and child welfare schemes had played an important part in bringing it about. The same remarks applied to a midwifery scheme: investigations and experience showed that the general practitioner was more and more getting out of maternity practice when he could, and the results were far from satisfactory.

Dr. Rashell T. Davison, M.O.H., Merton and Morden, speaking in praise of the infant welfare centre, said that when the general practitioner really understood the benefit to his patients that accrued therefrom it would be of very great help in the matter. Dr. Davison asked if it was found that the general practitioner came to the clinics to learn how to keep the babies well.

Dr. Margaret Alden, M.O., Trinity Mission M. and C.W. Centre, Stratford, urged the teaching of the general public in every possible way, such education to begin with the school children. The health visitor had an enormous influence with the mothers because her work embraced also environment.

Dr. John Muir, O.B.E., Asst. S.M.O., London County Council, gave it as his view that if any public question was to be approached it was unwise to "draw a red herring across the track" by a comparison of activities as between the officer and the general practitioner. In regard to the National Insurance Act, which was an insurance against the cost of sickness, the Friendly Society had the administration of funds which should come to maternity and child welfare bodies, and that had to be borne in mind in putting forward any suggestions that might be made.

Dr. Buchan, replying on the discussion, said that he was not pessimistic of the future as

regards maternity and child welfare workers. Though at one with Dr. Stocks in regarding ultimately the private medical practitioner as a first line of defence, it would be years before he could be depended upon to fill that rôle. The maternity and child welfare officer was, in his opinion, a special officer with an outlook entirely different from that even of the private practitioner of the future. Answering Dr. Davison's query, Dr. Buchan said that general practitioners sometimes came to the clinics. In Bradford doctors had sent mothers to a special clinic to learn how to restore breast milk. Under the present Insurance Act, the Insurance Committees had power to do certain public health work. Under a new insurance scheme that power should be transferred to the local authority and exercised by them. Some money should be found out of the insurance fund for special work in regard to maternity and child welfare, and their centres should be recognised for that purpose. Dr. Muir had raised a point that they had to appreciate: their doctors were not paid as health workers, and they had no real incentive to do health work. In the amendment of the Insurance Act there should be devised some means whereby they should be paid for doing health work. This might be brought about by an additional payment out of the sickness funds where the expenditure on sickness had shown a decrease.

THE PROVISION OF MIDWIVES AND THE GENERAL WORKING OF THE MIDWIVES ACTS.

At a meeting of the Society held on Friday, November 21st, 1924, a discussion took place on the "Provision of Midwives and the General Working of the Midwives Acts."

The President (Dr. R. A. Lyster) said that they would be sorry to hear that illness prevented the attendance of Dr. T. Eustace Hill, O.B.E., who was to have opened the discussion.

Dr. J. Cates (County M.O.H., Surrey), referring to the constitution of the Central Midwives Board stated that having regard to the drastic powers possessed by the Board it was important that its constitution should be such that there should be no opportunity for the display of bias. Section 3 of the Midwives Act, 1902, set out the composition of the Board, and from that it was apparent that at the lowest estimate there were four persons coming from an atmosphere warmly sympathetic to the practising midwife. Possibly in view of that composition and having regard to the complaints directed from time to time to-

wards it, Parliament in the Act of 1918 (Section 1) sought to meet the objections raised, though any change appeared to be dependent on the Board itself asking for it. After the passing of the 1918 Act their Society was requested to nominate a member to the Board, and Dr. R. A. Lyster had now for several years very ably filled that position. Without wishing to appear personal, it could be pointed out that in regard to half the present membership of the Board there was a strong probability that any leaning there might be would be towards the side of the practising midwife and not towards the local supervising authority. With regard to the penal case procedure of the Board, which as was known acted as judge, jury and prosecutor, this presumably had been based very largely on the procedure of the General Medical Council. That Council, however, had experienced a good deal of difficulty with its procedure and now took every opportunity of getting the informant to act as prosecutor. He felt that so far as public confidence in the decisions of the Board was concerned it would be well if the Central Midwives Board would allow the local supervising authority who enquires into and reports the case to be prosecutor, the Board retaining only its function as judge. Dr. Cates referred to complaints of the manner in which officers of a local supervising authority were attacked by individual members of the Board when attending as witnesses. They had the right to expect, when appearing before the Board to present a case, that they should be shielded from anything other than legitimate cross-examination. Local supervising authorities felt very strongly too that there should be no interference by members of the Board in the conduct of enquiries of local supervising authorities in the districts of those authorities. A member of the Board, presumably in an unofficial capacity, had been down in the district of a local supervising authority making enquiries and even cross-examining the midwife or some witnesses. That was a highly undesirable action on the part of a judicial authority and totally contrary to the ideas of British justice. Local supervising authorities considered that they frequently did not receive fair treatment at the hands of the Board in regard to a midwife reported to the Board for some offence. The case was investigated, the offence found proved, and then as was customary the midwife was put on a period of probation, the Board stating that after three months a report would be sought from the local supervising authority and again at the end of six months, and that as a result of those reports the Board would come to a decision. Not

infrequently it happened that both reports were unfavourable, yet the Board came to a decision, without calling for any further evidence, that the midwife was to remain on the Roll and no further action should be taken. The tendency of the Board—unintentional no doubt—to ignore supervision reports of local supervising authorities was raising in the minds of the authorities the impression that all was not well in the working of the Board. It seemed certain that possibly owing to its constitution the Board was adverse to receiving suggestions from without even though they might come from sources where it was likely that helpful suggestions could be made. Some year or more ago the Society appointed a committee to make an investigation into the working of the Midwives Acts and the Rules of the Central Midwives Board and to draft a report for submission to the Ministry of Health and the Board (see "Public Health" for September, 1923). That committee took a very great deal of trouble and had had the advantage of including among its number two members of the British Medical Association, men particularly experienced in dealing with the point of view of the general practitioner, the specialist, and the local supervising authority. After careful deliberation the committee issued a report making certain suggestions which appeared to that committee and to the Society to be very valuable. They appeared valuable to other bodies because those bodies had adopted them, in some cases with few alterations. They could say that those suggestions were as regards 99 per cent. extremely important and valuable: as regards the remaining 1 per cent. there was a suggestion that they were not so important and might perhaps be considered rather trivial. When those suggestions came before the Central Midwives Board he did not know what consideration they received, but he did know that the comparatively unimportant percentage was adopted, and the 99 per cent. ignored. With regard to methods of supervision, in the commencement local authorities were encouraged to appoint a superintendent of midwives to carry out the supervision. It very soon became apparent, particularly in scattered areas, that one superintendent of midwives could not possibly cope with the work. Therefore local supervising authorities more and more had come to use their health visitors as inspectors of midwives and for the ordinary routine carrying out of midwives investigations. That action had been bitterly opposed by the nursing associations, but whatever the reasons for that opposition the fact remained that local authorities now very generally

employed their health visitors for the purpose. Then there was the point as to when the health visitor should visit the ordinary birth case. That again had been the subject of the bitterest controversy. Personally, he was absolutely convinced that the sooner the health visitor got into the house the better for the mother and the child, and the better for the supervision of the midwife. His experience had been that nearly all the offences detected had been discovered during the early visit of the health visitor to the homes of the newly-born children. Lastly, how were the midwives belonging to the voluntary nursing associations to be supervised—by the health visitor or by a superintendent appointed by the nursing association? He felt very strongly that if the supervision was to be what it ought to be it must be carried out by a member of the staff of the public health department.

Dr. C. E. S. Flemming said that, as a member of the Maternity and Child Welfare Committee of a County Council; of a similar committee of the British Medical Association, and as a general practitioner, he had an opportunity of seeing the difficulties from each side and could sympathise equally with the administrator and the practitioner. The Midwives Acts seemed to assume that all that was necessary for successful midwifery was that a medical man should be called in when a difficulty arose. This was a compliment to the medical man but put on him an unfair burden, and overlooked the fact that the confinement was only the culminating stage of the pregnancy. For prevention—the ideal of modern medicine and pre-eminently so of their Society—the Acts and their consequent rules made little provision. True there was reference to the prevention of the spread of sepsis but nothing to prevent the causes that led up to it and to those other troubles which were equally serious if not so frequent. From their point of view the most outstanding weakness in the Acts was the inadequate training of the midwife, especially in surgery. Though the midwife was supposed to undertake the management of only normal cases, when the case was abnormal and a medical man had been called to her assistance he had to conduct a case that required the assistance of someone with all the technical skill and knowledge of a trained surgical nurse: if that technique were required of a nurse in a hospital, still more was it necessary when the same work had to be done in a cottage. Dr. Flemming referred to a small matter in the statutory rules for examination that indicated a want of appreciation of what was needed. One of the tabulated subjects was

"Antiseptics in Midwifery and the way to prepare and use them." In place of that "Asepsis in midwifery and how to ensure it" would have better defined what was required and would have been more effective. Unfortunately in the Acts and Regulations reference to ante-natal work was too casual, and there was not sufficient provision made for the examination and, if necessary, the treatment of pregnant women before the actual time of confinement. It should be made the duty of the midwife to advise a woman to obtain the attendance of a medical man either privately or at a clinic. It might even, he thought, with advantage be made a condition that she should not attend any primipara in her confinement unless she (the midwife) had the report of a medical man who had carried out ante-natal examination and any necessary treatment. This could to some extent be ensured by a slight alteration in the regulations, for instance by prefacing Regulation E, 1, paragraph 2, with the words "In the case of a primipara or." In any regulations for maternity benefit under a new Insurance Act it might be made a condition of receiving benefit that ante-natal attendance by a registered medical practitioner should have been given. Failing those methods the same result might perhaps be obtained by educating the public to an appreciation of its advantage and necessity. The supervision of midwives was theoretically in the hands of the medical officer of health but in fact it was to some extent, in the case of district nurses, carried out by the local nursing committees who did not always appreciate the difference between a nurse who was well trained and technically efficient and one who was popular and plausible but not necessarily competent; in fact it was not unusual to find the latter the most in favour with the committee. In view of the excellent work done by those committees it seemed ungrateful to criticise them, and it was invidious for practitioners to make complaint about the failings of a nurse, but there was a way out of the difficulty by reporting to the medical officer of health. He referred to that matter because he had often received complaints from medical men as to the difficulty of getting rid of unsatisfactory midwives, but did not see that anything could be done through the regulations of the Central Midwives' Board or the Ministry of Health.

Dr. J. J. Jervis (M.O.H., Leeds; Member of the Central Midwives' Board), speaking in defence of the Board, said that though like other bodies it made mistakes in his opinion it carried out in an admirable way work fraught with many

difficulties. The Board had to hold the scales of justice as far as possible with an equal bias and to try and be fair to the midwife, to the local supervising authority, and to the public at large. The constitution of the Board in the first instance was brought about because of the need there was at the time for the public to be protected against the incompetent woman, and he thought that any impartial judge viewing the history of maternity in this country since the passing of the Act of 1902 would have to admit that the results had been, if not all that had been desired, certainly on the whole very satisfactory. Dealing with the points raised by Dr. Cates, what was the alternative to the Board being judge, jury and prosecutor in one? If the local supervising authority became the prosecutor each authority would come forward in its own way and the various interpretations which would be put upon the regulations would be bound to bring about confusion. If the Board was to do its work well and time was to be saved it was essential that the individual who presented the case for the prosecution should have the whole of the procedure of the Board at his finger ends and know how to present the case in the most effective way. Though technically true that the Board prosecutes, the Board's solicitor does not himself put forward the case against the midwife. It was handed over to another solicitor employed by the Board who, having gone very carefully into the facts on the information received from the local supervising authority prepared the case and presented it to the Board in a perfectly unbiassed way. If the prosecution was at fault then the local supervising authority was to blame because either it had provided the wrong information or insufficient information. It had been said that the attitude of individual members of the Board towards witnesses was offensive. Though he had heard injudicious remarks made he had not during his two years' membership of the Board heard any definite attack made on any witness. Concerning the point raised of interference with a local supervising authority in the administration of the Midwives' Acts and the Rules of the Board he could say little on that having had no experience of it, but if such interference did take place it was totally irregular and would not, he was sure, be defended by the Board if the Board knew of its existence. It has been said that the Board had ignored the reports of local supervising authorities in cases in which judgment had been deferred. After all the Board was the final judge, and if it considered on the reports from the local supervising authority that a midwife

should be retained then he submitted that that judgment ought to be accepted as final. At the same time out of a very large number of cases in which judgment had been deferred he had seldom known of a case where the reports sent up by the local supervising authority were not very carefully considered and in the majority of instances acted upon. It was stated also that the suggestions of the Society of Medical Officers of Health sent up for consideration to the Board were not adopted. These suggestions, he assured them, were very carefully gone into, and the Board after considering each one of the proposed amendments came to the conclusion that they would endorse some of them and reject others, but he contended that those they did endorse were not of the trivial nature to be inferred from Dr. Cates' remarks. For example, the Board endorsed the suggested amendment to Section 1 (2) of the Midwives' Act, 1902, recommendation (a) probably being the most important of the amendments sent up by the Society. They did not endorse recommendations (b) and (c) of that particular proposal because they did not think that by their adoption they would add to the general efficiency of the section. Many of the suggestions in his opinion were somewhat unimportant. For instance, one of the suggested amendments to the Rules was that the word "preferably" should be omitted, and that the rule (E.5) should read "All instruments and other appliances must be disinfected by boiling. . . ." They knew how difficult it was to achieve that purpose. The midwife could not possibly have the time to boil all her instruments even if it were desirable. All they were concerned with was that disinfection was adequate. There were other of the rules to which amendments were suggested which he would also like to mention but time did not permit. It was suggested that health visitors should be used as inspectors of midwives. The difficulty of course in that was that when there was more than one person visiting throughout the various parts of the district conflicting interpretations of the Rules and consequent confusion resulted. To secure the efficient administration of the Rules of the Central Midwives' Board it was most essential that that should be avoided. As regards the health visitor visiting during the first ten days he thought that would be a very great improvement though there were difficulties there. It had to be remembered that the midwife was engaged for the confinement and for ten days thereafter. She was supposed to be able to do everything required to be done during that time, and in case

of difficulty to call in a doctor and notify the local supervising authority. When they had their better service of midwives it should not be necessary for the health visitor to visit during the first ten days or at any rate more than once during that period. With regard to nursing associations he did not feel competent to offer any views. To come to Dr. Flemming's criticisms, he had first of all alluded to the inadequate training of midwives. That would be met shortly by a proposal for the training to be extended to one year, and he thought they might be confident that the home midwifery service would be very much improved. Reference had been made to the handy woman. Who was it that kept the handy woman alive? The general practitioner, and the question of the handy woman could be settled easily and quickly by the general practitioner himself. As far as ante-natal work was concerned the Board were very sensible of the need of ante-natal care, and a great part of the training of midwives would be devoted to that branch of the work. As it was she was supposed by the Rules to visit her patient to enquire into her history and in the event of any thing abnormal to call in the aid of the general practitioner. Referring to local supervising authorities, the manner in which some of those bodies prepared cases for the Central Midwives' Board was not creditable, neither was the way in which in some instances the duties in reference to the Midwives' Acts and the Rules of the Board were carried out. He had examined the register of a midwife in which there were obvious irregularities but no indication that the register had been examined or the irregularities noted. The local supervising authorities thought, and rightly so, that the administration of those Acts was a very important thing, but when a midwife was sent up for trial and the medical officer of health did not think it important enough to attend himself but sent the inspector of midwives with a case often badly prepared could it be wondered that it resulted in the Board and the exact issue being confused.

Dr. W. A. Bullough (County M.O.H., Essex), said that his authority were so disgusted with the decision of the Board that they never sent a case unless they were absolutely obliged, but preferred to try and deal with the cases themselves. Dealing with the question of infectious disease in a midwife's practice, he proceeded to refer to rule 6 of Section E of the Rules of the Central Midwives Board, which dealt with the matter. Its object was mainly to prevent the spread of in-

fection from one woman to another via the midwife. The rule should not be interpreted or utilised as a timely reminder to the midwife of her carelessness or frailty in the matter of preventing the spread of infection. For example, there was now no justification for the long suspensions to which midwives used to be subjected in some areas. The compensation payable to a midwife under Section 6 (2) of the Midwives Act, 1918, for cases lost due to suspension from practice had very largely stopped that unfair system. It was noteworthy that Rule E. 6 applied to a midwife or a maternity nurse, or, again, whether she was actually in attendance upon a patient or merely in contact with a patient suffering from a condition liable to be a source of infection to others. Four categories could be dealt with, viz., (1) The patient actually suffering from puerperal fever, attended by a midwife. They were all aware how vague the term "puerperal fever" still was, and it was noteworthy that the section of obstetrics and gynaecology of the Royal Society of Medicine had recently discussed the matter with the Society of Medical Officers of Health, and it was to be hoped that some practical guidance would emanate therefrom. Until they got that pronouncement he thought it should be presumed that a temperature of over 100·4 for 24 hours, with quickening of pulse, or rigor with rise of temperature, was a case of puerperal fever, until it had been proved to the contrary by subsequent observation. (2) "Other conditions supposed to be infectious." The Central Midwives Board had refused to amplify that statement, reporting "that it is not possible to frame an exhaustive list of the diseases or conditions which are intended to be included in the description 'supposed to be infectious'." It was desirable that there should be some uniformity throughout the country and those conditions might be classified as follows: (i.) Conditions peculiar to the parturient state: (a) purulent discharge, (b) sores of genitals, (c) offensive lochia. It was noted that each of the three might be due to venereal disease or otherwise. (ii.) Infectious conditions not peculiar to the parturient state: (a) erysipelas, (b) boils or abscesses, (c) certain eruptive fevers, such as smallpox, diphtheria, scarlet fever, typhoid fever, chicken pox. All those conditions might be regarded as capable of being conveyed via the midwife from one patient to another and should be dealt with exactly as in the case of puerperal fever. Other infectious conditions of the patient, such as influenza, tuberculosis, cancer, mumps, measles and whooping cough, were not sufficiently frequent in practice to be

dealt with rigorously, and it was suggested that as most midwives were now becoming better trained and in their own interests likely to do everything necessary to prevent the spread of infection, no special steps should be taken. He did not think the conditions named under the last heading could be conveyed from one patient to another via a midwife, unless the midwife developed the disease herself. (3) Midwives suffering from any of the above. In such a case, naturally, the midwife would be liable to be a source of infection and should be dealt with as in the case of attendance on a patient suffering from puerperal fever. (4) Midwife in contact with some other person or patient suffering from any of the above. In such circumstances the midwife should be dealt with on exactly similar lines, viz., as for puerperal fever, purulent discharge, etc., the eruptive fevers, but for the last group of diseases mentioned (influenza, tuberculosis, etc.), no special steps need be taken other than ordinary precautions. The difficulty was to define exactly what was "contact." It might be mentioned that one of the chief sources of danger was the district nurse-midwife and in some areas very extreme views were taken, but as a matter of practice he was not aware that a district nurse-midwife was any more liable to convey infection to her midwifery or maternity cases than the ordinary independent midwife. In conclusion, Dr. Bullough urged the importance of a model procedure for the guidance of local supervising authorities in the matter.

In the absence of Dr. T. Robinson (County M.O.H., Leicestershire), a statement from him was read. In it he dealt with several points in regard to the improvement of the *bona fide* midwife: the responsibility of the local supervising authority in bringing about such improvement, and the reasonableness or otherwise in striking such a midwife off the Roll if she does not improve—with special reference to the taking and recording of pulse and temperature. The *bona fide* midwife was admitted to the Roll without any inquiry as to her knowledge of the special subject which she had been practising for one year before the Midwives Act was passed, or any evidence, as far as he knew, that such a midwife could even read or write. The original rules did not include any reference to the taking and recording of pulse and temperature, and the *bona fide* midwife was therefore not required to have knowledge of and ability to carry out those requirements. In the revised rules of 1911, however, she was required to do so at each visit, and in 1916 to enter such records in a notebook or chart. It was not

reasonable to expect the absolutely illiterate *bona fide* midwife to be able to carry out that new rule, and if admitted to the Roll without any standard of elementary education or knowledge was it fair to strike her off the Roll if she failed to improve sufficiently as to conform with that rule, or was it fair for the Central Midwives Board to add to any other charge in a *bona fide* case reported to them that of inability to take and record pulse temperature? Under the Act there was no responsibility placed on the local supervising authority with regard to the bringing about of any improvement in the knowledge of the midwife, as such, but in January, 1923, the Central Midwives Board stated "with regard to instructing such midwives in the matter of taking and recording pulse and temperature the Board thinks that this properly falls within the duties of a local supervising authority." Did the advent of that new rule make the local supervising authority responsible for finding *prima facie* cases against all the *bona fide* midwives who were unable to comply with it? In reply to an enquiry on that point the Board had said that that was a matter that rested with the local authority. Hence the latter were placed in an invidious position. Dr. Robinson instanced a case in which the charge of failure to take pulse and temperature was added by the Central Midwives Board to the original one of having to call in medical help to a very severe case of ophthalmia. The Board found all the charges submitted by the Authority proved and did not consider they could be adequately dealt with by a censure or caution, but before proceeding to remove her name from the Roll required the local authority to report at the end of three and six months on the midwife's practice, "and also to submit a certificate at the end of three months as to her capacity to take the pulse and temperature of her patients." The woman in question, who could neither read nor write, but who had done fair practice amongst the poorest class of patients in the county, did learn to recognise when the mercury in a thermometer reached 100·4, and could, when inspected, count the pulse fairly well. The result was that no further action was taken by the Board and the *prima facie* case against her, which was a very serious one, was not proceeded with. He contended there should be some power to fine, or some intermediate penalty, between censure and striking off the Roll. If the practice of uncertified midwives was to be stopped, and the covering of such practice by medical practitioners, the words of the Notification of Births Act would need to be altered so that the notice of the birth

had to be signed and sent by the person actually in attendance or, in the very exceptional cases of there being no one in attendance, by the husband or the mother herself.

Dr. W. G. Savage (County M.O.H., Somersetshire) said that all of them must be impressed by the fact that the passing of the Midwives' Act had been of benefit in regard to infant welfare. He was in thorough agreement with the views of those who held that the midwife should be well trained and anything that increased her period of training was of advantage. In some respects there was a good deal to be said for the midwife, and it was only fair that they should say so. In regard to puerperal fever, for example, he had found in Somerset that the midwives did notify cases, whereas the doctors often did not. For the last 14 years every case of puerperal fever has been made the subject of detailed inquiry through both the Medical Officer of Health and the Inspector of Midwives.

The figures for the five years 1920-1924 (to date) are as follows:—

Notified Cases.		Percentage Cases. of whole.	
Attended by midwives as midwives	24	42·1	
Attended by midwives as midwives but Doctor called in during parturition	10	17·5	
Doctors' cases (with or without qualified monthly nurse)	23	40·4	
	57		

Of the births about 53 per cent. are attended by a midwife and 47 per cent. by a doctor or by someone not a midwife.

The figures show that 40·4 of puerperal cases were doctors' cases. If we allow 7 per cent. of the 47 per cent. for handy women cases this leaves 40 per cent. doctors' cases, so the proportion is identical. In view of the fact that the midwife has to (and does) notify all rise of temperature and that several of the cases included as puerperal fever are mild pyrexias which would not be notified by medical men, if in their practice, as puerperal fever, and also that many definite cases notoriously are not notified by general practitioners it would appear that there are more puerperal fever cases in Somerset amongst doctors' than amongst midwives' cases. How far the doctors themselves or their assistants—midwives, monthly nurses or handy women—are at fault is another question, but the doctor is responsible for these cases.

On the question of supervision he disagreed with Dr. Cates in his view that the proper person to supervise midwives was the health visitor. Health visitors were too near in their status to supervise midwives properly. Many of the health visitors, though excellent in their own sphere of work, were inferior in midwifery practice to the midwives they might have to supervise, and it was not surprising that the midwives showed resentment.

In May, 1915, as a purely voluntary arrangement the Somerset County Council started a contributory scheme. Parents paid 2s., and then if a doctor was called in the County Council paid the bill. The finances were based on the supposition of one call in 10 cases, the Somerset percentage for a good many years, and a substantial call on County Council funds was anticipated. Only patients with total income below £160 were eligible.

The passing of the 1918 Midwives' Act stopped the voluntary scheme, as it was now a legal requirement, but from 1919 the contributory scheme was continued. The following table shows the essential particulars.

Year.	Percentage doctor called in.			Average fee to doctor.	No. of a/cs paid.	Fees paid out.	Receipts.			Nett cost to County Council.
	Trained.	Bona Fide.	All.				Contributory.	Other.	Total.	
						£	£	£	£	£
1915	13·8	5·8	12·1	—	—	—	—	—	—	—
1916	13·7	5·8	12·2	—	—	—	—	—	—	—
1917	15·8	5·3	13·9	—	—	—	—	—	—	—
1918	26·1	9·2	22·4	—	—	—	—	—	—	—
1919	21·8	9·3	20·4	30/-	205	304	167	5	172	132
1920	27·7	7·3	25·9	31/-	554	847	268	24	292	555
1921	20·8	14·2	20·2	30/-	765	1149	314	27	341	808
1922	27·5	16·2	26·6	32/-	818	1282	316	22	338	944
1923	25·9	9·7	24·8	32/-	761	1203	314	12	326	877
1924 (6 mths)	24·0	16·0	23·5	—	384	591	334	16	350	241

The table shows several points of interest. One is the discrepancy between the calls of *bona fide* and trained midwives, a difference which is constantly maintained. Another point of interest is the rapid rise in the number of calls as soon as the certainty of the services of a doctor was secured. They very quickly rose from an average of 12 per cent. of calls to 20 per cent. and even 25 per cent. The wording of the midwives' rules is so indefinite that it is not possible to exclude these cases as not properly coming under the rules. It seems to me, however, rather a reflection on the character of the training of midwives that they should need to call in a doctor in 25 per cent. and 27 per cent. of their cases.

The financial effect of the contributory scheme was unsatisfactory in view of the large increase of calls and from April 1st, 1924, the contributory fee was raised to five shillings. Judging from the six months' working this has not increased the percentage of calls and has markedly improved the financial position. I think it will be found that the scheme is now financially satisfactory and probably better than in other districts where the fees have to be recovered. The present position roughly is that there is one call for a doctor's services in four cases, for these four cases the County Council receives 20s. and pays out 30s., that is the patient pays two-thirds of the cost and the County Council one-third. Over 90 per cent. of our cases come under the contributory scheme.

The President remarked that the whole subject was a very big one to discuss in so short a time. He regretted that one point prominent in the title, "The Provision of Midwives," had not been referred to. The importance of the supply of midwives was, in his opinion, exaggerated. In his own area in Hampshire there were far too many midwives doing little practice, while other

districts were in need of them. The shortage was most acute in the scattered rural areas, where it was often much cheaper to supply maternity beds.

Dr. Cates, in replying, said there were two points to which he would like to refer. Dr. Jervis had stated that he had seldom known of a case where the report of the local supervising authority had not received consideration. If Dr. Jervis knew of one case where proper consideration had not been given, then he thought there was ample proof that the complaints against the Central Midwives Board were justified. With regard to the question of boiling for the disinfection of instruments and appliances the special committee of the Society came to the conclusion that boiling was a safe method to adopt, and

that there was nothing the midwife carried that could not be boiled.

The President said that the very interesting discussion that had taken place that afternoon had justified the change from the written paper to the new method, and he hoped that future meetings would prove equally successful.

Society of Medical Officers of Health.

ORDINARY MEETING.

An Ordinary Meeting was held at the House of the Society, on Friday, February 20th, 1925, the President (Dr. R. A. Lyster), in the chair.

The Minutes of the last meeting having been approved and signed, the following candidates were elected to the Society:—

As Members:

Barker, Malcolm, M.R.C.S., L.R.C.P., D.P.H.; Butcher, Walter Herbert, B.A., M.D., B.Ch. Oxon., D.P.H.; Ewen, Evelyn Baillie Gordon, M.B., Ch.B. Ed., D.P.H.; Harvey, William Clunie, M.B., Ch.B. Glasg.; Howie, Elenora Jessie, M.B., Ch.B. Ed.; Linzee, Neville Hood, M.R.C.S., L.R.C.P., D.P.H.; Lister, Septimus Rayner, M.D. Durh., M.R.C.S., L.R.C.P.; Masters, Arthur Murray, M.D., Ch.B. Ed.; Morris, Rosemary Owen, M.B., Ch.B. Ed., D.P.H.;

As Associate:

Hyslop, Albert Leslie, L.D.S. Eng.

A number of nominations were received for the next election of members.

A discussion on "Practical Unification in Public Health Administration," was opened by Lt.-Col. F. E. Fremantle, M.P. Others who took part were the President, Sir Thomas Legge (Home Office), Col. H. P. D. Barrow (War Office), Prof. H. R. Kenwood, Dr. E. Colston Williams, Dr. H. W. Harding, and Dr. T. S. McIntosh.

[A report of the discussion will appear in an early issue of PUBLIC HEALTH.]

The meeting then adjourned.

METROPOLITAN BRANCH.

A meeting of the Branch was held at the House of the Society, on Friday, 9th January, 1925, Dr. Charles Porter, the President, being in the Chair.

Dr. A. Louise McIlroy, Professor of Obstetrics and Gynaecology, University of London, read a paper of considerable interest upon the subject of the institutional treatment of tuberculosis complicated with pregnancy. A very full discussion, in which the President and many members took part, followed the reading of this paper.

The Branch cordially thanked Dr. McIlroy for her address and decided to consider at an early meeting what steps can be taken in London to improve the arrangements for the institutional treatment of tubercular women in pregnancy and confinement.

Communications were received from the Midland and Home Counties Branches of the Society, requesting the support of the Branch to their nominations of Dr. Ridley Bailey and Dr. G. F. Buchan respectively for the Presidency of the Society for the Session 1925-26. It was decided to adjourn consideration of these nominations to a future meeting.

The Branch considered a communication from the Clerk to the Metropolitan Asylums Board which referred to the visit of the Branch to the North Eastern Fever Hospital, Tottenham, during the summer of last year and stated that the Board will be pleased to arrange further visits to various other institutions under their control.

It was unanimously decided that the Board be informed of the Branch's appreciation of their courtesy and kindness in extending this invitation and that it be accepted.

MIDLAND BRANCH.

The fourth meeting of the session was held at the Council House, Birmingham, on Thursday, February 5th, 1925, at 3.30 p.m. The President (Dr. R. W. Stocks) was in the chair and there was an attendance of seventeen members.

Apologies for absence were received from Doctors Robertson, Ridley Bailey, Millard, Jolly, Ferguson, Gibbons Ward, Goldie and Tapper. The minutes of the last meeting were read, confirmed, and signed.

The Chairman referred to the loss sustained by the Public Health Service in the sudden death of Dr. Barwise, and mentioned that Doctors Garrow and Watt had represented the Branch at the Memorial Service at Derby. Members present expressed their sympathy by standing in silence. The action of the Hon. Sec. in sending a wreath and a letter of condolence was approved.

A letter from the Exec. Sec. of the Society was read asking for the consideration of Branches on the Report of "Special House and Journal Committee" appearing in "Public Health," February, 1925, and also calling attention to the paragraph headed "Circulation of Questionnaires" in the same issue. It was proposed by Dr. Cowie, and seconded by Dr. Snell, that these matters be referred to the next meeting. This was agreed to.

A letter submitted from the Secretary of the College of Pestology was allowed to lie on the table.

Communications were also read from the Hon. Secs. of the Yorkshire and Home Counties' Branches with reference to nominations for the Presidency of the Society—Session 1925-6.

The President then called upon Dr. E. Bertram Smith for his paper on "Orthopædics and its Relationship to the Health and School Medical Departments." In this paper Dr. Smith pointed out that Orthopædics was at present chiefly developed by the School Medical Service and that it ought to be more in the hands of the Health Department. He illustrated his points by reference to the Nottingham scheme. A discussion followed in which Doctors Stocks, Miller, Bracey, Clendinnen and Cruickshanks took part.

A letter was also read from Dr. Barlow in which he outlined the Wallasey Orthopædic scheme.

At the conclusion of the meeting a hearty vote of thanks was awarded to Dr. Smith for his interesting paper.

NORTHERN BRANCH.

Following a Meeting of the Council, a General Meeting of the Branch was held in the Medical Institute, 7, Windsor Terrace, Newcastle-upon-Tyne, on 6th February, 1925. There were present 17 members, including the President, Dr. W. H. Dickinson.

The Minutes having been approved and signed, sympathetic reference was made to the loss the Branch had sustained through the death of Dr. Thomas Buckham, M.O.H., Lancaster.

The Honorary Secretary was instructed to convey to Dr. T. Eustace Hill the sympathy of the members in his present ill-health.

Dr. Doris H. Motyer, Assistant S.M.O., Jarrow, and Henry Evers, M. and C.W. (Part-time) M.O., Newcastle-upon-Tyne, were elected members of the Branch.

It was moved, seconded, and unanimously resolved that Dr. George F. Buchan be nominated by the Branch for the Presidency of the Society in 1925-26.

It was decided to hold a special meeting of the Branch to consider:—

- (a) The draft report of the Council of the Society upon policy in regard to the House and Journal, and
- (b) Policy of the Society in Relation to National Health Insurance,

so soon as the reports in question were available for general perusal.

Dr. J. Dickinson Leigh raised the question of the whole-time clinical officers and fees for private consultations. He made the objection that the resolution discountenancing such fees by the B.M.A. Annual Representative Meeting, 1924, was passed without any opportunity of representation by the persons intimately concerned, i.e., the clinical officers themselves. After considerable discussion it was decided that it should be left to the Council of the Tuberculosis Group of the Society to consider the matter and bring it to the notice of the Council of the Society.

Dr. R. MacLeod was appointed vice the late Dr. Thomas Buckham as a representative of the Branch on the District Joint Consultative Committee of Local Government Officers.

The Meeting then discussed the President's Address—"The Outlook in Tuberculosis"—delivered at the Annual Meeting on 10th October, 1924. Most of those present took part and the President replied to the many points raised.

TUBERCULOSIS GROUP.

A Group Committee Meeting was held at the House of the Society on Friday, January 16th, 1925, at 10 a.m.

Present: Dr. Neville Cox (Chair), Drs. Peyton, Pedley, Swan and E. Ward (Secretary).

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

2.—The Council representative narrated events that had taken place at the last Council Meeting and at various committees.

(a) It had been decided to purchase the House of the Society.

(b) The question of a weekly journal was under discussion as well as, what seemed more important, a raised subscription to the Society; but this would be referred, in due course, to the Branches before any decision.

(c) The Evidence Committee did not agree that a member of the T.B. Service should give evidence concerning tuberculosis before the R.C.N.H.A. Many of this committee's recommendations, however, had been adopted after modification. Drs. Lyster and J. J. Buchan are to give evidence for the Society.

(d) A Committee of the Council was also discussing the new regulations for the Diploma of Public Health, but nothing had yet arisen which especially concerned the Tuberculosis Service.

3.—*Concerning the Salaries Scale.* It was announced that the County Councils' Association have refused to consider the New Scale circulated by the Ministry of Health. The Association of Municipal Corporations are still considering it and the Associations of Urban and Rural District Councils have asked for a conference with the other Associations of Local Authorities.

A Joint Meeting of our Council with the B.M.A. would shortly be held, at which decisions as to future action will be taken.

4.—The New Tuberculosis Regulations and Circular 549 were discussed. It was decided that the whole question of the notification of Tuberculosis should be carefully considered by the Group and a memorandum then prepared for submission to Council.

5.—Dr. Peyton reported the action he had taken on the question of consulting fees to whole-time T.O.'s.

SCHOOL MEDICAL GROUP.

The twenty-fifth general meeting of the School Medical Group was held at the Society's House on Saturday, January 17th, at 8 p.m. Eight members were present, Dr. Fraser (President), in the Chair.

After dealing with letters of apology for absence and other correspondence, short reports of the sixth and seventh meetings of the Metropolitan and Home Counties Sub-Group were read.

In the regretted absence of Dr. Raymond Gamlin, Sen. Asst. S.M.O., Liverpool, his Report on the League of Nations Course for School Medical Officers was read by the Hon. Secretary.

The Report was followed with the greatest interest and many points in it were discussed during the reading.

A vote of thanks to Dr. Gamlin was proposed by the President and carried unanimously.

THE salary of Dr. A. A. E. Newth, senior assistant school medical officer at Nottingham, has been increased from £750 to £800 per annum.

THE Conjoint Board of the Royal Colleges of Physicians and Surgeons have conferred the Diploma in Public Health on the following:—William H. Brodie, M.B., Ch.B. Aberd. Univ.; Arthur A. Denham, M.B., Ch.B. Edin.; Evelyn B. G. Ewen, M.B., Ch.B. Edin.; Charles Glen, M.B., Ch.B. Glasg.; Margherita M. Lilly, M.B., Ch.B. St. Andrews; Ian M. Rattray, L.R.C.P., M.R.C.S. Cambridge Univ.

Reviews.

AN INTRODUCTION TO PRACTICAL BACTERIOLOGY AS APPLIED TO MEDICINE AND PUBLIC HEALTH. By T. J. MACKIE, M.D., D.P.H., and J. E. MCCARTNEY, M.D., D.Sc. Edinburgh: E. and S. Livingstone, 16 and 17, Teviot Place. pp. 297. Price 8s. 6d. net.

This manual is intended by its authors to be a guide to practical bacteriological technique and represents in outline the teaching in this subject imparted by them to undergraduate and post-graduate students in the University of Edinburgh. Its pages will be found to be crowded with a mass of technical details, some dealing with operations that are by now well standardised, others dealing with subjects that are in the main new to similar compilations.

It is with lively pleasure that we read of the ritual surrounding the preparation of Noguchi tubes. It is good also to come across a description of *Bacterium pneumosintes*. But why mention Olitzky and Gates and at the same time omit the name of Pasteur in connection with Rabies or—and perhaps this is a better parallel—*Vibrio septique*. There are other names too that might be written at suitable points without any interference with the subject matter—Koch, Ehrlich, Roux, Kitasato, and—to come nearer home—Bruce and Wright. Their inclusion would, we believe, add a human interest to the manual and so enhance its attractiveness.

Readers of this Journal, who are concerned in the application of bacteriological methods to problems in Public Health, will naturally turn with interest to such sections of the manual as deal with these matters. They will find that the authors are not altogether in sympathy with actual practice. For instance, the technique of examining milk for tubercle bacilli as it is explained in the manual may suffice for the student but it is insufficient for the practical laboratory. The diphtheria virulence test, as described on page 182, might be replaced more advantageously with the more modern guinea pig Schick test which is now in universal use. We feel that there need be no difference between precept and practice in matters of this sort.

These, however, are but details which can be easily remedied in a second edition. The authors are to be congratulated on their presentation of an admittedly unattractive subject, and it must be said that the publishers have spared nothing to bring success to their efforts.

AN INVESTIGATION OF THE SALMONELLA GROUP WITH SPECIAL REFERENCE TO FOOD POISONING, by WM. G. SAVAGE, M.D., and P. BRUCE WHITE, B.Sc. London: H. M. Stationery Office; price, 8s. 6d. net.

All Medical Officers of Health, who in the past have had to investigate outbreaks of food poisoning, will hail with pleasure the advent of this Report. It has now been established for some years that these outbreaks have been caused by the presence of organisms of the Gaertner or Salmonella group, and although much has been written here and in America, on this subject, the whole question requires further elucidation. In this report the identification and classification of organisms of the Salmonella group are dealt with, as well as their distribution in nature and the effects produced in animals by their infections. The report consists of three parts: (i.) Serological studies with regard to the classification and behaviour of Bacilli of the Salmonella group by P. Bruce White; (ii.) the classification and distribution in nature of the Salmonella group by W. G. Savage and P. Bruce White; (iii.) Studies upon the methods of action of the Bacilli of the Salmonella group.

To the practical worker in Public Health, parts (ii.) and (iii.) will appeal most, and in their preface the authors say: "In part (ii.) we have tried to demonstrate that these sub-groups not only have a definite distribution in nature, but have become somewhat specialised in their disease producing characters. It is obvious that until this is done it is not possible to disentangle their relationships to disease, or to place the ætiology of food poisoning on a firm basis."

"In part (iii.) we advance experimental work which we consider helps to explain the differing disease producing roles of these sub-groups."

The report is a monument of close study and careful experiment and will well repay careful perusal. This report will be followed immediately by another joint report by Dr. Savage and Mr. Bruce White upon the detailed investigation of 100 actual recent outbreaks of food poisoning in this country.

"THE NEW DECALOGUE OF SCIENCE." By ALBERT EDWARD WIGGAM. pp. 287. Published by J. M. Dent and Son, Ltd., London and Toronto. Nett Price, 7s. 6d.

This interesting book is based on an essay which appeared in the "Century Magazine," in March, 1922, but the author states that but for his wife's extensive reading in biology, psychology, genetics, and heredity, the book would not have been written. Frankly it is an addition to the literature of "Eugenics." It is addressed to

statesmen, and is divided into five parts. Facts and arguments more or less known to many people who keep themselves fairly abreast of modern biological and eugenic literature are adduced with references to and quotations from such writings. The author considers that the only religion which can clean up the world is a system of morality based on intelligent appreciation of biology, touched (perhaps) with emotion. Warnings are given as to the fatuity of trying to equalise men when biologically they are not equal. Heredity is treated as a vastly greater factor than environment, and statesmen are implored to make physical and mental heredity their first solicitude—otherwise—they are warned—their well-meaning philanthropic schemes will hasten the deterioration of the race. No mention is made of diseases such as Rickets which are almost entirely due to faulty environment (airless slums, insufficient sunlight, lack of exercise and of suitable food, and of mothercraft) but a warning is launched against existing state ideals and institutions (e.g., the campaign against tuberculosis) as tending to weaken the human breed. A final warning is to the effect that morals, education, art, and religion, will not in themselves improve the human race, and a suggestion is made that all this meta-physico-theological "junk" should be jettisoned, while Science combined with the spirit of Christ should usher in a new Ethics—the sole test of righteousness to be the practical results of intelligent action. Though there appear to be some contradictions and omissions which will perhaps strike medical public health workers most, the book should be perused, and not least for its last part on The Ethical Outlook. Though some may be disappointed—they will find compensation and entertainment in the correspondence between the author and Mr. G. Bernard Shaw which appears in the appendix.

Correspondence.

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

THE TEACHING OF CONTRACEPTIVE METHODS.

Sir,—One must agree with Dr. Duncan Forbes that public discussion of this question is extremely distasteful, but that is not sufficient reason for evading the issue, and therefore I for one am glad to see that he has put forward certain views

which are no doubt held by a great many people, but in my opinion require an immediate challenge.

So far as I can gather from his letter, he regards self-restraint and abstinence as the only sound methods to be advocated, and as a measure for assisting abstinence, he suggests the arrangement of separate beds. As one knows, the arrangement of separate beds is very common already among the middle and upper classes, but this arrangement is to be ascribed in most cases to desire for more complete comfort and surely could not be any possible bar to sexual intercourse: the distance of a few feet is not likely to be considered as any reason for abstinence.

Amongst the working classes with their limited accommodation, and relatively large families, the proposal of separate beds with the prospect of increased house work and outlay, must indeed be a fantastic one, and here again is not likely to be the slightest bar to intercourse: on the contrary the arrangement might even, on occasions, be an attraction!

And, indeed, provided the physiological limit of safety to health is not passed, I cannot see any reason why we should expect the ordinary healthy young married man or woman to practice any irksome or undue self-restraint. What does Dr. Duncan Forbes suggest as a possible "abstinence standard?" One intercourse a year is quite sufficient to produce one baby a year and *a fortiori*, one a month or one a week would be certain in the case of normal persons and in the absence of contraceptive methods to achieve the same result.

Besides what is the difference on moral or ethical grounds in trying to dodge nature, in one case by abstinence, or in the other by the use of preventives? Surely if one method is immoral, the other is also, because in either way you set out to accomplish the same object, which is that of attempting to defeat the workings of Nature for the propagation of the race. What is the married state for? In the first place it is intended for the procreation of children, which necessarily connotes the practice of sexual intercourse, secondly it is intended for companionship.

With regard to companionship, I think it can hardly be questioned but that in many cases married couples get heartily sick of each other before many years have elapsed, but there is one thing that they never get tired of, and that is the accomplishment of the sexual act. Sexual union is therefore the main binding link. But when the desire for sexual congress is for some reason or other (prudential motives, ignorance of con-

traceptive methods, illness, dislike of intercourse, etc.), constantly and persistently baffled, thwarted, or not complied with, then the curtain commences to rise on one more of the grim tragedies of married life which are nearly always due to the perversion of normal sexual relations.

With regard to contraceptive methods I entirely agree with Dr. Forbes that an instrument which has to be carefully placed in position, and afterwards removed and washed, is one not likely to be of much service to unintelligent classes, but so long as sexual congress can be effected with full physiological satisfaction to both parties, and so long as the method employed can do no physical harm to either, it does not seem to matter which contraceptive method is employed. There can be no harm for example in the very simple expedient of introducing into the posterior fornix immediately before congress, a small portion of one per cent. Quinine ointment, or of Ung: Hyd: Ox: Flav. of similar strength: in either case conception is practically impossible provided that the medicament is properly introduced, and this of course presents no trouble or difficulty whatever; further, the method requires no after treatment (e.g., washing, syringing) at all.

Fifty years ago families of 8 to 15 among the working classes and of 3 to 6 among the more educated classes were quite common. Nowadays the numbers have been reduced, roughly speaking, in the former class from 3 to 6 or 8, and in the latter to 1 to 4. It must therefore be an error to suppose that the working classes do not as a matter of fact practice birth control very extensively at the present time, although not to such an extent as the higher social grades, whose example they are, as always, gradually following. It is fairly certain however that abstinence is not the method adopted, nor is it one which stands any chance of being followed to any extent, unless there is a complete change in the orientation of human desires.

I am, Sir,

Yours faithfully,

E. W. ROUTLEY, M.O.H.

Municipal Buildings,
Aldershot.

11th Feb., 1925.

CONSEQUENT on an extension of the area of the Farnham urban district, the salary of Dr. S. G. Sloman, M.O.H., has been increased from £137 to £250 per annum. The council rejected the suggestion of the Ministry of Health that they should combine with the Farnham R.D.C. to appoint a whole-time medical officer of health.

Public Health

THE JOURNAL OF

The Society of Medical Officers of Health.

No. 7.

APRIL, 1925.

VOL. XXXVIII.

Subscription price, 31s. 6d. per annum, post free in advance. Single copies, 2s. 6d., post free.

Editorial.

LEGAL POWERS FOR THE CONTROL OF THE MILK SUPPLY.

It is all to the good that at the present time there is so much discussion upon the problems surrounding our milk supply. There is nearly universal agreement that the conditions under which milk is produced are unsatisfactory and that while there has been considerable improvement during recent years, in general these conditions remain deplorable as regards a material percentage of the producers. All sorts of remedies for this state of things are advanced including specially designated milk, universal pasteurization and the education of the farmer by precept and by example. While most of these remedies are valuable and worthy of careful consideration, in the paper which we reproduce on page 205, Dr. Savage discusses the legal side of the problem. He points out that not only are the powers of supervision placed in the wrong hands but that given the utmost goodwill in their operation they signally fail to provide satisfactory powers for dealing with faulty milk producers.

The contrast between the powers over milk distributors and those over the production of milk is extremely marked, indeed glaring, so much so that the Ministry of Health was constrained in their Circular of August, 1922, upon the powers in the Milk and Dairies (Amendment) Act, 1922, to try and explain the discrepancy. The explanation offered was that the powers already available for dealing with producers were not only very wide but sufficient to enable Local Authorities to take all necessary steps for the protection of the milk supply from contamination. Dr. Savage discusses in detail the validity of this singular optimism and we think he proves his case that instead of ample powers being available, all sorts of practices, which would never be tolerated by the public if they were aware of them, are possible

CONTENTS.

EDITORIAL—

Legal Powers for the Control of the Milk Supply	197
The £600 Minimum	198
Industrial Hygiene Congress at Amsterdam	198
School Attendance and Public Health	199
Board of Education.—Special Service Regulations, 1925, and Circular 1354	200
The Teaching of Infant Care and Management to School Girls	202
The Supervision of Defective Children	203
The Sanitary Officers Order, 1922	203
The Campaign Against Venereal Disease	204
Notices	204

Are Present Legal Powers Capable of Enforcing the Production of Clean, Pure Milk? (By William G. Savage, M.D., B.Sc., D.P.H., County Medical Officer of Health, Somerset)	205
Mentally Defective Persons. The Value of Intelligence Tests in the Prognosis of their Future Careers (By James W. Fraser, M.D., C.M., M.R.C.S., School Medical Officer, Hull)	209
School Health Administration	217
Representation of Public Health Service on B.M.A. Council and A.R.M.	228

SOCIETY OF MEDICAL OFFICERS OF HEALTH—

Ordinary Meeting	221
Metropolitan Branch	221
Northern Branch	222
Yorkshire Branch	223
North-Western Branch	224
Home Counties Branch	225
Midland Branch	226

REVIEWS—

The Purpose of Education	226
Acute Infectious Diseases	227

which the officers of the Local Authorities have no power to stop. That this is the case is well known to most readers of "Public Health," but it is desirable that these facts should be known and their significance appreciated by a far wider circle.

The real reason for the extreme ineptitude of the present legal control over producers would seem to be the fear that any sort of effective control would interfere with the production and cost of milk. Such an attitude is logical but if that is the reason it is difficult to see why the present farcical pretence at control is maintained. A form of control which, for the most part, deals with unimportant considerations and neglects the essentials hardly serves any purpose other than to suggest to the uninitiated effective supervision although really non-existent. If inspection of cowsheds is to be more than a farce it is necessary to have definite regulations setting out what is required. If it is of importance that cows should be healthy and clean and be milked by persons who themselves are clean it is reasonable to ask that the regulations should say so in simple, clear language.

It is too often forgotten that the existing regulations are very unfair to the clean milk producers. Indeed we believe that the farming community as a whole is not averse to more definite and workable regulations only asking that they should be simple common-sense requirements which it is possible to carry out. Responsible Public Health Authorities ask no more and would willingly co-operate with the Agricultural industry to that end. The majority of producers would benefit and only the incorrigible dirty minority would suffer.

The subject is of great importance at the present time since the Milk and Dairies (Consolidation) Act, 1915, is due to come into operation in September next, unless its operation is still further postponed. That material alterations in the existing Laws are necessary few will deny and it is important that Public Health workers should make a united effort to get this Act, or an improvement on it, into operation without further postponement.

THE £600 MINIMUM.

As a result of the recent negotiations at the Ministry of Health it is hoped to publish in the next issue of this journal a communication in regard to salaries in the Public Health Service which the British Medical Association will address to the Local Authorities. Meantime members of the Society of Medical Officers of Health should

warn any of their colleagues who have failed to seek election to the Society to avoid answering advertisements of public health appointments which appear only in the lay newspapers, until they have made careful enquiry. This warning is necessary because a deliberate attempt is being made, notably by the county council of Yorkshire (W.R.), to break down the £600 minimum commencing salary for assistant Medical Officers. This minimum was accepted by the British Medical Association after careful consideration as being reasonable remuneration for medical men with the requisite qualifications and experience for these posts. It had been pointed out by the Society of Medical Officers of Health that newly qualified persons were not competent for immediate duty in a public health department and that they should acquire at least three years' experience before entering the service. The B.M.A. approved this recommendation, and those who recommend or select candidates for appointments as Assistant Medical Officers should take care that they are of at least three years professional standing, so that the £600 minimum can be justified. It is regrettable, for instance, that a junior who only qualified in 1923 should recently have been preferred for appointment as assistant school medical officer at Dewsbury, when a number of the other candidates were, on their professional standing and experience, more entitled to the post. Given attention to this requirement of seniority, and some energy in making it known in the medical schools and amongst the newly qualified, we have no fear that the West Riding C.C. will secure the sort of candidates who can be appointed with any reasonable regard for the reputation of their health department.

INDUSTRIAL HYGIENE CONGRESS AT AMSTERDAM.

There are few medical men who have taken a practical interest in so many phases of medical work as Sir Thomas Oliver, of Newcastle-upon-Tyne. Generally, a Professor of Medicine in a School of Medicine finds his hands full if he attends to a big consulting practice as well. Sir Thomas has, however, accepted the Presidency of the British Executive Committee of the Fourth International Medical Congress of Industrial Accidents and Diseases, which is to be held at Amsterdam from September 7th to 12th inclusive. Other Members of the Committee include Sir William Collins, Sir R. Jones, Sir William Hale-White, Professor E. L. Collis, etc., so that Great Britain should be strongly represented. Delegates

will attend from other European Countries; already Pottévin of Paris and Babinski have notified their intention of being present. Four papers will be read from Britain, the writers being Sir Thomas Oliver, Professor E. L. Collis of Cardiff, Mr. Addington Willis, and Dr. C. S. Thomson, M.O.H. of Deptford. A very large party is expected from this country and such will no doubt enjoy the social as well as the more serious side of the Congress. There are receptions by the Amsterdam County Council, another at the Hague by the Minister of Labour, and a trip to the harbours and surroundings of Amsterdam. Those who would like to attend can obtain full particulars from Dr. H. S. Menko, 2, Grosvenor Gardens, Cricklewood, London, N.W.2. The cost of the ticket for each member will be £15; this includes admittance card to the Congress, return ticket to London (the return journey may be made at the member's own time within one month), room and breakfast in one of the leading hotels in Amsterdam, admittance to the Congress dinners, official receptions, etc. Evidently an enjoyable and instructive week is in store for those who will visit the ancient and historic city of Amsterdam.

SCHOOL ATTENDANCE AND PUBLIC HEALTH.

When the Education Act of 1870 was passed, more important than education itself and more important than hygiene for the time being was the necessity for establishing the habit of school attendance.

Grants made from the Treasury were fixed upon an attendance basis. Local authorities appointed attendance officers whose sole duty it was to get the children into school. Crèches were established at many schools where babies were dumped by the older girls in the morning and picked up again by them in the evening, so that the plea should not arise that the mothers were deprived of the right to have the help of the older girls in minding the younger ones. For recalcitrant boys residential Truant Schools were established. Prizes were given for attendance and not for proficiency. The questions of school attendance became a bogey which dominated the attention of teachers and education authorities.

Long after the attendance habit has become ingrained, the obsession arising from these initial difficulties still remains and presents a serious obstacle to the carrying out of his duties to the School Medical Officer. In the beginning the effect of striving for attendance at all costs was

to drive into the schools many children suffering from infectious disease and to retain in its schools children who ought to be excluded. This was disastrous to the public health and caused intense concern to the health authorities.

A solution to this difficulty was found by the Board of Education in the introduction of Article 101* in the Elementary Education Code of 1892. This article stated: "Where the Department are satisfied that by reason of a notice of the Sanitary Authority under Article 88 requiring the exclusion of certain children, the average attendance has been seriously diminished and that consequently a loss of annual grant would, but for this Article, be incurred, the Department have power to make a special grant not exceeding the amount of such loss in addition to the ordinary grant."

This "epidemic grant" had the effect of bringing the local Medical Officer of Health into friendly administrative relations with the local education authorities and was in effect the beginning of school hygiene in this country.

The consternation which ensued when in 1903 the code contained the words "No grant will be made under this Article in respect of any diminution of attendance occurring after 31st March, 1903," can better be imagined than described.

His sheet anchor in regard to the spread of epidemic disease was suddenly snatched away from the Sanitarian. This gave great impetus to the agitation directed towards the establishment of a Medical Department at the Board of Education which eventually came about on the passing of the Administrative Provisions Act of 1907.

The establishment of a School Medical Service eased the difficulties in regard to infectious disease to a considerable extent and very generally brought again the local Medical Officer of Health into touch with the Local Education Authority, so that more intelligent measures in regard to the control of infectious disease in schools once more became possible. But in spite of this the attendance difficulty still remained and the Memorandum on Closure of and Exclusion from school issued jointly by the Ministry of Health and the Board of Education in 1909, while it performed a useful and necessary purpose in standardising and co-ordinating the action to be taken in schools in the presence of threatened epidemics, did nothing towards laying the attendance bogey. In particular, school closure has frequently been demanded not because by its means any effect would be produced upon the course of an epidemic but to avoid loss in the average attendance. It is not the loss of education to the children therefore which is all

important, but the loss of grant or of other benefits which follows diminished average attendance.

After 16 years a new edition of the memorandum on closure of, and exclusion from, school has been issued. Changes have been made with rules, in accordance with the dictates of experience in connection with the periods of exclusion for scarlet fever, diphtheria, measles and mumps. Rules for action have been added in respect of small pox, German measles, influenza and the group of epidemic diseases of the nervous system.

Notes have been inserted in the action required in the use of teachers suffering from pulmonary tuberculosis.

The general principle upon which stress is laid is the efficacy of individual exclusion and its corollary, the exceptional necessity for closure of schools. To meet the difficulty mentioned above the Code has been amended by the addition of a paragraph to Rule 23 of Schedule IV. to the effect that when the average attendance of a school or department for any week has fallen below 60 per cent. and the School Medical Officer certifies that the fall in attendance may reasonably be attributed to the prevalence of epidemic illness, the meetings for that week be reckoned in calculating the average attendance for the purpose of grant.

While this addition will remove the pressure which now exists to obtain the closure of schools to prevent loss of grant rather than to prevent the spread of infectious diseases, we fear the effect of the provision may be disastrous in another and unsuspected direction.

Where by vigorous sustained action by the School Medical Service in co-operation with an enlightened school staff an outbreak of infectious disease is hindered from spreading but by repeated importations of infection the average attendance is lowered to a moderate degree over a considerable period, no provision for consideration in regard to loss of attendance is made. Where on the other hand the policy of *laissez faire* and inaction prevails, epidemics will be allowed to make headway; and yet under the new provision the slack and inefficient will get protection which is denied to the efficient. Consider the eagerness with which the position will be watched when the attendance reaches the average of say 63. It is not against human nature not to wish under the circumstances that it should drop yet four points more? Is it likely the school staff will officiously strive to arrest what is from some aspects a consummation so desirable?

It is not alone in relation to Infectious Diseases that the attendance complex hinders the work of

the School Medical Officer. Although attendance marks may be counted for children attending school clinics, there is trouble attached to the marking and a child away for one or two days in consequent of an anaesthetic cannot be marked. This militates constantly against the success of schemes for medical and dental treatment. Convalescence in the country is often obstructed.

When the average roll of a school is diminishing ascertainment of children with special defects is hindered and we have recently seen instances where children who are educationally blind or who are tuberculous have been retained in elementary schools, in the latter case in opposition to the medical officer's advice that an available open-air school should be attached. It is desirable that the Board should consider the question of school attendance in relation to public health on a broader basis in order that neither on the one hand the important work of safeguarding the health of the child shall be hindered nor on the other hand teachers or authorities anxious to do what is right shall be penalised.

BOARD OF EDUCATION.

SPECIAL SERVICE REGULATIONS, 1925, AND CIRCULAR 1354.

As these regulations chiefly codify those already existing there is not much material for discussion except in those parts in which alteration has been made or in others in which alteration might be considered to be desirable by School Medical Officers who have to be guided by them.

The object of this re-issue is stated in the circular to be to simplify the regulations and most of the changes will work in that direction, though it is probable that this will not be the case with all of them. No mention is made of duties, which are specifically stated in the Education Act, 1921, and therefore gaps are found in the regulations to fill which reference must be made to the Act itself.

The larger part of the regulations and of the explanatory circular deal with matters which only indirectly affect the School Medical Service, such as the regulation that "the teaching and other staff employed on the Special Services must be sufficient and suitable and must be such as the Board from time to time require," which is substituted for the much more specific clauses in the Regulations of 1920. This and the clauses respecting the Higher Education of Blind, Deaf, Defective and Epileptic Students, Article 31 *et seq.*, and respecting the payment of grant to

non-provided Institutions, Article 39—do not directly affect the School Medical Officer.

Article 2 deals very shortly with the duties of the School Medical Officer and Article 3 and those that follow it pass at once to the consideration of the Special Services chiefly as regards their housing and their Teaching Staff.

In Article 16 is found the most radical alteration as regards the Medical Service among these rules and regulations. The code groups of children to be inspected in the schools are now stated to be "(i) all children as soon as possible after their first admission to public elementary schools and in any event not later than 12 months after that admission (ii) all children who were between the ages of 7 and 8 on the first day of the calendar year (iii) all children who had attained the age of 12 years on the first day of the calendar year and have not been medically inspected after attaining the age of 12."

All these three classifications are a little more definite than those which they supersede, thus the inspection of entrants must take place within 12 months of their entrance and in the other age groups the age is to be reckoned on the first day of the calendar year; neither of these requirements is found in the regulations of 1920. The first does not really alter existing practice and the last with the exception of the actual statement of the first day of the calendar year is only the old regulation put into new words, but the intermediate group is changed from children of 8—9 years to those of 7—8 years of age.

The change is stated to be made so as to secure greater uniformity in medical inspection and statistics but this could surely have been obtained by adding the explanatory "on the first day of the calendar year" to the "between 8—9 years of age" of the old regulations. The change will prevent any comparison with the results found in this age group in previous years and also makes the interval between the "entrant" and the "intermediate" inspections much shorter than that between the latter and the "leaver" inspection, and therefore gives the greater chance for the development of diseases and defects which are not sufficiently on the surface to catch the eye of the Teacher or to be brought in any other way to the notice of the School Medical Officer and which will thus have the longer period to progress undetected and untreated.

The Board itself seems to be rather confused with regard to the age of the children in the two older groups. It says in Paragraph 7 of Special Service Regulations, "one result of the change

will be that the average age of the children falling due for inspection in the two older groups will be six months less than was the case under the old Regulations." With regard to the "leaver" group the average age is, under the new Regulations, actually increased rather than lessened and the interval between the two older groups is thus widened. To take an extreme instance—a child who is 13 years old on the 2nd January, 1925, and has "not been previously medically inspected after attaining the age of 12" is due for examination this year, but, if not seen until, say, December, will be nearly 14 years of age by then and six years may have elapsed since the previous inspection.

The other duties of the Medical Service in the ordinary elementary schools, as well as in connection with the provision of meals, are re-stated without substantial alteration but a chapter on the duties in places of Higher Education is interposed between them.

The Chapter on the Special Schools follows, being much shortened by the omission of most of the matter relating to the Teaching Staff. There are two alterations, which affect the Medical Service of these Schools, *viz.* (I) the definite statement that no child can be retained in the Special School after the end of the term, in which he or she completes 16 years of age, the words "except with the special consent of the Board" being omitted in this re-issue, and (II) that in Residential Schools the time spent in Medical Inspection or treatment may not be counted as part of an attendance.

The former change will not make much difference and will indeed be advantageous, if it causes the Local Authorities to realise that what has to be done for a defective child must be completed before he is 16 years old, and on that account early admission is necessary; the latter will not cause much inconvenience except in large residential cripple schools, in which it will necessitate an increase in the nursing staff so that the lengthy treatment by massage, electricity, etc., may be performed out of school hours. It seems almost incongruous that recreation and games may be counted as part of the necessary 4 hours of secular instruction but that medical treatment may not.

The chapter on the organisation of physical training is practically unaltered and that on Play Centres is much condensed.

Instead of 6 Appendices there are only 2: Appendix A in the qualifications required by the Board for Teachers in Special Schools, and Appendix B the Mental Deficiency Regulations, 1914, under the Mental Deficiency Act, 1913.

Among the Appendices omitted are that relating to the curriculum in Special Schools, which the Board do not propose to reprint and those relating to Special School Buildings and to the Boarding out of Blind, Deaf and Defective children which will be published as separate documents. For the purposes of the School Medical Officer it would probably have been more convenient had the former practice been continued with these Appendices.

THE TEACHING OF INFANT CARE AND MANAGEMENT TO SCHOOL GIRLS.

The Board of Education have recently issued a Circular (No. 1353) on the above subject with the object of stimulating those Education Authorities, who have not up to the present made any provision for the teaching of Infant Care in their Schools, to a realisation of the opportunities and responsibilities of Elementary and Secondary Schools in this direction.

It is a Supplementary Circular to that issued in the year 1910 (No. 758), which latter emphasised the importance of including this subject in the Curriculum for Girls who were approaching the age for leaving School, and set out in some detail the ways in which the necessary instruction could be given at this stage in their Education.

A number of Authorities have made arrangements for giving instruction in the Hygiene of Infancy and Childhood, usually at the Domestic Centres where such practical subjects as cookery, laundry, and housewifery are taught to the older girls, and some have even sent the girls in groups to a Day Nursery or Infant Welfare Centre where they will see for themselves the practical application of the instruction given to them in School.

It is not necessary at this stage in the campaign against infant mortality to make out a case for the need of instructing mothers and future mothers in the conditions that are necessary in order to rear a healthy child. The mother cannot be allowed to trust to her instinct in this respect. The early investigators of the problem of child mortality were impressed by the number of infant deaths which could be attributed to maternal ignorance, and care is now taken at every Infant Centre to give suitable instruction to expectant and nursing mothers. There is no doubt about the need for instruction, it is only a question of the appropriate time and place where such instruction should be given.

It is the opinion of many that the teaching of Infant Care should be a compulsory subject for

older girls in the Elementary and Secondary Schools, and there is much to be said for this view. The object of educating children is to equip them for the duties and responsibilities of life, and if a girl leaves school ignorant of one of the most important duties which may subsequently devolve upon her, our system of education can hardly be said to have fulfilled its aim. It may be said that girls at the age of 12 to 14 years are too young to benefit by this teaching and that it could be given more appropriately at a later age. Unfortunately the opportunity for instruction later in life—before marriage, immediately after marriage or when the mother is expecting a baby—may not arise. It is difficult to collect them together in later life in the way in which we find them in the Elementary and Secondary Schools. The great majority of the mothers in this country pass through the Elementary Schools and advantage should be taken during school life to teach them a subject which is a vital one both for the individual and the State. Another reason for dealing with the subject at this age is that many of the older girls in the Elementary Schools have to assist at home in the nursing and care of younger members of the family and any instruction given at School in the feeding, clothing and care of the baby and younger children could be put into practice at home.

An Education Authority that has decided to include the teaching of Infant Care and Management in its Syllabus will derive much help and guidance from the Circular issued by the Board of Education. Such questions as the person most suitable to teach the subject, the nature and extent of the teaching to be given, whether it should take place in the ordinary schoolroom or at a Centre devoted to subjects dealing with Home Management, are all discussed and valuable hints are given.

It is realised that the School Teacher is the proper person to give the instruction and that it should be given as far as possible in the ordinary class room. It is desirable, however, that this work should be linked up and brought into intimate association with the Infant Welfare Centres of the Local Health Authority, and that the teaching given at both places should harmonise and that there should be no conflict in the kind of advice given. The officer in charge of the Infant Welfare Centre should interest himself in these classes and no doubt any advice or suggestions he might offer would be received and adopted in a sympathetic way. Facilities might also be given for groups of girls to attend the Welfare Centres and so gain experience in the practical work.

The Circular should receive the careful consideration of every Education Authority in the Country. By including in the syllabus of instruction in their Elementary and Secondary Schools a scheme of instruction such as that outlined, they will advance and promote a knowledge of the principles of personal hygiene, the practice of which cannot fail to produce far-reaching results.

The training of girls in the Elementary Schools from the age of 12 to 14 in subjects of a practical nature, which will fit them to look after the home, to rear healthy children, and give them the feeling that they know the business of home management will have effects which cannot be exaggerated.

In the past the provision for the teaching of Mothercraft and Housecraft has been very inadequate and the proposals in the Circular if carried out in the efficient and thorough way that their importance demands will meet a much felt need.

THE SUPERVISION OF DEFECTIVE CHILDREN.

Circular 1349, issued by the Board of Education last January, has already aroused a remarkably keen interest, both on the part of the press, and of education authorities. The daily press has given prominence to correspondence urging in particular the need for adequate orthopaedic schemes, and has emphasised the point in the editorial comments. Local educational authorities appear to have been in many cases stimulated, and in others somewhat surprised, by the enquiries received from the Board of Education as to deviations between local and national prevalence of various types of defects. The Board has solid grounds for satisfaction at the immediate response to the movement which it is initiating, for a fuller ascertainment of defective children, and for a more adequate machinery for the prevention and for the alleviation of these defects. Nothing but good can come out of the attention thus again concentrated on the subject. The School Medical Service will do well to seize the opportunity of using Circular 1349 to its fullest extent as a lever for obtaining the provision of open-air schools, for the establishment or development of schemes for the prevention and the early treatment of crippling, etc.

In regard to the ascertainment of defective children, it is perhaps not out of place, without carping criticism of the admirable plan adopted by the Board of Education for drawing the attention of local authorities to the contrast between their local and the national prevalence of such defects, nevertheless to refer to possible fallacies in such a com-

parison. On the one hand local conditions, industrial or otherwise, may explain a deviation from the national standpoint in a particular direction without any error having arisen in the procedure of ascertainment; the comparison will obviously in this case be a useful one, in drawing attention to exceptionally bad or unusually good local conditions. On the other hand, there is possibly some fallacy in the national data. This may be illustrated by the experience of a district in which a recent careful revision of the register of defective children, with a re-examination of all the children, and fresh ascertainment of all other known cases through all the channels ordinarily utilised for such a purpose, resulted, not in an increase, but in a considerable decrease in the number of defective children remaining on the register. The explanation is obvious—a register which is not kept constantly and systematically up to date must accumulate gradually cases which, by reason of age, of vacancy, of death, etc., should have been removed from its pages. It is highly probable that such a remark applies to an appreciable, if not even a considerable, proportion of the local records on which the Board of Education previously based its national data; and to that extent the data gives an exaggerated impression of the prevalence of grave physical or mental defection among the school population. In so far as the statistics paint too gloomy a picture, there are clearly grounds for thankfulness, but none for a failure to submit local data to the most critical comparison with these for the country as a whole.

THE SANITARY OFFICERS ORDER, 1922.

In the fifth annual report of the Ministry of Health it is recorded that during the year 1923-24 the Ministry approved 79 new appointments of Medical Officers of Health. Of these 57 hold the specialist qualification prescribed by Article 5 of the Sanitary Officers Order, 1922, but in the remaining cases the Minister dispensed with the requirements of the Article for various reasons and approved the appointments. These figures would appear to give some basis for the complaints which frequently reach the Society of Medical Officers of Health that the Sanitary Officers Order, 1922, is too easily evaded by Local Authorities. This is not only a grievance with whole-time Medical Officers who see public health appointments filled by unqualified persons, but it is especially resented by those private practitioners who have taken the D.P.H. and who find that Local Authorities attach

little importance to the possession of that qualification. It is realised by the Society that various local considerations may sometimes make it difficult for the Ministry of Health to take a strong line in this matter, but it has been noted in several cases, most recently in connection with the Nuneaton R.D. appointment, that when Whitehall stands firm the resistance of the Local Authority soon breaks down.

The enforcement of the Sanitary Officers Order, 1922, is regarded by the Society of Medical Officers of Health as of special importance at the present time for several reasons. In the first place it will increase the efficiency of public health administration throughout the country and more especially in rural areas. Secondly it will make it easier to convince district councils that as part-time appointments fall vacant by death or resignation the opportunity should be taken to combine with adjoining areas for the appointment of a whole-time Medical Officer of Health. Thirdly it will encourage young graduates to take the degrees and diplomas in Public Health which have recently come to be regarded as a bad investment. This last point need hardly be laboured in view of the extended curriculum now in force for D.P.H. candidates, and the need to attract entrants to the new London School of Hygiene. After nearly seven years of persistent effort, the Society of Medical Officers of Health, with the assistance of the British Medical Association, has achieved what is believed to be a definite step forward towards a fair range of salaries for the Public Health Service. It may therefore be hoped that young graduates with energy and ambition may now be more inclined to seek a career in Preventive Medicine, and they are more likely to do this if they see that the Sanitary Officers Order, 1922, is being strictly enforced by the Ministry of Health.

THE CAMPAIGN AGAINST VENEREAL DISEASE.

On Tuesday, 3rd March, the Minister of Health, received a joint deputation from the National Council for Combating Venereal Disease. In the absence of Lord Trevethin, President of the National Council for Combating Venereal Diseases, the Joint Deputation was introduced by Sir Auckland Geddes, President of the Society for the Prevention of Venereal Disease, acting on behalf of both societies.

Sir Auckland Geddes stated the case on the lines agreed by the Joint Conference of the two societies, and supported the recommendations

contained in Clause 14, of the Trevethin Report, viz., "That the law should be altered so as to permit properly qualified chemists to sell ad hoc disinfectants, provided such disinfectants are sold in a form approved and with instructions for use approved by some competent authority." Sir Auckland Geddes further urged on behalf of the Deputation that this competent authority preferably should be the Ministry of Health, otherwise the Medical Research Council or a Commission of Experts.

In reply Mr. Neville Chamberlain thanked the Deputation for attending and promised to consider carefully the suggestions which had been made. He would communicate the result of his further consideration of these suggestions to the two Societies as soon as possible. The members of the Joint Deputation were as follows: *National Council for Combating Venereal Diseases*: Mr. L. Bowden, Mr. D. Bramah, Mrs. Ogilvie Gordon, Professor Kenwood, Dr. David Lees, Mrs. Neville-Rolfe, Mr. E. B. Turner. *Society for the Prevention of Venereal Disease*: Sir Auckland Geddes, Dr. Jane Lorimer Hawthorne, Dr. R. A. Lyster, Dr. Mearns Fraser, Mr. Basil Peto, M.P., Mr. Frank Souter, Mr. Wansey Bayly.

NOTICES.

At a meeting held at Bristol on February 11th, 1925, the West of England Branch of the Society of Medical Officers of Health passed the following resolutions:—

- (1) That the existing legal powers for ensuring a pure, clean milk supply are inadequate, even if fully enforced. Any further postponement of the Milk and Dairies (Consolidation) Act 1915, which comes into force September next, will be prejudicial to the Health of the country.
- (2) That the Tuberculosis Order of 1914 be amended and put into force, and worked by the Public Health Committee in each Area.

It was intended to ask the Council of the Society to commend these resolutions for discussion and adoption by other Branches. By inadvertence they were delayed in transmission, and could not be considered by the Council at their last meeting. In the circumstances, Branches may wish to take the initiative and to report their opinion of the Resolutions to the Council.

Members of the Society are asked to give careful attention to the notice in reference to B.M.A. Elections which appears on p. 228. It is hoped by this preliminary selection of candidates to ensure the fitting representation of the Public Health Service.

ARE PRESENT LEGAL POWERS CAPABLE OF ENFORCING THE PRODUCTION OF CLEAN, PURE MILK ?*

BY

WILLIAM G. SAVAGE, M.D., B.Sc., D.P.H.
County Medical Officer of Health, Somerset.

It will be within the knowledge of all of us that the latest Act giving powers over the control of milk—The Milk & Dairies (Amendment) Act, 1922—added considerably to the legal powers for the control of milk purveyors, but did nothing to tighten the control over milk producers. The official reason for this singular omission was that the existing legal enactments were adequate for this purpose, and it was merely a question of their enforcement. To quote the circular of the Ministry (Circular 935, Aug. 28th, 1922):—

"The Minister desires to take this opportunity of drawing the attention of Sanitary Authorities to the very wide powers which they already possess for the sanitary control of dairies and cowsheds under the existing Dairies Cowsheds and Milkshops Orders of 1885, 1886 and 1899, and the detailed Regulations which have been made by most Authorities under the first of those Orders. It seems to the Minister that by the careful and systematic exercise of existing powers together with the additional powers conferred under the new Act, Local Authorities should be able to take all necessary steps for the protection of the milk supply from contamination."

It is of considerable importance to consider this question just now, because the Milk and Dairies (Consolidation) Act, 1915, is due to come into force in September, 1925, unless its operation is still further postponed. It is likely that pleas for its further postponement will be urged and amongst the arguments will undoubtedly be the view that existing powers are adequate to give clean milk if enforced.

Even Sir George Newman, in his latest Report (on the State of the Public Health, Year 1923), gives countenance to this view since he prints, in italics, the remarks "it is idle to complain of the milk supply if Authorities neglect to exercise the powers they possess," although elsewhere he lays down with his accustomed clarity the conditions required to obtain clean milk.

The efficiency of the present powers involves two separate propositions.

Is the enforcement of the powers entrusted to Authorities who are likely to carry them out? If

it be granted that there exists the utmost willingness to operate these powers, are the legal enactments so framed that effective control is possible?

As regards the first proposition it is recognised, by those in a position to pass judgment, that the heaviest contamination and that likely to be most detrimental is at the place of production of the milk, so for practical purposes we have to consider in the main the control over clean and pure milk production.

These powers are exercised by the Local Sanitary Authorities, and, since the vast bulk of milk is produced in the rural areas, almost entirely by the Rural Sanitary Authorities. We are all aware that these powers, for the most part, are administered in a very lukewarm fashion, and for three obvious reasons.

- (a) These Councils are composed almost entirely of farmers or of persons directly in business relationship to farmers and milk producers. By nature and training they find it difficult to realise that conditions to which they have been accustomed all their lives may be profoundly unsatisfactory, and it is asking a lot of human nature to expect them to be zealous in Public Health reforms which may intimately affect their pockets.
- (b) The Officers of the Local Authorities who have to carry out the milk regulations are appointed by these Rural District Councils, and zeal in milk reform is frequently no recommendation to advancement in position or salary. Rarely or

COUNTY OF SOMERSET — RURAL DISTRICTS.

District.	Acreage.	Population (1921).	No. of Milk producers in the area.	No. of Sanitary Inspectors.
Axbridge ...	93,036	23,274	796	1 (+ 1)
Bath ...	27,360	14,567	130	1
Bridgwater .	87,516	17,465	488	1
Chard ...	55,236	12,669	270	1
Clutton ...	41,133	15,794	311	1
Dulverton...	78,980	4,514	30	1
Frome ...	51,558	10,853	244	2*
Keynsham .	21,405	10,570	98	1
Langport ...	59,407	12,534	381	1
Long Ashton	47,900	17,618	272	1
Shepton Mallet.	46,561	9,654	258	1
Taunton ...	71,720	17,042	221	1
Wellington .	34,626	5,811	55	1
Wells ...	58,119	10,183	500	1
Williton ...	97,710	11,937	50	1
Wincanton .	64,540	15,498	275	1
Yeovil ...	54,898	16,568	260	1
	991,705	226,551	4,639	18 (+ 1)

* Paper read before West of England Branch, Society of Medical Officers of Health, 11th February, 1925.

* Also Road Surveyors.

never are there enough Inspectors to make it possible for them to carry out their duties efficiently under the Milk Orders and Regulations. The table from Somerset is illuminating. (See page 205).

- (c) The vast bulk of the milk produced in Rural Districts is not consumed in them, but is sent to Urban areas. The clean and the dirty milk fetches the same price, and any added control and improvement in production adds nothing to the health or economic position of the Rural area. It is an argument of considerable weight that improvements of conditions of production being beneficial to outside Authorities should be facilitated by monetary contributions by those who benefit.

As we all know, these factors do in fact materially affect the degree of supervision given to milk production. It is a matter of congratulation that there are a certain number of conspicuous exceptions where the Local Authorities and their Officers have risen superior to these weighty considerations. The above facts are well known, but are worth re-stating in view of the optimistic view set out above.

My more immediate purpose is to examine critically the second proposition, *i.e.*, granted efficient administration are Local Authorities able to take all necessary steps for the protection of the milk supply from contamination as suggested in Circular 335 of the Ministry of Health.

The simplest way to arrive at an answer is to take the basic requirements of clean and pure milk, and consider the extent to which legal powers are available to enforce them. Fortunately it is unnecessary to spend time discussing what these basic requirements are since there is practical unanimity on the subject, the only differences of opinion being in regard to the relative importance of the different factors.

As regards the conveyance through milk of specific infectious diseases such as tuberculosis, streptococcal sore throats, diphtheria, typhoid fever, etc., it is notorious that existing powers are quite inadequate. This is true whether the disease is spread from an infected animal or from a human case or carrier.

Section 9 of the 1905 Dairies, Cowsheds and Milkshops Order is helpful as regards conveyance of infection by human agencies, but only operates when there is definite knowledge on the part of the milk producer or trader, and does not affect the cases where the diagnosis is still in doubt. The harm is frequently done before the case is labelled as a "dangerous infectious disorder." For example, in August of last year we had in Somerset an outbreak of eight cases of typhoid fever in connection

with a dairy farm, and the father of the original sufferer continued to milk his cows and handle the milk right up to the day he had to take to his bed, ill himself with typhoid fever, although his child had been actively ill for over a fortnight. A definite diagnosis was not made at first, and therefore, there was no offence under Section 9.

The powers as regards diseased animals, especially as regards tuberculosis, are equally inadequate to attain their object. Section 5 of the 1922 Act is but of little added help. It does make it an offence to sell milk from a cow known to be suffering from tuberculosis of the udder, but before it becomes an offence the Local Authority has to prove that the owner "knew or could by the exercise of ordinary care have ascertained that the cow was suffering from that disease." The difficulty of diagnosis of udder tuberculosis is well known and increases the inutility of this Section. The cow suffering from advanced tuberculosis with emaciation, a potent cause of tubercle bacilli in the milk, is not included. The disposal of the cow with mammary tuberculosis remains uncontrolled. This Section may do something to prevent wilful utilisation of tubercular milk, but that is all, and it touches but the fringe of the problem. It may, however, be said that there are powers enabling a Local Authority to employ a staff of trained Veterinary Inspectors to inspect and re-inspect the cows, but in view of the prohibitive cost to make it effective, it is really a theoretical power. I am unaware of any *rural* authority (except Lanarkshire) which carries out any system of repeated veterinary inspection.

The Lanarkshire results are interesting. A Veterinary Inspector was appointed in 1910 by the County Council under Sections 43 and 60 of the Public Health (Scotland) Act, 1897 to inspect cattle and in particular to detect tubercular disease of the udder. He has one qualified Assistant. The number of cows examined each year has varied from 28,000 to 33,700, and the number of cows detected with udder tuberculosis from 19 to 37. The percentage of cows found with udder tuberculosis has varied from 0.064 to 0.119. This is very much lower than the proportion (about 1 per cent.) which competent veterinary authorities give as the proportion of cows in milking herds suffering from udder tuberculosis. The facts suggest that this systematic inspection is responsible for a marked decrease in the prevalence of tuberculosis of the udder.

I do not propose to devote further consideration to this aspect since the inadequacy of the existing powers are generally recognised. The official optimism seems to apply especially to the production of clean milk, and therefore these powers demand more detailed consideration.

These can be considered under *equipment and methods*.

Equipment. While it is perfectly true that methods are far more important than equipment, and that the trained person can produce high quality milk upon premises exceedingly poorly equipped, it remains true that equipment is an important adjunct and greatly facilitates the application of sound methods.

While existing regulations are more comprehensive as regards equipment than when dealing with methods a study of them shows that they are exceedingly unsatisfactory and inadequate. Even allowing for the fact that they were framed a long time ago they show an almost perverse and wilful looseness of phraseology. This vagueness of wording makes it very difficult to take legal action. It is hardly necessary to go through every requirement, but a few important conditions may be taken as examples. An impervious floor to a cowshed is an essential, but it is not defined as such, but action has to be taken under Section 8 of the 1885 Order, which requires that no cowshed may be used if "the lighting and the ventilation including air space, and the cleansing, drainage and water supply thereof, are not such as are necessary or proper:—

- (a) For the health and good condition of the cattle therein; and
- (b) For the cleanliness of milk vessels used therein for containing milk for sale; and
- (c) For the protection of the milk therein against infection or contamination.

For lighting and ventilation we have the above, and Clauses 3 and 4 of the Model Regulations which require that every cowkeeper shall provide that every cowshed in his occupation shall be "sufficiently lighted with windows, whether in the sides or roof" and "sufficiently ventilated" with a "sufficient number of openings into the external air to keep the air in the cowshed in a wholesome condition."

The blessed word "sufficient" again crops up in connection with a water supply which has to "suitable and sufficient for all such purposes as may from time to time be reasonably necessary." It would be difficult to find a series of requirements which better invite litigation. Their futility is especially apparent when we remember that in rural areas the definition of "sufficient" is in the first place in the hands of the milk producers themselves as represented by the Rural Council who can accept what they please as sufficient.

Methods. The requirements for clean milk are in their essentials—clean cows, clean milkers, clean sheds, clean milk vessels and arrangements to cool the milk.

Clean cows. This involves two requirements:—

- (a) Conditions round the farm so that it is easy to keep cows clean.
- (b) Animals clean, and particularly the udders, when being milked.

Apart from clean sheds, dealt with below, the chief demand of the first requirement is a clean yard so that the animals keep reasonably clean. There are no powers as to this. There are no powers in the Milk Orders or Regulations to prevent manure being stacked just outside the cowshed, and to drain into the yard through which the cows must pass to their sheds. It is sometimes possible to deal with accumulations of manure as a nuisance under the 1875 Act, but unless special bye-laws are adopted with respect to nuisances and dealing with the deposit of manure no effective action to prevent accumulations can be taken. A nuisance to someone has to be proved.

It may be said that if the cows are washed before milking these preliminary requirements do not matter. In theory they do not, but in practice they are all important as daily cow grooming and washing is impracticable if the cows are heavily fouled each day.

As regards direct powers requiring that cows must be clean when milked, Section 17 (5) of the Model Regulations might appear to be adequate since it requires that no cow is to be milked "unless, at the time of milking, the udder and teats of such cow are thoroughly clean." Apart, however, from the fact that it is a permissive regulation and no Local Authority can be made to make Regulations or if they make them, to include this clause (and very many do not), it only applies to purveyors of milk and persons selling milk by retail. It is this group for which it is least necessary, since they sell their own milk, and sell it at once. It does not apply to the great bulk of producers. There are no powers to restrain these persons from having their cows milked in a state of gross filth.

Clean milkers. Section 17 (5) of the Regulations requiring that the milkers should wash their hands is equally limited in scope to purveyors of milk. There are no powers to require the provision of hand-washing facilities conveniently near for the milkers, nor indeed, their provision anywhere, while it is doubtful if regulation 7 (1) could be interpreted as sufficient to enable the Local Authority to require the provision of water at the cowshed for this purpose. There are no powers entitling a Local Authority to require the use of overalls for milking, nothing to prevent a milker from milking in his ordinary dirty, dusty, and it may be manure-caked clothes. It has no power to require milking stools, the handling

of which when dirty at once dirties the milker's hands, to be kept clean.

Clean Sheds. To ensure this there are some powers, but so vague in description as to be rather worthless.

Regulation 5 (1) states :—

"Every cowkeeper shall cause every part of the interior of every cowshed in his occupation to be thoroughly cleansed from time to time as often as may be necessary to secure that such cowshed shall be at all times reasonably clean and sweet."

Regulation 5 (3) states :—

"He shall cause the floor of every such cowshed to be thoroughly swept, and all dung and other offensive matter to be removed from such cowshed as often as may be necessary, and not less than *once* in every day."

Who is to define "as often as may be necessary"?

To remove all dung once a day is inadequate for clean milking. There are no definite powers to prevent contamination from hay and other forms of dust. These powers are only available to deal with cases of gross neglect.

Water supply. In connection with the production of clean milk a water supply is necessary for three purposes :—

- (a) For cleaning the person of the milker.
- (b) For cleaning the cowshed.
- (c) For cleaning milk utensils.

The available powers are contained in Section 8 of the 1885 Order and Section 7 of the Model Regulations.

Section 8 does give power to require the water supply to be sufficient :—

For the cleanliness of milk vessels.

"For the protection of the milk therein against infection or contamination."

Regulation 7 (1) states :—

"Every cowkeeper shall keep in, or in connection with, every cowshed in his occupation a supply of water suitable and sufficient for all such purposes as may from time to time be reasonably necessary."

It will be seen that these powers are very vague. They can be used for requiring a pure water supply for washing the vessels, but it would hardly be possible to use them to require water to be laid on for cleaning a cowshed, or to enable milkers to wash their hands.

Clean vessels. Here we are on surer grounds, and Regulation 16 is explicit enough. Sub-section (1) states :—

"Every cowkeeper shall from time to time as often as may be necessary cause every milk-vessel that

may be used by him for containing milk for sale to be thoroughly cleansed with steam or clean boiling water, and shall otherwise take all proper precautions for the maintenance of such milk-vessel in a constant state of cleanliness."

These powers seem to be the nearest approach to specific definite ones for the production of clean milk in the whole of the Orders and Regulations, and even here the loose phrase "as often as may be necessary" is inserted. The latter part of the clause is again very vague, and is not an effective control over the place of storage.

Cooling of the Milk. There are no specific requirements as to cooling of the milk when it has to undergo transit over considerable distances.

It may further be mentioned that there are no powers enabling the milk Inspector to take samples of milk for bacteriological examination or in order to test by bacteriological examination the sterility of the milk vessels.

It may be said that Order XIII. gives Local Authorities wide powers to make Regulations, and better regulations to include some of these necessities for clean milking might be included. In theory this is possible, but in practice it is extremely difficult to get the central authority to approve regulations which go beyond the scope of its Model Regulations and it remains, with things as they are, merely a theoretical possibility.

Some milk producers which now have to be Registered, are hopeless, but there are no powers enabling Registration of such producers to be withheld.

It is, of course, easy to understand the futility of the existing powers to ensure clean milk. The Orders date back to 1885-86, when the requirements of clean milk were not understood, and indeed, when they were less necessary than at present. They mainly refer to equipment and very little to methods. It would not be difficult to draw up simple, unequivocal requirements as to methods, but to do so is beyond my present purpose.

My essential argument is that given the utmost good will and zeal in enforcing existing regulations so far from Local Authorities being "able to take all necessary steps for the protection of the milk supply from contamination" it is not possible to stop all sort of practices which makes clean milk production an impossibility. To recapitulate a few. The Local Authority :—

- (a) Cannot prevent the milk producer (unless he also purveys) from milking manure plastered cows without cleansing or the milker coming straight from carting or spreading manure, and milking without washing his hands or covering his clothes.

- (b) It is doubtful if it can even insist on the provision of the facilities for hand-washing conveniently near to be of use, or for the necessary water.
- (c) It cannot prevent milking in dusty laden sheds.
- (d) It cannot prevent manure being stacked against the cowshed and making the approach to the sheds through which the cows pass a filthy morass, and can only take action against accumulations if it can prove a statutory nuisance.
- (e) It cannot insist on the milk being cooled even if it has to travel very long distances or stand all night.

I think it is for us who advise upon or administer Public Health measures, to make our position perfectly clear. If the community through Parliament and with a full knowledge of the facts, decides that they do not regard an impure dirty milk supply as anything that matters, and do not desire that legal powers to improve conditions should be available, it is for us to abide by that decision. Clearly, however, that decision is worthless if it is arrived at without a full knowledge of the facts or if it is evoked by the pressure of agricultural interests. It is for us to make the point plain that clean milk by the operation of the existing powers is impractical, not only on account of its control being in the wrong hands, but because there are inadequate powers to ensure a milk supply, safe either from specific bacterial infection or from that general bacterial contamination, the prevention of which we include under the convenient term of clean milk.

In this paper I have not discussed education of the milk trade (a valuable line of approach), universal pasteurisation or the influence of graded milk, nor have I discussed whether the enforcement of more stringent regulations might not be actually harmful by restricting the production of milk. These are all considerations of great importance, but outside the scope of this paper. I have concentrated upon the fundamental fact that influences other than those of Public Health have prevented the formulation of legal powers which can ensure a pure milk supply. Local Authorities are powerless to provide a pure milk supply unless fresh legal powers are available. At the present time a pure milk supply can only be provided by the trade itself, and this will only result in so far as the trade considers that to do so is of commercial advantage.

While of set purpose my attentions have been confined to a consideration of legal powers, and not remedies, I think two matters are very suitable for discussion in connection with this paper. They are :

- (a) Do we want the 1915 Act in its present form, or a better Act?
- (b) Do we desire the re-enactment of the 1914 Tuberculosis Order, or a better Order?

MENTALLY DEFECTIVE PERSONS.

THE VALUE OF INTELLIGENCE TESTS IN THE PROGNOSIS OF THEIR FUTURE CAREERS.*

BY

JAMES W. FRASER, M.D., C.M., M.R.C.S.,
School Medical Officer, Hull.

This paper is simply a record of experience obtained as Medical Officer to a Special School for mentally defective children, and of such conclusions as can be drawn from it.

The work in connection with the School commenced in 1907, but it was not until the publication of the second edition of the Binet Simon tests in 1911, that intelligence tests were used, and their use was subject to certain interruptions until 1914, since which year they have been regularly used on admission and discharge, and for the statutory yearly examinations in every case. In spite of the various revisions, the use of the 1911 tests has not been altered, so that continuity and the possibility of comparison have been preserved. No elaborate analysis of the figures has been attempted.

Since the opening of the School, 412 mentally defective persons have passed through it, but for the reasons stated above, in only 131 cases is a record of the intelligence tests available. These cases are in no way selected, but are the only ones in which one or more intelligence tests were made.

The cases are classified under the usual heads (a) Employed, earning more than 20s. per week; (b) Employed, earning less than 20s. per week; (c) Unemployed; (d) In Institutions. Each of these heads occurs in each of three classes: (1) Persons allowed to leave before attaining the age of 16 years; (2) Persons, who attended the School until legally exempt at that age; and (3) Those discharged before attaining 16 years, as incapable of deriving further benefit from instruction even in a Special School (Certificate Schedule D), or as they could not be instructed in a Special School without detriment to the interests of other children (Certificate Schedule E), or those who were committed to residential institutions by the Magistrates at the instance of the Police, and usually for stealing. The first class, those leaving before attaining the age of 16 years, number 58 (male, 39; female, 19), and of these, one male was discharged on account of severe heart disease, but the rest were allowed to leave, suitable occupation having been found for them. This procedure, though of doubtful legality, has the merit of success

* The substance of the Presidential Address to the School Medical Officers' Group of the Society of Medical Officers of Health, October 18th, 1924.

to justify it, for of the 57 persons so released, 38 (male, 28; female, 10) are employed, and only five are in residential institutions, while of 38 persons (male, 20; female, 18) who attended until legally exempt, only six (all males) are employed, and 14 (male, 5; female, 9) are already in institutions.

It is obvious that when a young person of 16 years of age seeks employment, the first question asked will be "what have you been doing since you left School?" and the answer that "I have just left the Special School for Mentally defective children" will usually result in the application being refused.

Attention may also be called to the fact which will be found later, that 40 males are stated to be employed out of a total of 79, and 21 unemployed, but that out of the 52 females, only 10 are employed and 24 unemployed; of these last most are living at home and will be employed in house work, which, if done elsewhere, would have earned them some wages.

Also those females, who are in domestic service, though classified by their actual wages among those earning less than 20s. per week, yet receive in board

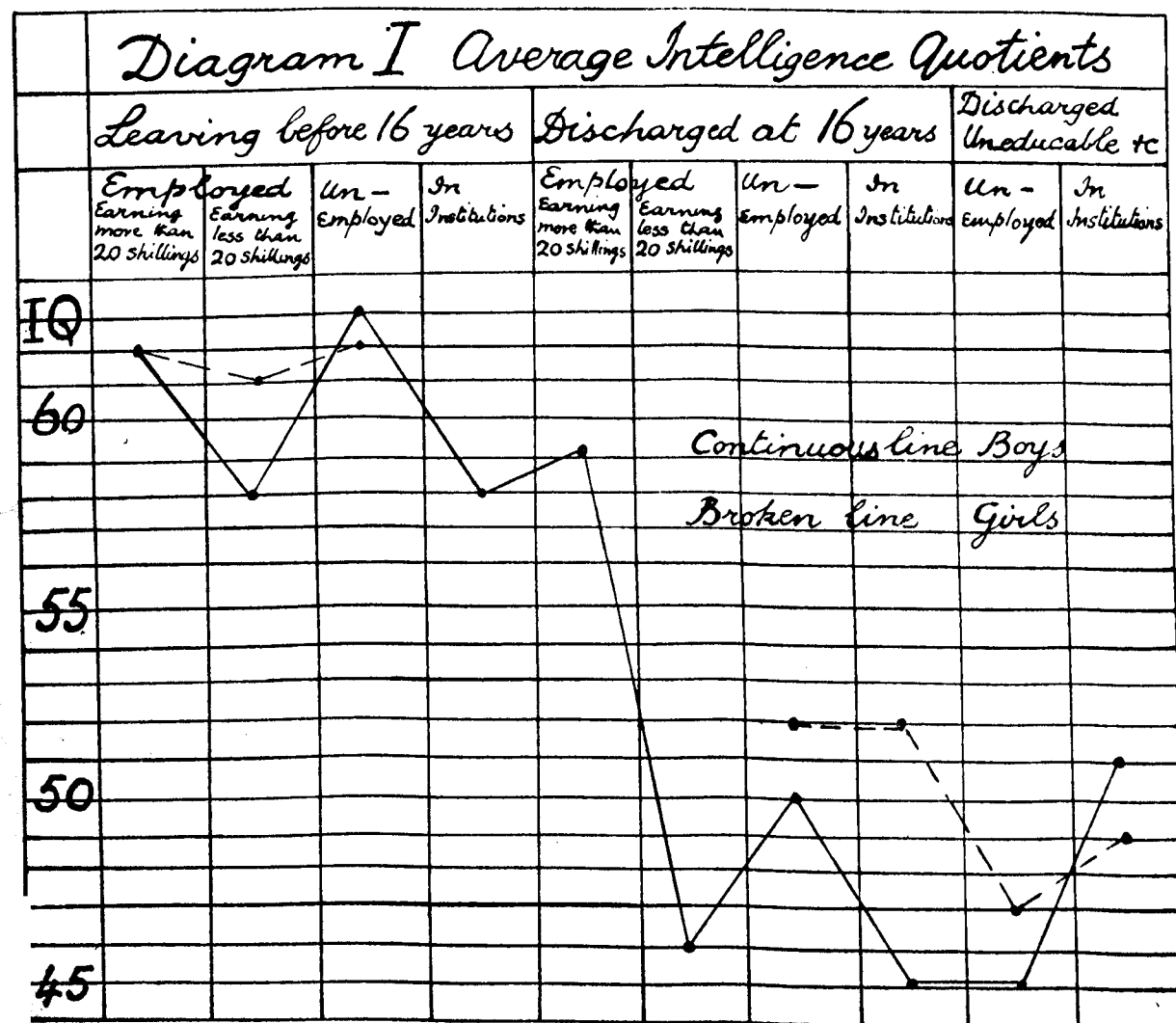
and lodging, the equivalent of a much larger sum.

Less ambiguity occurs about the earnings of the males, and therefore, in the latter part of this paper, attention will be chiefly directed to their after careers. The number of persons under the four heads, and the average intelligence quotient when leaving the Special School for each head are as follow:—

9 Employed earning more than 20s. per week	I Q 62
34 Employed earning less than 20s. per week.	I Q 56
44 At home unemployed.	I Q 55
43 In Institutions	I Q 51

The averages show a series steadily decreasing from the more successful to the unsuccessful class, but the range of the figures is very small, the difference between the highest and the lowest being only eleven, and it would be impossible on such figures to base a prophecy as to the after career of a person with an intelligence quotient of, say, 56.

In Table I., which is an abstract of a diagram shown when this paper was read, but which is too large to reproduce here, is given in the upper third,



the number of males and females under each of the four heads, and in each of the three classes, the average intelligence quotient on discharge from the School for those numbers of persons and also the extreme figures above and below the average.

In the curve shown in Diagram I., the variations of the average are more easily seen; that for the males showing a decline from the more to the less successful cases, broken, however, by a rise in the case of the unemployed. Among the females, the averages for each head in a class are almost identical though they show a steady decline from class to class.

With both sexes there is also a rise in the intelligence quotient among those discharged before attaining 16 years as "uneducable, etc." and now in institutions, and this is caused by the inclusion among them of children committed to institutions by

the magistrates for such misdemeanours as stealing, whose intelligence was superior to their moral sense.

The extremes shown in the Table vary very widely from the mean, and when the individual cases were examined, it was found that, even if the limits of variation on each side of the mean, which may be taken as normal, are set as high as 5 per cent. above or below, yet 48 per cent. of the individual figures fall outside these limits. Therefore, for any individual person, the chance of success or failure would be equal whether his intelligence quotient fell within the limits of variation or above or below them, and therefore, other methods than the use of the last intelligence quotient, must be found if intelligence tests are to be any use in prognosis.

The statutory yearly examinations of the children attending the Special School give an annual series of intelligence quotients, and of the mental ages,

TABLE I.
PERSONS DISCHARGED FROM THE SPECIAL SCHOOLS FOR THE MENTALLY DEFECTIVE CHILDREN.

INTELLIGENCE QUOTIENTS.	MALES.			FEMALES.		
	Allowed to leave before 16 years.	Discharged at 16 years.	Discharged Uneducable, etc.	Allowed to leave before 16 years.	Discharged at 16 years.	Discharged Uneducable, etc.
Employed, earning more than 20s.:						
Number	6	1	—	2	—	—
Average I Q	62	59	—	62	—	—
Extremes	68 - 60	—	—	67 - 58	—	—
Employed, earning less than 20s.:						
Number	22	5	—	8	—	—
Average I Q	58	46	—	61	—	—
Extremes	69 - 51	57 - 43	—	68 - 53	—	—
Unemployed:						
Number	6	9	6	9	9	6
Average I Q	63	50	45	62	52	47
Extremes	76 - 46	58 - 41	53 - 36	69 - 53	63 - 46	58 - 39
In Institutions:						
Number	5	6	14	—	9	9
Average I Q	58	45	51	—	52	49
Extremes	67 - 49	52 - 32	71 - 35	—	61 - 39	64 - 37
ANNUAL GAIN IN MONTHS.						
Employed, earning more than 20s.:						
Number	5	1	—	1	—	—
Average A G	8.6	7.1	—	15.0	—	—
Extremes	13 - 6	—	—	—	—	—
Employed, earning less than 20s.:						
Number	18	5	—	8	—	—
Average A G	5.5	3.6	—	6.7	—	—
Extremes	9 - 1	7.5 - 1.75	—	18 - (— 1.25)	—	—
Unemployed:						
Number	6	7	5	6	9	5
Average A G	6.3	4.5	3.0	10.5	5.9	4.0
Extremes	15 - 7.5	7.25 - 1.75	4 - 2.25	21 - 4.5	9 - 3.5	21 - (— 9)
In Institutions:						
Number	3	6	11	—	8	7
Average A G	5.0	4.4	6.1	—	6.3	3.5
Extremes	7.5 - 1.5	6.25 - 2.25	9 - 2.5	—	12 - 4.1	15 - 0
WITH I Q OF 50 OR OVER, AND A G OF 6 MONTHS OR MORE.						
Employed, earning more than 20s.:						
Number	5	1	—	1	—	—
Employed, earning less than 20s.:						
Number	10	1	—	4	—	—
Unemployed:						
Number	2	1	—	4	4	—
In Institutions:						
Number	2	1	1	—	2	1

from which the quotients are obtained, and if these are plotted on a suitable diagram they make a pair of curves for each child, which give more information as to its capacity for receiving education than could be obtained from a single intelligence quotient.

If such curves were drawn for a perfectly normal child, and the intelligence tests were perfectly accurately graded, the curve of the intelligence quotients would be a horizontal line at the level of 100, and that of the mental age (if the scales used for the ordinates and abscissæ were equal as in the diagram II) would be a straight line running upwards at an angle of 45°; again, if a mentally defective child had at eight years of age, a mental age of four years, and was capable of receiving education to the full extent of its powers, the angle of the curve of mental age would be 22.5°, and the curve of the intelligence quotients would be a horizontal line at the level of 50.

In practice, neither curve ever exactly fulfils these conditions, the gain in mental age varies from year to year sometimes, but rarely, exceeding twelve months, but being much more commonly less, even greatly less, and therefore the intelligence quotients also vary and their curve instead of being

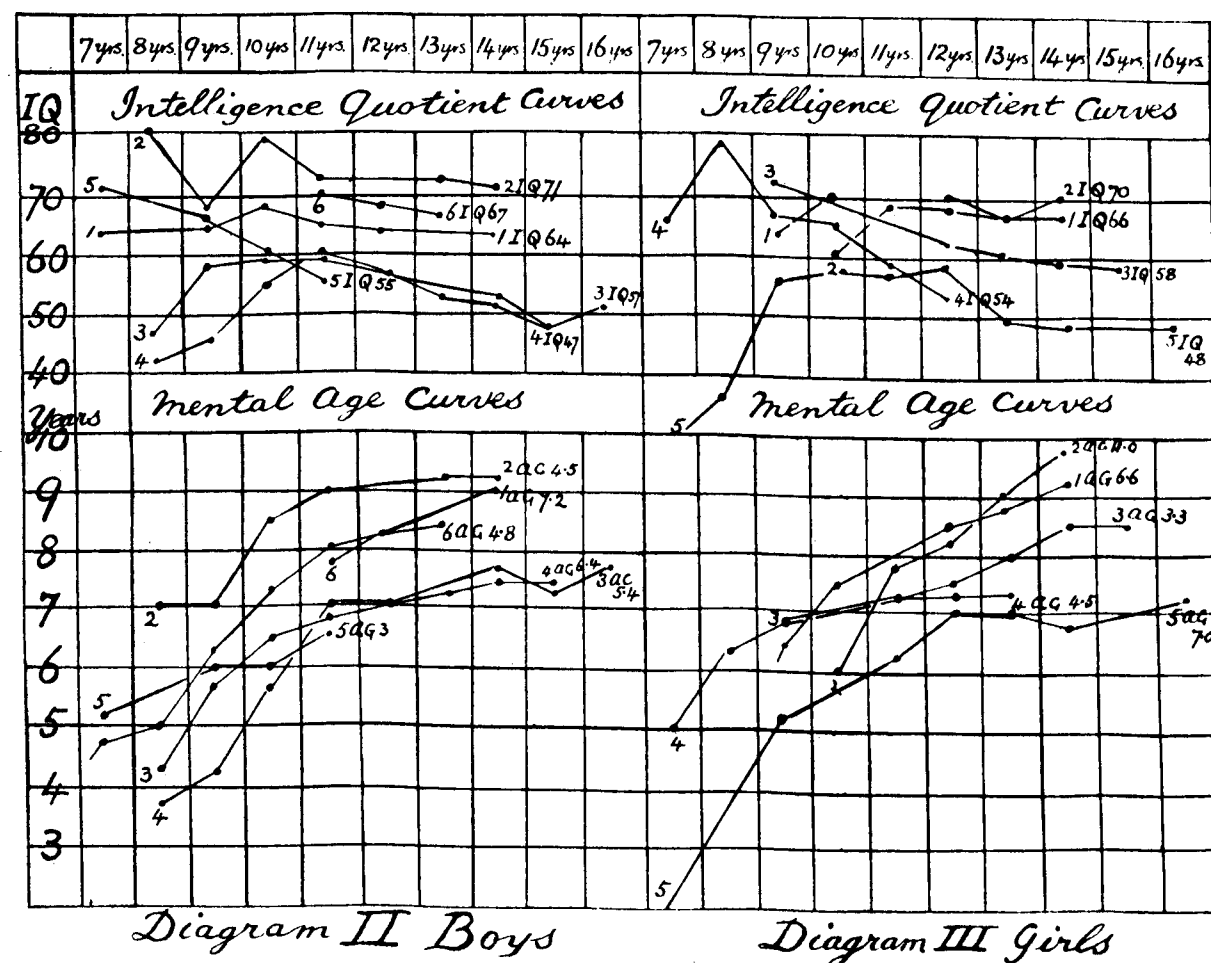
horizontal, very frequently falls distinctly from year to year.

It is only with highly educable mental defectives that the intelligence quotient remains constant; with the others it is a constantly decreasing quantity. In very few cases is either curve a straight line, almost always it fluctuates to some extent on each side of its mean level.

It is obvious that a child starting with a fairly high intelligence quotient, but whose mental age increases only slightly from year to year, has less capacity for receiving education than one who, starting with a lower mental age, makes larger annual increases, even if his terminal intelligence quotient is lower than that of the former.

One hundred and twelve pairs of curves were drawn, the difference in number from that of the cases in the upper third of Table I. being caused by the fact that only one intelligence test was made in the case of 19 persons, and therefore for them no curve could be drawn.

Any method of reproducing or averaging this number of curves was found to be impracticable, and therefore a number of typical curves are reproduced here.



In Diagram II. are shown the curves of six males, the curves of the intelligence quotients above, and those of the mental age below. The scale above is for the actual ages, the lower part of that on the left for the mental ages from three to ten years, and the upper part for the intelligence quotient from 40 to 80.

Curves 1 and 2 are those of males allowed to leave before attaining 16 years, one earning less than 20s., the other unemployed; curves 3 and 4 are for males discharged at 16 years, one unemployed, the other in a residential institution and curves 5 and 6 for males discharged before 16 years as incapable of deriving further benefit from instruction.

Examining these curves, the first is that of a boy discharged at the age of 14 years in 1922, and earning 6s. per week; his intelligence curve starting at 64 ends at the same level after some fluctuation, chiefly in the earlier years, and that of his mental age rises fairly regularly from 4 years, 9 months, to nine years, with an average annual gain of 7.2 months. These curves are excellent examples of those of educable mental defectives. The second curve is one of a boy allowed to leave at 14 years, in 1923, and so far unemployed, the curve of mental age starts at a higher level than the last, *viz.*, at seven years, and runs up at a smaller angle to 9 years 3 months, and with an average annual gain of only 4.5 months, and the curve of intelligence quotient therefore falls from 80 to 71, but with considerable fluctuations. His intelligence quotient alone would make this boy appear superior to the other, but the mental age curve explains why he is not. The third curve is that of a boy, who attended the School until he was legally exempt at 16 years, and is at home unemployed. The curve of his mental age rises from 4 years 3 months, to 7 years 9 months, with an annual average gain of 5.4 months, and that of his intelligence quotient beginning at 48, ends at 51, with some considerable fluctuation. The fourth curve belongs to a boy also discharged at 16 years, and now in a residential institution, his mental age curve rising from 3 years 9 months, to 7 years 6 months, and giving an annual gain of 6.4 months, and that of his intelligence quotient rising at first from 41 to 60, but then steadily falling to 47.

The fifth curve is that of a boy discharged as incapable of deriving further benefit from education, and now in an institution, his mental age curve rising from 5 years 3 months, to 6 years 6 months, with an average annual gain of only three months, and his curve of intelligence quotient falling steadily and rapidly from 71 to 55.

The last curve is that of a boy excluded on account of his cruelty as incapable of being educated without

detriment to the interests of other children, and now in an institution, and is a good instance that a high intelligence quotient does not indicate a high capacity for receiving education for in his two years at the School his average annual gain was only 4.5 months, and his intelligence quotient fell from 70 to 67.

In Diagram III. are shown four typical curves for females, and one special curve to be referred to later. The first of the four is that of a girl allowed to leave at 14 years, in 1920, and employed as a nurse girl at 5s. per week. Her curve of mental age starting at 6 years 6 months, ends at 9 years 3 months with an average annual gain of 6.6 months, and that of her intelligence quotient, starting at 65, ends at 66, with very slight fluctuation; again, a typical curve of an educable mental defective.

The second curve is that of a girl allowed to leave before 16 years, and living at home, and, therefore, technically unemployed. Her curve of mental age is the finest shown rising from 6 years to 9 years 9 months, with an average annual gain of eleven months, and that of her intelligence quotients rising from 60 to 70 with slight fluctuation. It will be found later that the probable reason for this girl's unemployment is that she has a good home.

The third curve is that of a girl leaving at 16 years, when legally exempt and now in an institution. The mental age curve shows an average annual gain of only 3.3 months, and that of the intelligence quotients a steady fall from 71 to 58.

The fourth curve, that of a girl discharged as incapable of deriving further benefit with the recommendation that she should be placed in an institution, but still living at home unemployed, shows an average annual gain of only 4.5 months, while her intelligence quotient curve after rising in the first year from 67 to 77 falls steadily and rapidly to 54.

A point noticeable in all the curves of mental age is that for the first one or two years there is a considerable rise, but after that the gradient becomes less steep and in later years the line may become horizontal, or even fall slightly. The gain in the earlier years may even be great enough to affect the curve of intelligence quotients and cause it to rise, but in the later years a rise in this curve is very unusual.

The gain in mental age in the earlier years is probably attributable partly to the unusual conditions, in which the child finds itself at the first examination, preventing it doing itself justice, and partly to the change to the more personal attention it receives at the Special School calling out faculties which have been dormant.

As neither the whole 112 pairs of curves, nor a reliable average of them could be reproduced, a

diagram was shown when the paper was read, showing for each person in each head, and in each class, the average annual gain in mental age, and also the average of these averages. This diagram also is too large for reproduction, but an abstract is shown in the middle part of Table I., showing as in the upper part the number of persons concerned, the average annual gain of that number, and the extremes above and below the mean. It will be noticed that the higher extremes in this part of the Table are sometimes very high, being in two cases as much as 21 months in a year. All these high results are obtained with children who were only a short time in the School, and their explanation is that given above.

It will also be noticed that two of the lower extremes are minus quantities —1.25 and —9 months, respectively, for two girls whose mental age deteriorated during their stay, and that one of the lower extremes is zero, no improvement being found during the stay at the School. A curve of the average annual gains is shown in Diagram IV., and corresponds in direction with that of the curve of the intelligence quotients in Diagram I, the fluctuations in the case of the males being less, and those in the case of the females allowed to leave before 16 years being more pronounced.

But the extremes as shown in Table I. vary even more widely from the mean than was the case with the intelligence quotient, and therefore the average annual gain gives no more information, which could be used in prognosis of any single case. But quite a different result is found when the two are considered together, which may be formulated as follows. If with a terminal intelligence quotient of 50 or more, an average annual gain of 6 months or more is returned, a favourable prognosis may be given as to the future career.

The numbers of persons possessing both these factors are shown in the lowest third of the Table I., the number being 40 (males 24; female, 16).

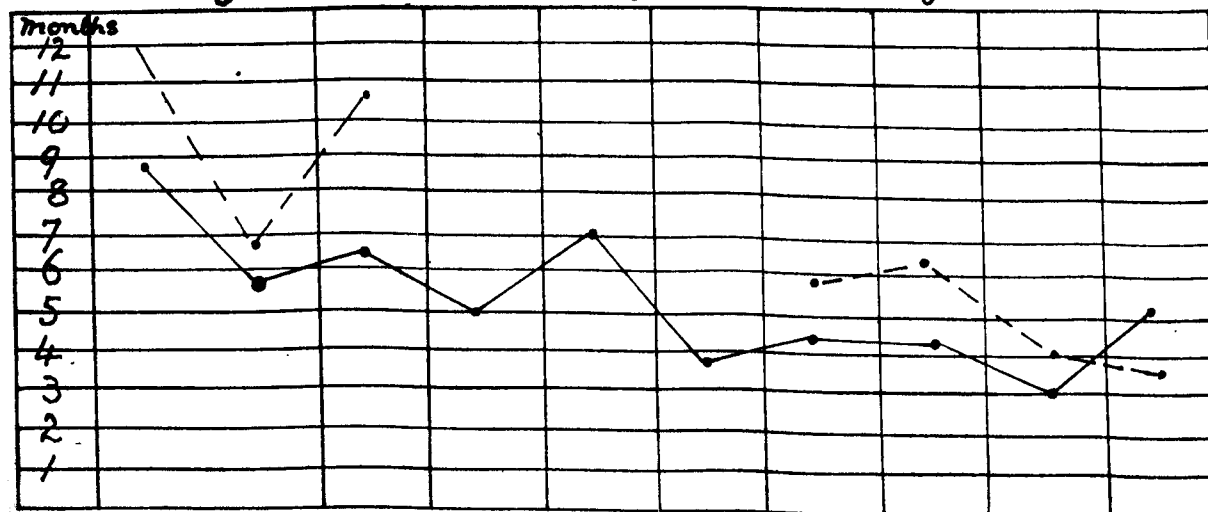
Of this number 22 or 55 per cent. are employed, while of the 72 who lack one or both factors, only 16 or 22 per cent. If the sexes are considered separately, of the 24 males 17 are employed, or 70 per cent., but of the 16 females, only five, or 30 per cent.; if only those allowed to leave before 16 years are considered, the figures are improved; of 19 males, 15 are employed, or 79 per cent., and of nine females, five, or 55 per cent.

Looking at these figures also from the point of view of failure, the results are similar, and show that the lack of one or both of these factors point strongly to the necessity for placing the person in a residential institution. Thus, of the 40 persons possessing both factors, only 7 or 17 per cent. are in institutions, while of the 72 lacking one or both, 28 or 39 per cent. are already in one or other such institution.

No person who has not both factors is earning more than 20s. per week, and seven males and one female having both, but earning less than 20s. per week, have only been discharged in the last three years, and may do better in the future; and of the unemployed, also with both factors, one male and four females, have been discharged in the same period and may obtain work.

On the other hand, of the 72 who lack one or both factors, 15 persons were discharged during the last three years, and of them seven (males, 5; females, 2) are employed though only earning less than 20s. per week, but even so are already doing better than might have been expected, and may do still better later. Also the remaining eight (males 6; females, 2) though unemployed up to the present time, may obtain work later on.

Diagram IV Average Annual Gain



Thus, though the combination of the two factors seems to promise a fair result in prognosis there are irregular results, many of which are capable of explanation from other causes than the intelligence of the person concerned, and will be referred to later.

But it may be claimed to be proved that other things being equal, if a boy on discharge from the Special School has an intelligence quotient of 50 or over, and an average annual gain in mental age of 6 months or more, he has three chances of obtaining employment as against one of failing to do so.

For girls the position is less clear, for many girls are kept at home to work and are therefore counted among the unemployed, but as far as the experience of this School is concerned, girls even possessing both factors have only one chance in three of obtaining remunerated employment. The "other things" referred to above, may be briefly considered as to their value in determining the success of the discharged person, under the heads of character, manual ability, physique, and home conditions; the last being looked at from the point of view of the effect they have had rather than from that of what they can do in the future.

In Table II. are shown for each sex and under each class and head the percentage of satisfactory cases, *i.e.*, those in which the character is good, there

is manual ability, the physique is normal and the home conditions good.

An examination of this Table will explain some of the anomalous results above referred to.

Under the head of character are two sub-heads: (1) Ability under which are included initiative, concentration and amenability to discipline, and (2) Morality that is the absence of anti-social tendencies, aggressiveness, lying, theft and sexual immorality.

Among the boys the percentages of ability follow the course which might have been expected, being highest among those employed, and lowest among those in institutions, but the unemployed of both sexes give unexpectedly high results.

Good moral character has the lowest percentage among males in institutions, and the lack of it explains the inclusion among these of two boys allowed to leave at 14 years, and afterwards committed by the Magistrates, one for stealing, the other for a violent assault on a young boy. Two girls and one boy with high intelligence quotients and good annual gain are also in residential institutions on account of anti-social actions, cruelty in the case of the boy and sexual immorality in the case of the girls. Two other girls also with good intelligence quotients and annual gain are unsuccessful on account of anti-social tendencies.

TABLE II.
"OTHER FACTOR" PERCENTAGES.

CHARACTER.	Manual Ability.	Physique.	HOME CONDITIONS.	
			Comfort.	Morality.
MALES.	Ability.	Morality.		
Allowed to leave before 16 years:				
Employed, earning more than 20s. ...	86	80	100	40
Employed, earning less than 20s. ...	72	81	68	33
Unemployed ...	36	100	80	20
In Institutions ...	22	74	33	33
Discharged at 16 years:				
Employed, earning more than 20s. ...	100	100	100	0
Employed, earning less than 20s. ...	66	90	60	0
Unemployed ...	87	81	25	12
In Institutions ...	50	65	0	20
Discharged incapable, etc.:				
Unemployed ...	35	61	0	40
In Institutions ...	19	47	4	31
FEMALES.				
Allowed to leave before 16 years:				
Employed, earning more than 20s. ...	66	100	100	100
Employed, earning less than 20s. ...	90	92	85	28
Unemployed ...	60	77	75	20
In Institutions ...	—	—	—	—
Discharged at 16 years:				
Employed, earning more than 20s. ...	—	—	—	—
Employed, earning less than 20s. ...	—	—	—	—
Unemployed ...	84	82	55	11
In Institutions ...	79	78	62	25
Discharged incapable, etc.:				
Unemployed ...	22	58	16	33
In Institutions ...	36	67	0	35

Thus seven out of the forty persons, who should have had successful careers, have failed on account of anti-social tendencies, five of them being already in institutions.

Manual ability would not be expected to be a great factor in the future success of mentally defective persons considering the sort of work, of which they are capable, but high percentages under this head are found among those employed and the lowest among those in institutions, the girls discharged at 16 years being an exception. The unemployed of both sexes allowed to leave before 16 years have a high percentage of manual ability, and this may partly account for their unemployment, the boy or girl being found so useful that he or she is kept at home to assist in house work.

Defective manual ability appears to be the reason why the boy whose curves of mental ages and intelligence quotients are shown at 1, Diagram I., is earning less than 20s. per week, while a good manual ability may account for the employment of two males discharged at 16 years who had annual gains of only 4.5 and 1.7 months respectively.

As regards physique this is so low among all mentally defective persons that it can hardly be taken as a factor influencing their future careers, as compared one with another. The only class and head having 100 per cent. of normal physique is that for females earning more than 20s. per week, but this contains only two individuals. Among the physically defective are six epileptics (5 males, 1 female) of whom two (1 male, 1 female) are in workhouse infirmaries, two are in residential institutions, and two are at home, one of whom is also tubercular. It is impossible that any of these would have been employed even if they had not been epileptic. Bad health is the cause of the unemployment of one male discharged before he was 16 years of age on account of severe heart disease, and of one discharged at 16 years and suffering from pulmonary tubercle. Two other males discharged at 16 years are in institutions, one on account of the effects of infantile paralysis, the other a hydrocephalic dwarf. Ill health also handicaps two persons who were allowed to leave before 16 years, and are earning less than 20s. per week, the male suffering from bronchitis, the female having defective sight. One female allowed to leave before attaining 16 years, and living at home, and therefore technically unemployed, is an achondroplastic whose height at 14 years of age was only 3 ft. 9½ in. She has two brothers, both having the same developmental defect and both employed. Another female is a Cretin, discharged at 16 years, and her curves (Nos. 5 in Diagram III.), show that though thyroid treatment (which was continued during her whole attendance at

the Special School), produced a rapid and remarkable improvement up to a certain point, after that little progress was made.

Home conditions as influencing the after career of a mentally defective person are considered under two sub-heads: (1) Comfort which includes cleanliness, discipline and the absence of poverty, and (2) Morality, the absence of theft, drunkenness, and sexual immorality.

As to the Home conditions the outstanding conclusions which can be drawn from the percentages are: (1) That the unemployed persons have the best homes; (2) That poor comfortless home conditions do not prevent mentally defective persons obtaining and keeping employment, and may even act as a spur to their so doing, but (3) That on the other hand, poor and immoral homes have a great influence in sending a mentally defective person, especially a female, into a residential institution. That good homes are usual with the unemployed may be explained for the males in that it is less trouble to maintain them in their homes, that to find employment for them, and to constantly supervise them, that they may retain it. For the females, even in a home, where there is poverty, the woman may be more useful for the work she does than for any wages she would earn by working elsewhere. Among persons having both high intelligence quotients and annual gains, a good home appears to be the only reason why one of the two boys leaving before 16 years is unemployed, and also appears to be the reason for six out of the eight unemployed females. On the other hand, poverty at home, and the necessity of making their own living, may account for the employment of two males and two females with annual gains varying from only 3.6 months to minus 1.5 months.

Summing up the evidence obtained from this examination of one hundred and twelve after-careers, it may be claimed that if a boy on discharge from the Special School has an intelligence quotient of 50 or over, with an average annual gain of six months or more, if his character, as defined above, has been good, and if he has some manual ability he will probably succeed even if his home conditions are poor and his physique below normal (unless there is actual disease of the heart, lungs, or nervous system or actually crippling deformity). He is still more likely to succeed if he can be allowed to leave at 14 years, suitable occupation having been found for him. If, however, he has already shown anti-social tendencies, he will probably presently have to be placed in a residential institution, especially if these tendencies are encouraged by similar actions at home, the anti-social tendencies outbalancing all the other factors.

With girls, however, the chances of remunerated employment are decidedly less, and the influence of the home greater whether by causing the girl to be unemployed in a good home or causing her to be sent to a residential institution from homes which are undesirable. Also, as far as the experience of this school shows, there is no chance of a girl obtaining remunerated employment if School attendance is enforced until she attains 16 years.

As to the employments followed, of the males earning more than 20s. per week, one is working on a trawler, three are in oil mills, and one is with a parcels delivery company; the average weekly wage being 36s. and the highest 45s. Of those earning less than 20s. per week, four are errand boys, and ten are labourers in various works; the average wage being 10s. 3d., and the highest 15s. 8d. Three males are working with their fathers, and getting no fixed wage, and one is working with a market gardener, and is clothed but gets no wages. One female works in a laundry, and one in a starch factory; the average wage being 30s. 6d. and the highest 37s., and of those earning less than 20s., one works in a sugar refinery, and the rest are domestic servants; the average wage being 7s. 10d., and the highest 14s. The domestic servants though usually only employed as day girls, will at any rate get some meals in addition to their wages.

Considering the whole matter along with these figures as to earnings, it is seen that out of 181 persons from whom this experience has been gained, only nine or practically 7 per cent., are earning enough to keep themselves, and 35 are earning on an average 9s. 8d. per week. Of this latter number, 15 have been discharged during the last three years, and may possibly do better later, and 13 of those unemployed have been discharged during the same period, and may obtain employment, but of these 28, a very liberal estimate would place the number of those capable of maintaining themselves at 14, which would raise the total percentage to about 17.

A less optimistic view would limit the number of those capable of maintaining themselves to the nine above mentioned, who are already earning enough to do so, and would expect that the remaining 122 persons would become chargeable to the rates in some manner or other, either as inmates of institutions or workhouses, as has already happened to 41 of them, or by requiring out-door relief as is the case with a number of others.

Institutional treatment is said to be impossible on account of the expense and the lack of institutions, but as it seems that great expense must ultimately be incurred to support these persons at a time when they will be too old to do anything towards earning

their living, would it not be better to urge as strongly as possible, the necessity for the increase in the number of institutions, and that they should be organised, as is already done in many of those now existing, so that every inmate should perform an amount of profitable work proportionate to his ability and be thus kept happily employed and earning something towards the upkeep of the institution.

Thus segregated, the mentally defective persons would be kept out of mischief, and the output of mentally defective children would be appreciably reduced.

Special Schools would then become only the preliminary observation grounds, at which the children could be graded, their special aptitudes, if any, discovered, and training commenced against the time when they would be drafted into the residential institution.

In conclusion, grateful mention must be made of the assistance received in gathering the information in this paper from Miss Rasmussen, Head Mistress of the Special School; Mr. Chapman, and Mr. Rayner, Superintendent Attendance Officer of the Education Committee, and also in preparing the statistics from Dr. Lillias Hardie, and from my daughter.

SCHOOL HEALTH ADMINISTRATION.

At the meeting of the Society held on Friday, January 16th, 1925, a discussion took place on "School Health Administration as an essential part of the general Public Health Department."

The President (Dr. Robert A. Lyster), in introducing the discussion, said that, first of all, he would like to refer to a personal matter. He had on many previous occasions urged the necessity, from a public health point of view, for the definite inclusion of health work in schools within the general public health department, both centrally and locally. When the M.O.H. Society and the B.M.A. sent a joint Deputation to the Ministry of Health upon this important subject he was selected as one of the speakers, and some little time afterwards he was astonished and amused by receiving successively from two well-known members of the public health service sympathetic references to his "difficulties with his local director of education." In order to prevent any further spread of this "fairy tale" he would like to take advantage of this opportunity to state that in Hampshire there was not the slightest difference of opinion between the Director of Education and himself. That Director of Education recognised that school

inspection was entirely a medical matter, and he would no more dream of interfering or taking any part in the work of medical inspection, than the Medical Officer would dream of taking part in, or interfering with the teaching in the schools. There never had been the slightest friction, and, so far as he could see, there never would be. His peculiarly and specially happy relationships in Hampshire, however, did not prevent him from realising that such circumstances were more the result of luck than anything else, and that these results were achieved in spite of the unsatisfactory nature of the law, which has up to the present made medical inspection an affair of "education." The deplorable results in many districts were well-known to every member of the public health service, and the Society as a whole was practically unanimous in demanding an alteration whereby the whole of the health work of the district was organised definitely in one department, and not subject to outside interference in any way, either by directors of education, or any other officer.

When the Ministry of Health Bill was in Committee the Board of Education made great efforts to get itself excepted from the Bill, but the intentions of Parliament were very definite upon this point and the medical inspection of school children was included among the spheres of activity to be controlled and absorbed by the Ministry. The opinion of Parliament was expressed when it brushed aside the claims of the Board of Education during the Committee stage of the Ministry of Health Act, thereby deciding definitely that only as a temporary measure would it permit the Board to continue to have anything to do with medical affairs. The clearly expressed wishes of Parliament on that occasion have ever since been defied, and an attempt to perpetuate the present unsatisfactory condition was made in the Education Act, 1921.

At a meeting of the Council of the Society held on 21st October, 1921, it was carried unanimously, "That representations be made in the appropriate quarters to give effect to Section 3, sub-section 1, para. 3, of The Ministry of Health Act, 1919, that there shall be transferred to the Ministry of Health all powers and duties of the Board of Education with respect to the medical inspection and treatment of children and young persons." Following this decision a Deputation was arranged jointly by the British Medical Association and the Society of Medical Officers of Health. This Deputation was received by Sir Alfred Mond, and had every reason to feel satisfied with the discussion which arose. Unfortunately, however, before the

results of that Deputation could be followed up, political changes occurred, and so it seemed probable that the whole of the work would have to be started afresh.

Centrally, unification could be accomplished by a stroke of the Minister's pen. Locally, a similar state of affairs could be brought about by a small amendment to Section 4 of the Education Act, 1921, which refers all matters, including the medical inspection and treatment of school children to the local Education Committee. All medical matters should be excepted from this reference, and the position would then be entirely satisfactory as it would be left to each local authority to decide about its own medical work. In a great number of cases the unification of health services would immediately follow. The present unsatisfactory state of affairs cannot be allowed to remain. In some districts the work of medical inspection is crippled by outside interference. The extent to which such interference might be carried is illustrated by the extraordinary Memorandum issued a few years ago by the Directors of Education, which shows clearly the extremes to which many of them would go if they had the opportunity. Without going to these extremes we all know that the work and the position of many school medical officers is subjected to petty annoyances and attacks and outside interference, a condition of affairs which prevents the best work being done, and must result in serious loss to the public.

Dr. T. W. Naylor Barlow, O.B.E. (M.O.H., Wallasey), at the outset of his address, referred to the beginning of the work of Medical Inspection of School Children, and stated that the necessity for the step had first been mooted by Medical Officers of Health and consistently advocated by them, and it was only by pure chance that the work ever came within the cognizance of Education Committees, the chance being that just at the time when the agitation was at its height an Education Bill was before Parliament and the clauses in connection with the Medical Inspection of School Children were included in it. That was the initial mistake, and they had suffered from it ever since. The Medical Inspection of School Children was Public Health work pure and simple, and the fact that it was work affecting only a portion of the population between certain age periods was no reason for farming out the work and placing it under another Committee. It was just as logical to have a special Committee for dealing with Tuberculosis and another for Infectious Diseases. In his view there should be one Committee of the Local Authority envisaging

the whole of the existence of an individual from before birth (ante-natal clinic) until death. That was the only way of preventing overlapping of staff and institutions, and promoting efficiency and economy in work. It was sometimes stated that it was sufficient to have the whole of the work co-ordinated by the Medical Officer of Health, as was the case in most districts, but Dr. Barlow pointed out that instances were not uncommon in which two Committees of the same Corporation took the bit between their teeth and insisted on their own particular schemes being carried out, for what was practically a common object, e.g., an Education Committee insisted in building a Residential Open-Air School for Children, while a Health Committee of the same town insisted on building a Sanatorium for Children. These were to all intents and purposes identical institutions. In not a few instances the medical work of the Education Committee and the work undertaken by the Health Committee was not even co-ordinated by the Medical Officer of Health, and that unfortunately was the case in several of our largest towns. When it was so confusion was worse confounded, since each Committee embarked on its own schemes without reference to the other, and there was much overlapping. He gave an instance in his own experience, typical no doubt of many, where there was a School Clinic used only in the mornings during school term time and not used in the afternoons, and in the same town a Child Welfare Centre which was used only in the afternoons in the week and not in the mornings. Obviously the same premises should have been made to serve the two purposes. Moreover, in the same town the Education Committee appointed its own School Nurses and School Dentist, with the result that the School Nurses had practically nothing to do during school holidays. They could not be turned on to other work because they were not qualified. Similarly the School Dentist had very little work to do during the school holidays and could not be called upon under the terms of his appointment to do any work in connection with expectant mothers or made use of in connection with Tuberculosis, which could quite well be done during school holidays. Another misfortune connected with the placing of this medical work in the hands of the Education Committee was that, in many instances, the Director of Education assumed or endeavoured to assume the control of the medical staff and to direct its work. Instances were not unknown in which Directors of Education had expressed views on medical questions in direct opposition to those of their Medical Officer. There remained the last, and

perhaps the most important, of all the objections in the divorce of this work entirely from the Medical Officer of Health. It was this, that the men appointed as School Medical Officers were in a blind alley offering very little chance of promotion and no variety of work, and as a result no keen, ambitious medical men or women would enter the Service. In consequence, the character of the work would inevitably suffer. Dr. Barlow thought a case had been made out that in every instance the Medical Officer of Health should control and co-ordinate all medical work, including the School Medical Services, in his district, and, further, that the same arguments which impelled Parliament to unify or to concentrate in one Government Department all Health Services applied equally to local units of government, and there should be equally unification of control of all health matters in one Committee locally.

Dr. C. J. Thomas (Senior M.O., London County Council) held that it was essential first of all to have public health administrative authorities as efficient as possible, and secondly, to enhance the prestige and position of the medical officer of the authority. In that he felt he did not differ from the members of the Society. The difference arose in this way, that in considering the point of view of the education authority, and disregarding for a moment the statutory medical examination of school children, there still remained with the education authority many health functions which could not be taken away. In every committee of that authority situations were constantly arising involving decisions with regard to health. The benches the children sat on, the books they read—everything had a health aspect, and for that reason the medical officer must be available. Then there were the children to be grouped and sent to special schools. On all these and other matters an efficient education committee must have a medical officer to advise them and carry out the large amount of administrative work entailed. Dr. Thomas was with the Society that that medical officer must be the medical officer of health always, but there they parted company. The Society had put on its banner the slogan that the work must be taken from the education committee and given to another committee. Difficulties had doubtless arisen in regard to those places where the school medical officer was an independent person, but not to any extent in areas where the medical officer of health was also school medical officer. In a large area it was impossible for one committee to do all the health work. Therefore let the medical

officer of health's department do all the work and deal with all the committees concerned with health work. Wherever an attempt had been made to do the health work in the schools except through the Education Authority it had failed; and you look in vain whether in this country, in the colonies or in foreign countries for a single example surviving of school hygiene being carried on by any other body than that directly controlling the educational work in the schools.

Col. A. E. L. Wear, C.M.G. (S.M.O., Leeds) pointed out that of some 316 authorities in this country 33 had a school medical officer working independently of the medical officer of health. Though one of that number, he believed that the service as a whole and the well being of the children would be advanced if unification were secured. There was something wanting when, as Dr. Barlow had mentioned, there might be a clinic of the education service and a welfare centre in different buildings in the same street, involving loss of efficiency and extra expense. During the school period of a child's life health questions were taken practically out of the hands of the medical officer of health. In schools the school medical officer was responsible for infectious disease and its control and it was only by means of tact and a good feeling with the medical officer of health that one had really an efficient interchange of opinion and a working arrangement whereby disease was kept under control. There should be much closer co-operation between the services, and the whole of them should be part of a central health authority. There was only one way to deal with the matter—the taking by the Ministry of Health of steps centrally to enforce locally what was best for the country, viz., the unifying of the services.

Dr. E. H. T. Nash (M.O.H. and S.M.O., Heston and Isleworth) said that two points had been raised which were quite different the one from the other. The first, the combination of services, about which there could be no question. The second, the question of one committee dealing with the whole of the work when it had been unified under the medical officer of health. The latter was a much more difficult problem. Having tried both systems he had come to the conclusion that if there was any difficulty in working with the director of education it was far better to deal with two committees. The success of the medical service in the school depended upon the director of education. In regard to Dr. Thomas's remarks, he had made a plea for special circumstances, no authority in the country being as large as the

London County Council. They as members of the Society had to talk in terms of majorities.

Dr. T. Eustace Hill, O.B.E. (County M.O.H. and S.M.O., Durham) remarked that it appeared to him that no argument had yet been put forward against the suggestion that the school medical work should be handed over to the Ministry of Health. Most of the points mentioned by Dr. Barlow in opening had reference to the independent school medical officer who was no relation to the medical officer of health, and there was no doubt of the desirability of the medical officer of health being also the school medical officer. Speaking personally, Dr. Hill had no strong feeling in the matter. In his own area there was not the slightest friction with the director of education, and the work was carried out extremely smoothly. There existed an excellent working arrangement between the two committees, and so far every school clinic was in a maternity and child welfare centre. He considered it a great advantage to have the public health committee initially responsible for school medical work. A difficulty was that occasionally there was a medical officer of health who would not work in harmony with the director of education or vice versa, and then there was bound to be trouble.

Dr. R. A. Glegg (County M.O.H. and S.M.O., Lindsey, Lincs.) said it seemed to him that the whole thing that was wrong was the attitude of the directors of education. The system otherwise worked well where the director of education was sympathetic and looked to a medical officer as a principal official. In the rural areas the medical officers of health were in many instances part-time men who varied considerably in their interest in public health work, but where a whole-time officer was appointed he at once felt that he ought to have a place in school work; that without it the administration of health work in his area was unsatisfactory. The public health activities in a county should be closely allied to school work from the top, and the county medical officer should be the chief health officer for all purposes.

Dr. H. P. Newsholme (M.O.H. and S.M.O., Croydon) felt that they were dealing with two distinct points. On the question of the unification of staffs, they must all agree that there should be one staff concerned with all aspects of health work. As to the unification of committees it seemed that there might easily be a difference of opinion on that point. Dr. Newsholme, in placing himself alongside Dr. Thomas in the position he had taken up, said that it seemed to him that school medical work was so much a part of

education that it could not with advantage to the general public health be taken from it. Dr. Newsholme referred to joint meetings between the education committee and the public health committee as an admirable arrangement for securing co-ordination.

Dr. Charles Sanders (late M.O.H. and S.M.O., West Ham) held that if he were right in suggesting that no difficulties were found in the central offices at Whitehall, where Sir George Newman was not only the chief medical officer of the Ministry of Health but also the chief medical officer of the Board of Education, but that they did find difficulties in those comparatively few but rather important districts where the two services were separate, it was the duty of the Society to endeavour to secure unification in those areas.

Dr. R. Woolsey Stocks (M.O.H. and S.M.O., West Bromwich) considered that if the control of the school medical service were to be divorced from the education committee there would be lost a great deal of the support and assistance which was obtained from the teachers. In regard to the appointment of a medical officer to work partly under the maternity and child welfare, education and public health committees at West Bromwich, representatives of the three committees had met, and so successful had the arrangement proved in that connection that it was probable that the joint sub-committee would be set up as a standing sub-committee to consider other matters of common interest.

Dr. W. G. Willoughby (M.O.H. and S.M.O., Eastbourne) expressed the view that it would be a backward step if the medical officer of health was not to be considered an officer of every committee on health matters, and he should be against trying to concentrate into one committee the whole of the work with which the medical officer of health was concerned.

Dr. J. Graham Forbes (Div. M.O., London County Council) said that the unification of the offices of school medical officer and medical officer of health would assist very materially the dealing with infectious diseases, particularly scarlet fever and diphtheria, in schools. A further point was in regard to the interchangeability of posts, especially in large administrations. Men were apt to get into a groove in carrying out one branch of public health work, and it was greatly to the advantage of the service and to themselves if it were possible to interchange duties.

DR. G. H. POTTER has been appointed medical officer of health for the urban district of Ince.

Society of Medical Officers of Health.

ORDINARY MEETING.

An Ordinary Meeting was held at the House of the Society on Friday, 20th March, 1925, the President (Dr. R. A. Lyster) in the chair.

The minutes of the last meeting having been approved and signed the following candidates were elected to the Society:—

As Fellows: Dalby, Arthur Adams, M.R.C.S., L.R.C.P.; Fisher, Henry Ralph, M.B., Ch.B. Liv.; Henderson, Blanche Aspasia Marion, M.B., B.S.Lond.; Leathers, Waller S., M.D.; Russell, Gladys Julia Cuthbertson, M.D., Ch.B.St.And.; Stenhouse, Alice Mary, M.D., B.S., B.Hy. Durh., D.P.H.

A number of nominations were received for the next election.

A discussion on "The Control of Infectious Disease, and the Place of Isolation therein" was opened by Dr. Frederic Thomson. [A report of the discussion will appear in an early issue of "Public Health."]

The meeting then adjourned.

METROPOLITAN BRANCH.

A meeting of the Branch was held on Friday, 27th February last, Dr. Charles Porter, the President, occupying the Chair.

The Branch assembled at the House of the Society at 10.45 a.m. and gave consideration to the question of the nomination of the Society's representatives on the Panel Committee for the County of London for the ensuing year, as a result of which it was decided to recommend the re-appointment of Dr. G. Clark Trotter and Dr. E. G. Annis.

The members of the Branch then proceeded, at the invitation of the Metropolitan Asylums Board, on a tour of inspection of two institutions under the control of that Authority.

Dr. Marcus Paterson, the Medical Superintendent, conducted the party over Colindale Hospital, Hendon, an institution for the treatment of advanced tubercular disease in men.

Dr. Paterson described the system of the occupational grading of the men according to their working capacity adopted at the Hospital, after which the members visited the various groups of men and saw them at their work.

A demonstration of the induction of artificial pneumothorax was given in the operating theatre. Following this the members visited the disinfecting station of the Hospital and witnessed the methods

in use for the disinfection of sputum and the sterilisation of sputum vessels, handkerchiefs, etc.

After lunch, which was very kindly provided at the Hospital by the Board, Mr. Francis Morris, the Chairman of the Board, welcomed the members of the Branch and expressed his pleasure that this visit had been arranged. Mr. Potter, Chairman of the Infectious Hospitals Committee, supported the observations of Mr. Morris.

Dr. Charles Porter, in reply, thanked the Chairman and his colleagues for the opportunity presented to the Branch of seeing the efforts made by the Board to stamp out tuberculosis and stated that everything that had come to their notice had only led them to appreciate even more than they had done in the past the perfect arrangements made by the Board for isolation combined with modern treatment for the infective sick in London. Dr. Porter referred in warm terms to the good feelings which have always existed between the Officers of the Metropolitan Asylums Board and Metropolitan Medical Officers of Health and tendered to Dr. Marcus Paterson the hearty thanks of the members of the Branch for the splendid demonstration which he had given that day.

The members of the Branch then proceeded to Park Hospital, Hither Green, and were conducted over that Institution by Dr. T. H. Woodfield, the Medical Superintendent.

At this Hospital there was provided an excellent exhibition of ultra-violet rays in their application to the treatment of diphtheria carriers, scarlet fever throats and ear disease.

The cases of clinical interest seen included patients suffering from Vincent's angina, enteric fever, post diphtheritic paralysis and pustular dermatitis.

Much interest was taken in a ward of children suffering from scarlet fever who had been immunised from diphtheria in view of their having been in contact with a case of the latter disease, and the Medical Superintendent drew attention to the complete absence of general re-action in children after immunisation.

The system installed at the Hospital for the extraction of lime and magnesia from hard water was demonstrated.

Tea was provided at this Institution, at which the Chairman of the Hospital Sub-Committee welcomed the members of the Branch.

The President of the Branch expressed the thanks of his colleagues to the Board and Dr. Woodfield.

The day's programme having been completed, the Board kindly conveyed the members back to Town.

NORTHERN BRANCH.

A Special Meeting of the Branch was held in the Medical Institute, 7, Windsor Terrace, Newcastle-upon-Tyne, on Friday, 6th March, 1925.

The President (Dr. W. H. Dickinson), was in the chair and there was a good attendance.

The Minutes of the meeting held on the 6th February, 1925, having appeared in "Public Health" were taken as read, and signed by the Chairman.

Apologies for absence were received from Drs. J. M. MacLachlan, J. Steedman, F. H. Morison, K. Fraser, R. McCoull, and C. R. Gibson.

The Chairman referred in sympathetic terms to the death of Dr. Stewart Carson, M.O.H., Alston U.D., and the meeting approved of the action of the Honorary Secretary in having sent a letter conveying the condolence of the Branch with Miss Carson.

The Honorary Secretary read a letter from Dr. T. Eustace Hill thanking the members for their kind message and good wishes.

Dr. A. M. Masters, District T.M.O., Durham C.C., was elected a member of the Branch.

Policy of the Society in relation to House and Journal.

The six recommendations of the Special House and Journal Committee were fully discussed and the following decisions arrived thereon:—

- (1) That the Society publish only one journal. Approved.
- (2) That it is advisable for the Society to have a weekly publication. Approved.
- (3) That it is inadvisable to embark on a weekly publication until sufficient reserve funds are in hand. Approved.

The Honorary Secretary was instructed to ask for information as to the probable purchase price of the "Medical Officer."

- (4) That the annual subscription be increased by half-a-guinea (whole-time medical officers to pay 2 guineas, and part-time and retired medical officers 1½ guineas) for the following among other reasons:
 - (a) to meet the increased indebtedness (about £150 per annum) caused by the purchase of the house.
 - (b) to improve the present monthly publication of "Public Health."
 - (c) to give an honorarium of £105 to the editor.
 - (d) to accumulate a reserve so as to be able to publish a weekly periodical and to press home the continued need

for the improvement of the status and conditions of service of public health medical officers and generally to further the objects outlined in this report.

Dr. Dillon moved, Mr. MacLeod seconding, "That the members of the Northern Branch of the Society of Medical Officers of Health consider that it is not expedient at the present time to increase the amount of the annual subscription if this can by any means be avoided."

- (5) That it be impressed upon members that annual subscription should be paid within a reasonable time of the commencement of the financial year on the 1st October, and that all members in arrears should pay arrears immediately. Approved.

It was suggested that members should be urged to pay subscriptions by bankers order, and that this method should be brought to the notice of each individual more prominently than is being done at present.

- (6) That it be impressed on Branch Secretaries and members generally that the membership of the Society can be effectively increased and that each member should act as a recruiting agent. Approved.

Policy of the Society in relation to National Health Insurance.

The draft policy of the Society in relation to National Health Insurance as published in the March issue of the Journal was read over and carefully discussed point by point. It was felt that successful administration undoubtedly demanded the unification of the existing services (Municipal, Local Insurance Committee and the Poor Law) preferably under the first named, particularly as the medical services already undertaken by the Municipality were at least equal in annual cost to those of the other two combined; also that maternity benefit should be transferred to the statutory M. and C.W. Committee and the Municipality. Further, it was agreed that a re-arrangement of the unit of administration was necessary, since the small Local Authorities were not in a position to carry on so important a scheme satisfactorily, and that the unit should consist of (1) the big towns, and (2) such combinations of lesser local authorities, as would give a reasonable population for satisfactory working but less than that of the whole of the large counties, since if these latter were crowded units the essential intimate principle of "local" Government would be lost.

It was moved from the Chair that the Branch formally approve the Society's draft "policy," and this was agreed to unanimously.

YORKSHIRE BRANCH.

Nineteen members took part in a meeting which was held at the Education Offices, Leeds, on February 27th, the President (Dr. J. Mair) in the Chair. The Report of the Special House and Journal Committee was the subject of a lively discussion and resolutions were framed for submission to the Central Council. An informal interchange of views upon the administration of the Public Health (Meat) Regulations, 1924, proved of value to the members.

Dr. Cecil Williams, of Todmorden, aroused much interest by a short paper on the Selection of Candidates for Public Health Appointments.

Dr. Williams in opening the discussion read a statement which dealt chiefly with the costliness of the present system of appointing Medical Officers, and with the difficulties which Local Authorities themselves admitted they experienced as laymen in assessing the relative merits of different applicants. Dr. Williams further touched upon the factor of local influence which is generally admitted does determine a number of such appointments.

The direct alternative to the present system he said, would be for the Public Health Service to become a body controlled entirely by the Ministry, but a compromise might be possible by a development of the present powers of the Ministry in the matter of the approval of candidates. The present system determining advancement had very much indeed to be said against it, and the Society of Medical Officers of Health should make itself heard. By acquiescing in a bad system it could not claim the devotion to the service of the public which hitherto had been characteristic of the Society.

Several of the subsequent speakers were of the opinion that Dr. Williams had provided no satisfactory alternative to the present system of making appointments. Dr. Wear remarked that kissing went by favour the world over and no system could be devised which would ensure that each appointment should be given to the most suitable applicant. Dr. Francis thought that the expense involved would not be decreased if expensive officers in London had to be employed in selecting candidates. Dr. Hill suggested that it was unfortunate a short list based on the paper qualifications of candidates was customary: it was the man

that counted, not merely his qualifications, and it was desirable that larger numbers should be interviewed so that the personal factor could be taken into greater account. Dr. Pearce contended that whatever the defects of the present system might be there was no doubt that so long as any post was advertised at a proper rate of remuneration and the selected candidates possessed the necessary legal qualifications it was impertinent for anyone to attempt to interfere.

Dr. J. J. Buchan thought the general question of greatest importance in Dr. Williams' paper was that of making ourselves a service for the whole country instead of for separate local authorities. This might come about in time but not until we had convinced the public that our work was done in the interests of the whole nation rather than in the interests of each little area. Life would not be easier for medical officers if they were civil servants, while in regard to the disposal of appointments he thought the danger from selection by a central coterie would be much greater than that from selection by local authorities. Local Authorities represented the voice of the people, who cannot be dictated to. The present body of medical officers was probably a better selection than if they had been chosen by a central authority. On the other hand there was much to be said against this business of continual applications and travelling about after posts. A central advisory body might be set up by the Ministry or otherwise which would keep up a list of men available and suitable for different types of employment. The whole matter was too great to be satisfactorily talked over in a short afternoon meeting.

Dr. Moore found himself in general agreement with Dr. Buchan, but did not wish to see any advisory body. It would still be a coterie. He was not wanting to be controlled by Whitehall.

Replying to the discussion Dr. Williams emphasised the following points:—

- (1) That in many appointments the cost in money and time must be over £150.
- (2) That the fact that a man with minimum professional qualifications and no experience may legally be appointed even to a senior post, must influence adversely the salaries of such posts.
- (3) That the time for a national service might not be just yet, but that perhaps it may not be so far off as some imagine.
- (4) That it has been necessary for the Army to make its Medical Officer Corps Troops, and the same factors which made this necessary obtain in the Public Health Service.
- (5) That the possibility of the Ministry advising Local Authorities in the selection of candidates suggested by one member, would be a development of the

present powers of the Ministry, which might bring about the compromise suggested in the opening paper.

NORTH - WESTERN BRANCH.

A meeting of the above Branch was held at the Public Health Laboratory, York Place, Manchester, on Friday, February 13th, 1925.

Dr. J. Beard (President) was in the Chair, and there was an attendance of twenty-nine members.

The Minutes of the last meeting were read and confirmed.

A letter was read from the College of Pestology, asking for the collaboration of Medical Officers of Health in holding a "Fly Week" during 1925, and the Hon. Secretary was instructed to write, informing this body that as stress was laid upon the fly peril both during ordinary public work, all through the year, and specially during the annual Health Week, members were of opinion that a special Fly Week was not necessary.

An offer from the council of the University to provide accommodation for meetings of the Branch at the Public Health Laboratory was considered, and it was unanimously resolved:—

"That the kind offer of the Council be accepted, and that the best thanks of the Branch be accorded to the Council for it."

The Meeting then considered the Report of the Special House and Journal Committee of the Society (as set out on page 154 *et seq.* PUBLIC HEALTH, February, 1925).

The question of the desirability of publishing a weekly Journal was debated at some length. The President (Dr. Beard), Drs. Lissant Cox, Peyton, Wilkinson, Barlow and the Hon. Secretary, taking part in the discussion. Finally, it was resolved:—

"That this Branch is of opinion that it is inadvisable to increase the subscription to the Society until all other means of increasing the income (especially the recruiting of more members), have been exhausted."

At the close of the business meeting, tea was kindly provided, and following this, Professor Topley gave an interesting address on "Recent Advances in the Bacteriology of Scarlet Fever." He pointed out that it had been known for the past 80 or 40 years that streptococci were closely associated with Scarlet Fever, and he traced the history of the differentiation of various types. The first efforts at separation were by the fermentation reactions. Later it was found that by their action on red blood corpuscles the streptococci could be divided into two main groups, the haemolytic and non-haemolytic. Among the

haemolytic were those found in Scarlet Fever and Puerperal Fever, and in many acute pyogenic infections.

Since 1919, the serological classification had shewn that the haemolytic streptococci could be split into several groups, and that the Scarlet Fever cocci could be clearly differentiated from the puerperal and other haemolytic streptococci in that division. It was evident, then, that a certain haemolytic streptococcus was present in a large proportion of cases of Scarlet Fever, and was not present in a large proportion of other cases. It was difficult to confirm that causal relationship of this organism by inoculation experiments because guinea pigs and rabbits do not develop Scarlet Fever. Hoefer Dick and Dick in America produced the disease in human volunteers by swabbing throats with the scarlatinal streptococcus.

In 1918 an interesting observation was made by Schultz and Charlton that if the blood serum from a normal individual be injected into the skin of a Scarlet Fever patient it blanches the rash. If the Scarlet Fever streptococci be grown in ordinary broth, and the filtrate be inoculated into the skin of a normal person, a local reaction is produced similar to the Schick reaction, and this is not given by those who have had Scarlet Fever. Again, if a normal person who gives the reaction is inoculated with some serum from a patient who has had Scarlet Fever the reaction will no longer be given. This toxin is also neutralised in vitro by the serum of a convalescent from S. F. The streptococcus therefore, of Scarlet Fever gives a soluble exotoxin producing a skin reaction in those susceptible to the disease, but not in convalescents or those protected artificially.

Dochez and Stevens produced anti-scarlatina serum by immunising horses with living streptococci, and this serum had good results in treatment, apparently comparable to those of anti-diphtheritic serum.

It was later shewn that this Dochez serum gave the Schultz and Charlton reaction (*i.e.*, blanching of Scarlet Fever rash at site of injection). Shortly afterwards it was discovered that the blood of patients in the acute stages of Scarlet Fever contained toxic substances acting like the culture filtrate.

The toxin has the following properties:—

- (a) Produces typical skin reaction in subjects whose serum gives a negative S-C reaction.
- (b) No skin reaction in positive S-C reaction.
- (c) Readily neutralised by human serum which gives a positive S-C reaction.
- (d) Not neutralised by serum with negative S-C reaction.

(e) Readily neutralised by Dochez anti-scarlet serum.

(f) Not neutralised by normal horse serum.

A similar substance too has been isolated from the urine in a few cases.

All this work requires further confirmation, but it appears fairly certain that now we have found a specific organism that is present in a majority of the throats of cases of Scarlet Fever, especially during the first two or three days of the disease. This particular haemolytic streptococcus is not found in cases of acute streptococcal infection such as Erysipelas or Puerperal Fever. Incidentally too, its characteristics are the same when isolated from any case of Scarlet Fever whether occurring in this country or abroad. This organism gives rise to a soluble exotoxin producing a skin reaction in susceptible, but not in immune persons. We can produce an anti-toxin by inoculating horses which will not only neutralise the toxin, but will give the Schultz Charlton reaction in S. F. patients. Altogether then, the case is supported by strong evidence, and if it is proved it ought to help from an administrative point of view, since we should be able:—

- (1) To detect carriers.
- (2) To do as we do with Diphtheria—pick out the susceptibles and immunise them.

A hearty vote of thanks was accorded to Professor Topley for his excellent address on the proposition of Dr. Peyton, seconded by Dr. Stallybrass and supported by the President and Dr. Barlow.

HOME COUNTIES BRANCH.

The fifth meeting of the session 1924-25 of the Home Counties branch of the Society of Medical Officers of Health was held at the house of the Society, on Friday, 6th February, 1925, at 3.30 p.m.

The minutes of the previous meeting were read and approved.

The Secretary reported that in accordance with instructions he had circularised the other branches of the Society in reference to the candidature of Dr. George F. Buchan for the Presidency, and submitted the replies thereto.

The Secretary also submitted a letter from the Executive Secretary drawing attention to the report of the Special House and Journal Committee. On the motion of Dr. Buchan it was agreed to put the report on the agenda for discussion at the next meeting.

Memoranda from the Ministry of Health—the Public Health (Tuberculosis) Regulations, 1924, the Public Health (Meat) Regulations, 1924, and

Circular 553 dealing with the Sale of Food and Drugs Acts—were submitted.

A discussion on the meat regulations took place in which the general opinion appeared to be that the Regulations should be used for the education of meat traders and that there should be no haste in adopting arbitrary standards of methods by which the regulations should be enforced.

Dr. George F. Buchan then submitted his paper on "The Question of Extension of National Health Insurance: Medical Proposals." The paper has been published in the "Medical Officer," dated 21st February, 1925, and a copy of the paper is included in the minutes.

A discussion followed in which Drs. Jameson, McMaster, McIntosh, Cates, Orr, Clements, Tate, Muir, Digby White and Saunders took part.

Dr. Buchan was heartily thanked for his instructive and interesting paper, to which he suitably replied.

MIDLAND BRANCH.

The fifth Meeting of the Session was held at the Council House, Birmingham, on Thursday, March 5th, 1925, at 3.30 p.m.

Present: The President (Dr. R. Woolsey Stocks) and 13 members.

Apologies for absence were read from Doctors Clarke and Ferguson.

The minutes of the previous meeting which had been published in "Public Health" were taken as read, and signed.

A discussion on the report of the Special House and Journal Committee was opened by Dr. Snell who briefly outlined the considerations which had influenced the Committee in making the various recommendations. He then moved the adoption of the report and was seconded by Dr. Tapper.

After others had spoken Dr. Goldie moved as an amendment "that the recommendations of the report be agreed to with the exception of clause 4." This was seconded by Dr. Davison. On being put to the Vote the amendment was declared lost and the original resolution was then carried with five dissentients.

The resolution of the Council of the Society upon the circulation of Questionnaires by non-medical bodies was brought to the notice of the meeting.

The members present then gave their careful consideration to the memorandum of evidence

to be submitted to the Royal Commission on National Health Insurance by representatives of the Society of Medical Officers of Health.

The various points raised were discussed and the meeting finally decided to approve the entire memorandum.

A discussion then followed on the present position with regard to the scale of salaries for Public Health Officers. No resolution was passed but the Hon. Sec. was instructed to obtain certain further information for submission to the next meeting.

Reviews.

THE PURPOSE OF EDUCATION. By St. George Lane Fox Pitt. Cambridge, 1924. The University Press. Pp. xxxii. + 92. Price, 4s. net.

The publication of four editions of this little book within the space of eleven years is some indication of the interest which is now being taken in the practical applications of psychology. Mr. Pitt pleads eloquently for high ideals in education, and holds that it is only by the inculcation of such ideals that the present revolt against a mechanical theory of the universe can be guided on sound lines.

In his preliminary discussion of human personality, Mr. Pitt writes, as a whole, on Freudian lines. He utters a protest against the growing tendency to reserve the term "complex" for a system of unconscious ideas, and to use it only in a pathological sense. There is no need to adopt this fashion, and doing so violates one of Freud's basic principles, namely the unity of all mental life. We may quite properly speak of a conscious complex. Mr. Pitt styles personality "the great complex," and regards it as the aggregate of all the other complexes, "major" and "minor."

The object of the book is to protest against the prevalent tendency to treat education merely as a means of securing tangible results. Many an educational philosopher has started with a similar aim in view. None of them have been very successful. And the cynical might regard Mr. Pitt as unlikely to be more successful than his predecessors. But in that part of his book which deals with economics he gives expression to the doubts as to the fundamental identification of wealth with material success which are now agitating the minds of many. The conception of the value of competition as an incentive to action may

appear to be strongly entrenched. But it is, at least, possible that the near future may have, in this direction some surprising changes in store for us.

The metaphysical parts of the book are less successful than are the psychological sections. A monistic conception of the universe need not necessarily be materialistic, as Mr. Pitt appears to assume. Idealistic monism is quite a tenable view. Nor does animism necessarily imply a dualistic view of the universe. Like all present-day writers, Mr. Pitt sees the fundamental nature of determinism. But, if this doctrine is to be dealt with at all, it should be adequately discussed, and not dismissed in a few lines of assertion.

But the book, as a whole is fascinating and stimulating. The sections which deal with specialization, versatility, and money values are most interesting and suggestive. And we can commend their study, not merely to educationists, but to all students of social problems. The book is enriched by a prefatory letter from the late M. Emile Boutroux.

ACUTE INFECTIOUS DISEASES. A Handbook for Practitioners and Students. By J. D. ROLLESTON, M.A., M.D., Oxon. London. Heinemann (Medical Books), Ltd. Demy 8vo. pp. 384. 12s. 6d. net. 1925.

This publication is a notable contribution to the literature of the acute infectious diseases. To those who for one reason or another have been unable to keep abreast of recent work in this country and abroad. Dr. Rolleston's handbook should be especially welcome. The author has supplemented his own extensive experience by that of Continental and American workers. The result is an admirable reflex of the present state of knowledge of those of the acute infections "which are mainly or exclusively treated in isolation hospitals"—in this country.

In part due to the exigencies of war and in part to the enlightened policy of the Americans in encouraging research in the common Fevers rather than merely tolerating it, the advance in knowledge of many of the acute infections from the dual standpoints of prevention and treatment, has during the last decade been remarkable. Dr. Rolleston gives a well balanced account of the chief of these advances for each of the diseases he discusses. For those whose daily work may necessitate further enquiry a well selected bibliography is attached to each chapter. But whilst adducing the new, and even the very new in many instances,

Dr. Rolleston does not neglect the old. Each chapter contains an historical note which is of great interest and value. The discoverers of fresh diseases and varieties would sometimes receive a salutary cold douche if they would but make themselves acquainted with the observations of the old masters of medicine who made these same discoveries—well!—ever so long ago. The author sometimes puts "too fine a point upon it" in the matter of statistics.

Considerable statistical use has been made of the abundant clinical material of the Fever Hospitals of the M.A.B. When large series of cases are employed for analysis, the percentage figures are reliable; there are, however, analyses of short series of complications and so forth in which percentages are carried to two places of decimals. The "probable error" in these short series must be very considerable. No real increase in accuracy is obtained by working to the second decimal place.

As might be expected Dr. Rolleston writes a most interesting chapter on Diphtheria. Medicine is indebted to him for many original and valuable observations upon this disease.

There is an excellent account of Serum sickness largely founded upon the author's own work. It may be interpolated perhaps that the "very perplexing" scarlatiniform eruption following the injection of some batches of serum may be rendered much less perplexing by the performance of the Schultz Charlton test (duly described in its place by the author).

Dr. Rolleston was the first to advocate in this country the intramuscular route for the injection of diphtheria antitoxin. This is now the routine method in most large fever hospitals. He is not convinced that the intravenous route has any advantages over the intramuscular. If rapid adsorption of toxin in a bad case is an essential then the rapid reversal of the Schick test from positive to negative after intravenous administration compared with the much slower reversal after intramuscular injection are facts against Dr. Rolleston's view.

Surprisingly, there is no mention of the use of concentrated antitoxin.

The chapter on cerebrospinal fever gives a good account of the advances made during the war and since. The author emphasises the fact that the disease is primarily a septicaemia and may remain such—without meningeal localisation—throughout.

The up-to-date accounts of the Paratyphoids and of Typhus were badly wanted in text book

form. The early appearance and extraordinary profuseness of the rash in the Paratyphoids is noted. The [Wilson]-Weil-Felix reaction in Typhus is rightly considered as equal in diagnostic value to those of Widal and Wassermann.

In the chapter on Scarlet Fever brief mention is made of the Dick toxin.

With regard to Smallpox the author believes that "in spite of a few dissentients *Amaas* and *Alastrim* are merely mild forms of Smallpox . . . capable under certain conditions of taking on a virulent character and causing the severe and fatal form of Smallpox."

Having regard to the known facts of Smallpox in particular and of epidemiology in general, this is the only sound view to take.

The book is not illustrated. The author rightly considers that patients themselves should form the illustrations. He also thinks that "some excellent text books have been disfigured rather than improved" by drawings and photographs. Some, possibly, but not all. Dr. Rolleston will agree that the illustrations in some of the large Continental works on the infections are accurate and beautiful productions. But these tomes cannot be sold at the very modest price asked for the admirable handbook under review.

REPRESENTATION OF PUBLIC HEALTH SERVICE ON B.M.A. COUNCIL AND A.R.M.

The constitution of the British Medical Association provides for nomination and election by the Public Health Service members of the Association as a whole, in the United Kingdom, of (1) two members of the Council, and (2) four Representatives (and four Deputy-Representatives) in the Representative Body of the Association. A Public Health Service member is defined (By-laws 1 and 10) as a member of the Association permanently employed in the whole-time medical service (other than service at a mental hospital) of any council or education authority of any county, county borough, municipal borough, metropolitan borough, burgh, urban district, rural district, parish, or port sanitary authority in the United Kingdom whose name appears as such member in the annual list of members of the Association. The term of office of those elected begins with the commencement of the Annual Representative Meeting at Bath this year, and terminates at the commencement of the Annual Representative Meeting, 1926.

Nomination papers must be returned to the Medical Secretary not later than Saturday, April 25th, 1925. Members elected to the Council are *ex officio* members of the Representative Body. If more candidates are nominated than vacancies exist voting papers containing the names of all candidates will be issued through the post to all Public Health Service members of the Association on May 9th, and must be returned so as to reach the Medical Secretary not later than May 16th, 1925. The counting of the votes will be conducted in accordance with, and the result of the election ascertained by, the method of the single transferable vote. In the election of Representatives, first preferences given for any candidate who is elected to one of the two seats on the Council will be ignored, as such member of Council becomes *ex officio* a member of the Representative Body. The voting papers affected will not be invalidated, as the remaining preferences shown thereon will be used. The four candidates who head the poll for election of Representatives will be elected Representatives, and the next four will be elected Deputy-Representatives, the fifth successful candidate acting as deputy for the first successful candidate, the sixth as deputy for the second, the seventh as deputy for the third, and the eighth as deputy for the fourth.

In order to ensure the representative character of candidates for the above elections, the Council of the Society of Medical Officers of Health are arranging for the following nominations.

For Council:

Dr. Robert A. Lyster.

Dr. G. F. Buchan.

For A.R.M., 1925:

(1) Dr. T. W. Naylor Barlow, O.B.E.

(2) Prof. Harold Kerr, O.B.E.

(3) Dr. R. Wolsey Stocks.

(4) Dr. T. Eustace Hill, O.B.E.

(5) Dr. R. H. Wilshaw.

(6) Dr. D. Morley Mathieson.

(7) Dr. P. H. Stirk.

(8) Dr. H. Gibbons Ward.

The Council trust that the above nominations will be supported by members of the Society in the event of their election being contested.

THE Minister of Health announces (circular 567, dated 27th February, 1925) that the review of civil service bonus on 1st March, 1925, is based on an average cost of living figure of 80—that is, on the same basis as obtained on 1st March, 1924.

Public Health

THE JOURNAL OF
The Society of Medical Officers of Health.

No. 8.

MAY, 1925.

VOL. XXXVIII.

Subscription price, 31s. 6d. per annum, post free in advance. Single copies, 2s. 6d., post free.

CONTENTS.

EDITORIAL—	PAGE
The Duties of the Medical Officer of Health ...	229
Glasgow Life-Tables	230
Cereals in Relation to Rickets	231
The Bacteriology of Food	232
The London School of Hygiene	233
The Milkborne Outbreak of Paratyphoid Fever at Chorley	233
M. of H. Circular 557 and Memorandum 101/M.C.W.	234
Whole-Time Medical Officers of Joint Committees	235
Reginald Dudfield	236
Public Health Administration in Denmark. (By F. T. H. Wood, O.B.E., M.D. (Lond.), B.Sc., B.Sc., D.P.H., Medical Officer of Health, County Borough of Bootle	237
Food Inspection in Switzerland. (By R. H. H. Jolly, M.D., B.S., D.P.H., Medical Officer of Health, Wolverhampton)	243
Disinfection. (By James Wheatley, M.D., D.P.H., Medical Officer of Health, Salop C.C.)	246
The Training of D.P.H. Candidates	248

SOCIETY OF MEDICAL OFFICERS OF HEALTH—

Council Meeting	249
Metropolitan Branch	251
Home Counties' Branch	252
Northern Branch	253
North-Western Branch	254
Yorkshire Branch	256

REVIEWS—

The Pneumococcus and Pneumococcal Affections	257
An Introduction of School Medicine	259
"Mothercraft."	259

CORRESPONDENCE—

School Attendance and Public Health	260
--	-----

Editorial.

THE DUTIES OF THE MEDICAL OFFICER OF HEALTH.

The succession of official regulations and circulars emanating during recent months from the Ministry of Health and from the Board of Education suggest a steady and progressive survey, from a constructive aspect, of the administrative machinery underlying Public Health activities. The circular dealing with the Training of Health Visitors, issued by the Ministry of Health, was followed quickly by the Special Service Regulations of the Board of Education, codifying and systemising educational work closely associated with the school medical service, while the revised memorandum on exclusion from school and school closure, issued jointly by the Ministry and the Board, similarly brings up to date procedure previously laid down by them. To these must now be added the memorandum issued by the Ministry of Health on the duties of medical officers of health in England and Wales. The memorandum, which is intended to indicate in detail the scope of duties specified briefly in Article 14 of the Sanitary Officers' Order, 1922, does in fact clothe the bare bones of that Order in such a way as not only to be helpful and stimulating to medical officers of health, but also to give to lay members of Public Health Committees some insight into the varied activities involved. The tactful medical officer of health might do worse than to offer a copy of the memorandum to the chairman of his committee when next hinting at the need for a review of his salary! The general outline of the memorandum calls for little comment, as it sets down in black and white duties already familiar to those in the service. It is of interest to note the extent to which the work has expanded of late years on its social as distinct from the sanitary aspect, although the memoran-

dum is careful to stress the need for as close a touch as in the past with the latter.

An interesting and valuable feature of the memorandum is the provision of an alphabetical index to the statutes, orders, regulations, etc., relating to the powers and duties of the medical officer of health. This is a piece of really good and helpful codification which should be of material assistance to medical officers of health, who all too often have to spend unnecessary time in floundering among half-forgotten sections of overlapping Public Health legislation in the search for statutory authority or guidance. We commend the index as likely often to be a short cut in such a search.

GLASGOW LIFE-TABLES.

The Public Health Department of Glasgow which, under Gairdner, Russell and Chalmers, has made many important contributions to the science and art of public hygiene, again makes us its debtor by the publication of an unique series of life tables calculated by Mr. William Jones, Secretary of the Department.*

Glasgow, indeed, is, in this matter, the pioneer city of Great Britain, for she now possesses an evaluation in life table form of the mortality of her citizens over almost a century. Thus on the mortality experience of 1821-27, the average after-life time (expectation of life) of a male at the age of 10 would be 42.3 years, on the mortality rates of 1832-41, 37.4 years; on those of 1870-72, 40.2 years; on those of 1881-90, 44.3 years, and on the most recent experience, 1920-22, 50.81 years. The expectation of life at birth increased from 34.1 years to 48.4 years. For London, life tables have been constructed from the decennial death rates beginning with the decade 1841-50, and it appears that Glasgow is approximating to London. In 1881-90, the complete expectation (males) for London was 41.2 years, for Glasgow 35.2 years. In 1920-22, London had 53.8 years, Glasgow 48.4, the percentage ratios are 85.4 and 90.0.

Mr. Jones has separately estimated the mean after-life times from the rates of mortality (1909-12) of denizens of houses of different sizes. For males at age 10 the values increase from 47.0 in 1 apartment houses to 53.1 in houses of 4 or more apartments. Dr. Chalmers, whose researches into the influence of housing upon mortality are well-known, remarks that "the future of Public Health Administration must concern itself

with the elucidation of the causes of these differences."

The value of such a study as this is great; by no other method can as succinct and impressive a comparison of the forces of mortality acting at different times be made. But, in our opinion, population life tables are instruments for the service of the public health officer in his laboratory, they are not fair subjects of propaganda because the meaning the 'man in the street' attaches to the words used is usually incorrect. Thus when he is told that, on the experience of 1920-22, the expectation of life of a male at birth in Glasgow is 48.4 years, he is apt to suppose that this means that a boy born in Glasgow in 1920-22 will, on the average, live 48.4 years. He may, perhaps, wonder how the public health officials found this out and conclude that they must be very clever people (which is, of course, quite true), but he will hardly ever realise that the interpretation he has put on the figure is wrong, and that the life table expectation of life is as pure a fiction as the "economic man" of the writers on political economy. Like the economist's fiction, it is valuable because it provides a datum line. It shows what the average term of years lived would be if the rates of mortality at ages observed in Glasgow between 1920 and 1922 continued to hold until those born in the three years were all dead and, having regard to what has happened before, it is not unreasonable to say that the real expectation of life of a boy born in 1920-22 will not be less than 49.4 years. Similarly a life table based on the mortality of 1821-27 does not measure the average length of life of persons born in Glasgow 100 years ago; to determine that we should need a current life table. In the theoretically simplest case we should construct our table from the rate of mortality in the first year of life 100 years ago, the rate of mortality in the second year of life 99 years ago, and so on. Actually it would be very difficult to construct such a table, although approximations to the form have been published by Mortara, who used the Swedish data.

Life tables of this kind, genuine *Absterbeordnungen*, or orders of dying out, would be very interesting contributions to knowledge. If, for instance, we chose a period in our own history, say, between 1850 and 1870, when the rates of mortality at ages were not changing systematically, and followed out the infants born in different years for ten or fifteen years, should we find that the rates of mortality in successive years of life of the batches born in years of high or low infant mortality differed sensibly? Such an investiga-

tion might throw some light upon the question of selective infant mortality. Unfortunately it is not easy to get data or to avoid disturbing factors, such as effects internal migration.

We have referred to these points because it is easy both to under-estimate and to over-estimate the value of the life table method to the public health officer. On the whole—but we quite recognise that very competent persons hold a different opinion—we think the tendency is to over-rate the value of life tables and to approximate to the position of our imaginary man in the street. One reason for this is a confusion between a population life table and the life table of an insurance office. The latter is not, indeed, an ideal *Absterbeordnung*, it does not record the deaths of a number of persons all born at the same instant, and observed from birth to death; but it does more nearly approach that ideal than a population table, for it does deal with a great many lives kept under observation as individual lives for a number of years. Also, it is used for a perfectly specific purpose, *viz.*, to fix rates of premium which shall (a) be high enough to return a profit, (b) not so out of proportion to the facts of mortality that the office gets no business. The Public Health Officer has different objects, many of which can be attained by an intelligent study of rates of mortality without recourse to the life table form at all. Our experience leads us to think that Medical Officers of Health are not as a rule very familiar with the amount of information respecting death rates made available by the Registrar-General every year. Pressure of administrative work and the absurd prices of post-war official publications go some way to explain this state of affairs, but not the whole way. The history of mortality, general and specific, in town and country is surely not only important, but interesting; that history written by a man of genius and not unworthily continued by men of great ability is to be found in the annual letters to the Registrar-General of Farr, Ogle, Tatham and Stevenson; how many Medical Officers of Health have read it? How many candidates for the D.P.H. study it? We hear of the need of a School of Hygiene and of the defects of present-day public health teaching; nobody thinks it worth while to point out how much a keen man may learn without the provision of thousands of cubic feet of laboratory space, without the ministrations of a dozen professors, without even being able to compute the Expectation of Life at Age *x*, merely by the intelligent study of blue books which now accumulate dust in all public libraries, and many public health departments. If

Medical Officers of Health expected their newly-joined assistants to acquire a knowledge not of the calculus of correlations, but of the contents of official vital statistics, both of England and Wales and other countries, they would do more for public health education than an army of professors. We doubt whether at the present moment there are a dozen junior members of the Public Health Service who know enough of the statistical system of this or any other country to be able at short notice to make an intelligent comparison of the rates of mortality assigned to any disease over a period of years in any subdivision of the population, or could say off-hand what the difference is between a Registration County and an Administrative County, or when the unit of grouping for medico-statistical purposes was altered. Yet such knowledge as this is the mere grammar of medico-statistical comparison. In this connection we may mention that the Society of Medical Officers of Health is able to secure expert advice for any of its members undertaking statistical investigations, and it is to be hoped that many will avail themselves of assistance which should greatly improve the quality of their work.

CEREALS IN RELATION TO RICKETS.

Still another report has recently been added to the remarkable series issued by the Medical Research Council on the subject of Experimental Rickets. In this report* Professor Mellanby continues his admirable researches into the subject, and the results which he summarises are no less interesting and fascinating than those detailed in his previous reports. Dr. Mellanby has in this enquiry (which has not yet reached a final stage) been concerned in ascertaining the part played by cereals in the production of rickets. It is a common plea of text-books in dietetics that there is an association between excess of carbohydrates in the diet and the occurrence of rickets. Dr. Mellanby, as a result of several investigations with diets deficient in anti-rachitic vitamin, and containing varying amounts of cereals, found that equal weights of similarly cooked cereals had different rickets-producing effects on puppies. Oatmeal, groats, or ground oats had a far more intense action than rice, and rice somewhat more intense than white flour, in producing rickets; and

* Medical Research Council—Experimental Rickets; the effect of Cereals and their interaction with other factors of diet and environment in producing rickets. By Edmund Mellanby, 1925. (H.M. Stationery Office, 3/6.)

* "The Expectation of Life in the City of Glasgow," by William Jones, Glasgow (Robert Anderson), 1925, pp. 46.

there was a corresponding variation in deficiency of calcium-content of the lime. The intense rickets-producing effect of oatmeal, in a diet generally deficient in anti-rachitic vitamin, did not appear to be due to processes of manufacture, as the same effect was noted in the case of crushed white oats and of groats.

Further experiments showed that the effect of oatmeal, and to a less extent of other cereals, in favouring the production of rickets could be antagonised by the addition of other elements to the diet. Cod-liver oil, as might be expected, was very patent in antagonising the effect of cereals; egg yolk was also powerful in the same direction; milk alone exerted but little antagonism, but its effect was much enhanced by the addition of the remaining constituents of milk. Calcium carbonate had also a strong, and calcium phosphate and calcium and phosphate a less obvious effect in inhibiting the rickets-producing influence of cereals.

Further, Mellanby also confirms and expands the conclusion drawn by other observers that the exposure of cereals to ultra-violet radiations similarly inhibits or diminishes the rickets-producing propensities of the former. The influence of ultra-violet radiations is apparently, however, not of a high order, and can be equalled by the addition of quite a small amount of cod-liver oil to the diet. The cooking of oatmeal after such irradiations was found not to destroy the effect of the exposure.

Investigation was made into the nature of the substance in oatmeal and other cereals tending towards the production of rickets, and Mellanby comes to the provisional conclusion that two factors appear to be at work. In the first place, "that part of the cereal which is actually incorporated in the growing organism and leads to its growth is probably partially responsible"; and this includes the carbohydrate and protein. In the second place, in oatmeal, the only cereal listed in detail, there is a chemical grouping, probably associated with the fatty acids, which is capable of interfering with lime-calcification.

Clearly, the more intimate the investigations of the dietetic factors in rickets, the more complex and yet the more suggestive and enlightening the data which result. The research here under review has the most obvious and direct bearing on the fundamental principles of dietetics; while there is some piquancy in the glimpse which it affords of the possible application in the future of ultra-violet radiation to the foodstuffs inducing or forming rickets rather than to the miserable

individuals who have derived their rickets from these faulty foods.

THE BACTERIOLOGY OF FOOD.

At the present time there is no subject related to Public Health which is receiving greater attention than food. At the moment the stress of the attention given is mainly in its relation to nutrition and the various problems raised by the vitamins, and their distribution are the subject of very active study. It is well to be reminded that food as a vehicle of bacterial infection is also of enormous importance. Dr. Dukes* has written a book on the bacteriology of food which will be found of great value, and which brings out prominently how intimately bacteriology is concerned in our food supply. This book has the advantage that it is not written from the standpoint of the medical bacteriologist confining attention to bacteria pathogenic to man, but discusses bacteria mainly in relation to their functions, but also indicating various sources of contamination by organisms harmful to man. Although written primarily to meet the needs of science students who study bacteriology as one of the final subjects in the B.Sc. degree of London University, it will be found valuable by the working public health student and by Medical Officers of Health. A good deal of laboratory information is given, but it is not a laboratory text book, and, indeed, is incomplete from this point of view, a good many important methods necessary for routine work being omitted, while the details of technique are insufficient for some of the methods supplied. From the point of view of bacterial contamination the hygienist will note the omission of certain important foods, such as bread, eggs, watercress, shell-fish, and the bacteriology of fresh meat. There are also a number of omissions which merit inclusion, such as the importance of distinguishing between high and low ratio *B. coli* in water supplies and elsewhere, the difference in bacterial content in dried milk in relation to the two main methods of manufacture, recent American work on the heat resistance of *B. botulinus*, and the significance of the spores of this organism without toxins in canned fruits or other foods. These, are, however, minor omissions, and do not detract materially from the value of this book as a clearly written and trustworthy account of the bacteriology of different foods. It is attractively written and so is easily read. Moreover this

* "The Bacteriology of Food," by Dr. Cuthbert Dukes; H. K. Lewis & Co., Ltd. Price, 7s. 6d. net, 1925.

book provides a clear account of the bacteriological and microbiological processes involved in the production of butter, cheese, beer, wines, bread, vinegar and other foods, information not readily obtainable in English text-books, although included in some American books. It is important that those responsible for the control of the purity of our food should understand the extent to which microbial processes act as necessary and beneficial factors, and on the other hand the liabilities to outside bacterial contamination of foods, and the best tests to ascertain and measure such contamination.

THE LONDON SCHOOL OF HYGIENE.

It will be remembered that early last year the Ministry of Health set up the governing body which is to control the destinies of the London School of Hygiene and Tropical Medicine established by the munificence of the Rockefeller Foundation. As the representative body of the Public Health Service the Society of Medical Officers had expected that it would be their privilege to have a real share in the management of a School in which they would have a more direct interest than any other section of the community. It was therefore regarded as a definite rebuff to the Society when their claims to representation on the Board of Management of the School were ignored by the Ministry of Health, and they were offered only a single seat on the Court of Governors, a decorative body of thirty-four persons who will probably meet once a year to applaud the decisions of the Board of Management. The Council of the Society at their meeting on March 14th, 1924, very promptly decided that such representation of the Society could serve no useful purpose, and might even imply some responsibility for the policy of the body actually entrusted with the management of the school. On these grounds the Society asked to be excused from making a nomination to the Court of Governors.

We recall these facts because the Society have now been notified that under Article 5 of the Charter of Incorporation of the School the Minister of Health has filled the vacancy on the Court of Governors caused by the failure of the Society to nominate a representative. The new Governor is Lieut.-Col. F. E. Fremantle, M.P., who was a member of the provisional committee that carried through all the preliminary arrangements for the foundation of the school, and who

is thoroughly conversant with any matters that may be reported to the Court. Fortunately this appointment does not exclude the hope that the Society of Medical Officers of Health may even yet be allowed to share in the management of a School in which it takes the keenest possible interest. By some unexplainable inadvertence, the Royal Charter assigned no less than six seats on the Court of Governors to the General Medical Council, a body whose functions are obviously inconsistent with representation on the Court. The G.M.C. at once pointed out that in view of their responsibilities under Section 21 of the Medical Act, 1886, it was not expedient they should assume responsibility for the direction of a particular school engaged in preparing candidates for examinations in Public Health. It was therefore only on the clear understanding that the constitution of the School would be revised in the near future that the G.M.C. accepted temporary representation on the Court of Governors. When such revision of the constitution is undertaken there will come the opportunity of recognising the claims of the Public Health Service, as represented by the Society of Medical Officers of Health, to direct representation on the Board of Management. Given such representation the Society will be in a position to give the London School of Hygiene and Tropical Medicine valuable assistance and support, and we shall be able to realise our ambition which is to make every public health department in the land an annexe of the school for the demonstration of health schemes in working.

THE MILKBORNE OUTBREAK OF PARATYPHOID FEVER AT CHORLEY.

A report on the outbreak of paratyphoid fever in Chorley during the late Summer of 1924 has just been published by the Ministry of Health. Dr. W. V. Shaw the reporting officer has had considerable experience of investigating outbreaks of enteric fever, namely, those at Bolton-upon-Dearne, Kingswindsford, and Penzance, the latter, like the recent one at Chorley, being due to milk infected at a farm.

During the fortnight ending October 4th, 1924, 31 cases of enteric fever were notified to the Medical Officer of Health of the Borough of Chorley; and a further 21 cases were notified between the 4th and the 22nd October, giving a total of 52 primary cases of which 2 proved fatal; this gives a low fatality rate. All the cases gave a positive Widal reaction to the *B. paratyphosus*

B. The dates of onset were all between September 10th and October 1st, 11 being on September 26th.

During the earlier part of 1924 paratyphoid fever had been somewhat prevalent in Wigan, Bolton and other parts of Lancashire. No suspicion fell upon the water-supply, which comes from the Liverpool Corporation Works at Rivington, but the fact that all the cases, without exception, had consumed milk obtained from a retail vendor in the town pointed clearly to the source of infection.

This retailer obtained his milk, amounting daily to about 175 gallons, from eight farms, all situated within the area of the Chorley Rural District Council. After due enquiry the dairy was absolved from being the source of infection, as were 7 of the 8 farms. With regard to the eighth farm it was ascertained that of the three cases of enteric fever notified in the Chorley Rural District during 1924, one, notified on the 7th August, had occurred on this farm. The patient, a girl of 13 years, had been seen by the Acting M.O.H. of the Chorley R.D. on August 7th, and he had consented to her being nursed on the farm by a trained nurse. Some directions as to the precautions to be taken were given by him, but no restrictions were placed upon the milk supply from this farm, some 60 gallons a day being supplied to the retailer till September 30th when the contract lapsed. No further visit had been paid to the farm.

At the request of Dr. Fisher, an Assistant M.O.H. for Lancashire, samples of blood, etc., were taken on October 7th from the 8 inmates of the farm, and it was found that a further 4 of these had probably had a recent attack, and that the original case was still passing the Paratyphoid Bacilli in her urine, although released from isolation 6 weeks before. These four persons were the farmer, aged 51 years who milked the cows, his daughter aged 17 years who also washed the milk vessels, etc., and who had probably helped to nurse the first case, and two farm hands. The farmer, who was stated to be feeble-minded and of uncleanly habits, continued milking the cows all through September, although ailing from fever and diarrhoea. There were thus multiple sources of infection at the farm, the sanitary circumstances of which left much to be desired.

Sir George Newman in his prefatory note says:

"In the circumstances described by Dr. Shaw, specific infection of the milk at the farm was almost inevitable. The patient was, nevertheless, permitted to remain at home throughout the course of her illness, without any supervision on the part of the officers of the Local Authority. No official inquiry was made to ascertain whether adequate isolation of the patient was being maintained or whether

secondary cases had occurred among other members of the household.

In brief, the mistakes in administrative procedure made in connection with this outbreak may be summarised as follows:—

- (1) The Acting Medical Officer of Health, who visited the farm on the 7th August, did not remove the patient to hospital.
- (2) He did not revisit the farm to satisfy himself that his instructions regarding the isolation of the patient and disinfection of excreta, etc., were being carried out.
- (3) The Medical Officer of Health, who resumed duty on the 11th August, did not appreciate his responsibilities in the matter and did not visit the farm till the 1st October.

The facts recorded in this report emphasise the necessity for constant vigilance on the part of the officers of Sanitary Authorities when dealing with even an isolated case of infectious disease. In the present instance, an extensive outbreak of Paratyphoid Fever was caused by failure on the part of the responsible officer concerned to appreciate the danger inseparable from the retention at a dairy farm of a case of that disease."

Cases of those infectious diseases which can be milkborne must always give rise to great anxiety when they occur in dairy or milk-house, and should be treated with the strictest precautions. Here, as in other aspects of infectious disease, epidemiological errors have the possibility of manifest and tragic consequences.

M. OF H. CIRCULAR 557 AND MEMORANDUM 101/M.C.W.

The average man at times finds it hard to come to a decision and we must not feel aggrieved that the Ministry of Health has taken several years to define the training and qualifications likely to produce a health visitor acceptable to Local Authorities.

In 1919, the Board of Education issued the much criticised (Health Visitors' Training) Regulations embodying the principle that a years' course in a training College was at least equivalent to full training as a nurse, at any rate so far as public health was concerned. It might have been thought that before drafting regulations dealing with a subject so intimately related to public health administration, the Board would have sought the opinion of the Society of Medical Officers of Health, as the body representative of the whole public health service.

There was at once a strong protest against an attempt by the Board of Education to force upon Local Authorities a type of candidate that no enlightened authority would think of appointing as a health visitor, and the Society of Medical

Officers of Health and the Royal Sanitary Institute set up a joint Committee to consider the qualifications which health visitors should hold. In the report of the Committee published in "Public Health" in January, 1922, it was recommended that health visitors should have the following qualifications:—

- (a) Hospital Training.
Training in the duties of a nurse at a recognised Hospital Training School for a period of not less than three years, this to include the training necessary for the midwifery certificate and nursing of children.
- (b) Certificate of the Central Midwives Board, or other equivalent qualification in midwifery.
- (c) Certificate of the Royal Sanitary Institute or other recognised Examining Body.
- (d) A period of probation in a Public Health Department before being appointed as full Health Visitor, and arrangements should be made by the Ministry of Health whereby a certain proportion of the health visiting staff should be composed as probationers. They should be promoted to the rank of Health Visitors on production of certificates showing that the necessary period has been spent in practical work.

Following on the failure of the Board of Education to attract candidates to the two years' course (in economics), the Ministry of Health invited the opinion of the Society of Medical Officers of Health and the Royal Sanitary Institute and other bodies representative of well informed opinion and it was with hopeful interest therefore that we awaited the issue of Circular 557. We should say at once that we consider that the Ministry has done its best to repair the impression conveyed by the Board of Education in the 1919 Regulations, and, in adopting in the main the recommendations of the Joint Committee, has tried to secure the services of the right type of candidate for appointments as health visitors.

On and after the 1st April, 1928, the Minister will not approve the appointment of a woman for the first time as a whole-time officer of a Local authority with Health Visiting duties, unless she has obtained the Certificate mentioned in paragraph 4 of Memorandum 101/M.C.W. It will be seen that this Certificate will be obtainable by a woman desiring employment as a health visitor who passes the examination referred to in that paragraph and

- (i) Is a "trained nurse" as defined in paragraph 1 of the conditions of grant, who has obtained the Certificate of the Central Midwives Board and has completed an approved course of training in public health work, lasting for at least six months; or
- (ii) Has undergone a course of training of two years' duration already recognised under the Board of Education (Health Visitors' Training) Regulations,

1919, together with six months' training in Hospital, and has obtained the Certificate of the Central Midwives Board.

It may be in view of the urgent representations of the few centres where an attempt is being made to continue the two years' course in economics that the Minister felt that no harm would be done by the inclusion of (ii). As it is unlikely that any hospital will take a woman for six months' training, the number of candidates qualifying under (ii) is likely to be negligible.

We welcome, therefore, these regulations which will do much to secure a supply of efficient health visitors who are trained nurses, provided that local authorities are willing to pay a salary adequate for the time and expense incurred in the training which is required as a precedent to the acquisition of the new certificate prescribed by the Ministry.

WHOLE-TIME MEDICAL OFFICERS OF JOINT COMMITTEES.

A conference of representatives of the British Medical Association and the Society of Medical Officers of Health recently considered the question of what should be the salaries of medical officers employed either by two or more district councils, or by a district council which arranges with the county council to allow one of its assistant medical officers to become a district medical officer of health for a definite proportion of his time. It was agreed—

(1) That where two or more districts combine to appoint a medical officer of health to serve under a joint committee, such M.O.H. being permitted to accept part-time duties (for example, as tuberculosis officer, school medical officer, etc.) under a county council, the combined remuneration should not be any less than the minimum commencing salary of a whole-time medical officer of health as indicated by the population of the combined areas in the scale of commencing salaries approved by the Association.

(2) That where an assistant medical officer under a county council is allowed to become a district medical officer of health for a definite proportion of his time, such assistant medical officer should receive at the rate of £80 per annum for each half-day per week allocated for his duties as district medical officer of health, and his salary as assistant medical officer to the county council should be reduced by one-eleventh for each half-day per week that he serves as district M.O.H.

It is believed that these suggestions, which apply only to whole-time appointments, should be of considerable assistance to county and district councils in making such arrangements as are indicated above. It is also believed that if such arrangements were to become more common it would be greatly to the benefit of the public health

service, as the assistant medical officer under the county council would benefit by the wider experience and greater responsibility that he would gain from the district appointment, while the fact that, besides holding the district or combined appointment, he had been an officer under the county council and thus able to get a knowledge of county administration, would be of distinct advantage to him were he to apply for a higher position. For some time past the Ministry of Health have suggested appointments on the lines indicated above, when small districts fall vacant by the death or retirement of the medical officer of health.

REGINALD DUDFIELD.

The death of Dr. Reginald Dudfield on April 19th, after a few hours' illness will have come as a painful surprise to his many friends in the Public Health Service. Though he had been Medical Officer of Health for Paddington for over thirty years he was regarded till quite recently as "young Dudfield" by many of his colleagues who had enjoyed the friendship of his father, so long Medical Officer of Health for Kensington. Dudfield père was elected to the Council of the Society of Medical Officers of Health as far back as 1872 and was President during the period 1883-85. It was fitting therefore that the son should take high office in the Society, and he was elected Editor of this journal in 1896 and for five years he rendered valuable service in that capacity. He continued to serve on the Council, with brief intervals, until he joined the Army for the duration of the Great War, and he was always a useful member of that body and its committees. Perhaps his most valuable effort on behalf of the Society was the compilation of its history, which was published in the special number of this journal issued to commemorate the jubilee of the Society in July 1906. Having played such a prominent part in the affairs of the Society for many years, Dudfield first realised that he was becoming a senior when he found so many younger men elected to the Council after the War. Perhaps the realisation was not very agreeable to him, especially when he found that the rising generation expected the Society to take effective action to secure improved conditions of service for public health medical officers. Beyond an occasional resolution drawing attention to the inadequate remuneration of the Public Health Service, the Society had hitherto confined its activities to the holding of meetings for

the discussion of papers, but with the return of members from War service there was a general demand from the younger men for a more aggressive policy. The publication of the Society's Scale of Salaries in 1919 shocked some of the seniors who regarded "trade union" methods as beneath the dignity of the Public Health Service, and Dudfield sternly severed his connection with the Society. His death at the present moment is the more regrettable, because we hope and believe that disputes in regard to public health salaries will very soon be a thing of the past. After more than five years' persistence the Scale of the Society, somewhat amended during negotiations with the B.M.A. and bodies representing Local Authorities, has received the blessing of the Ministry of Health, and before our next issue appears it will be forwarded to all Local Authorities with an explanatory letter from the British Medical Association. Those responsible for the policy of the Society make no apology for a campaign deliberately undertaken in the public interest in order that suitable candidates may be attracted to seek a career in Preventive Medicine. On the contrary they believe that the result of their efforts will ensure in the near future an increase of prestige and efficiency for the Public Health Service which will redound to the honour of those, who, like Reginald Dudfield, were jealous for the reputation of the Society of Medical Officers of Health.

The corporation of Stockport have increased the salary of Dr. Arthur G. Jenner, M.O.H., from £1,000 to £1,200 per annum. This is in accordance with the B.M.A. and Soc. M.O.H. scale as approved by the Ministry of Health and the Association of Municipal Corporations.

Dr. W. NICOLL has resigned his appointment as medical officer of health for the borough of South Shields on grounds of ill health, and has asked to be relieved of his duties as early as possible. The resignation has been accepted by the health committee. It will be remembered that the appointment was filled on terms that could not be approved by the British Medical Association and the Society of Medical Officers of Health, but it hoped that the scale salary will be offered on this occasion.

DR. HARRY GORDON DONALD has been appointed, out of 23 applicants, to the position of medical officer of health to the Auckland Rural District Council. Dr. Donald has been assistant school medical officer of health under the Durham County Education Committee.

PUBLIC HEALTH ADMINISTRATION IN DENMARK.*

By F. T. H. WOOD, O.B.E., M.D. (Lond.), B.S., B.Sc., D.P.H., Medical Officer of Health, County Borough of Bootle.

To the average Englishman Denmark is probably best known for her agricultural co-operative system, and its produce in the form of butter, bacon and eggs. The recent Study Tour which I had the privilege of making with the Fifth General Interchange of Health Officers organised by the League of Nations Health Section, has convinced me, however, that many points in the Public Health and Social Welfare organisations are also worthy of examination.

A few words, in the first place, about the country generally, which has a population of 3,300,000, 60 per cent. of whom live in rural districts and the remainder in Copenhagen and the other towns. Of recent years there has been an increase in the number of people employed in trade or in industries other than agriculture, but some 30 per cent. of the population still earn their living thereby as against 23 per cent. by other industries.

The visitor to Denmark is early impressed with the comparatively uniform distribution of national wealth, and with the almost entire absence of poverty. Later he notices the large measure of freedom in social life allowed to girls and women, which freedom cannot be dissociated from the high illegitimate birth rate—10 per cent. of the births in the country generally and 20 per cent. in Copenhagen are to unmarried mothers, as contrasted with 4 per cent. in England and Wales. Associated phenomena are the high divorce rate—in 1922 there was one divorce for every twenty marriages—and the rapid decline in the birth-rate, which for the greater part of the nineteenth century kept at approximately the same level, viz., 36 per 1,000, but which has since fallen steeply to the figure of 22 per 1,000 for 1922.

The standard of medical education is high. The curriculum lasts a minimum of seven years, and the better type of practitioner frequently devotes several months or years subsequently to serving in one or more special clinics. Medical practice is, for the most part, on the contract system, some 60 per cent. of the population being members of sick clubs. Members of the profession with whom one came more closely into contact, namely the Health Officers, were without

* Read before the North-Western Branch of the Society of Medical Officers of Health, November 14th, 1924.

exception part-time officers engaging also in private practice.

As regards health administration Denmark presents a marked resemblance to England in the large measure of de-centralisation practiced. The central body, Sundhedsstyrelsen, or the National Board of Health, controls the execution of health legislation and regulations, submits proposals for new legislation, and acts as a consultative body for the different branches of the central administration. Health statutes are, as a rule, drafted on broad lines giving powers to one or other of the three Ministers concerned with health matters to frame detailed regulations.

Milk Production and Distribution.—The keynote to production and distribution of milk in Denmark is the procuring of milk from sound cattle, milked and treated with exemplary cleanliness, and with its keeping qualities enhanced by immediate cooling; this is the principle everywhere underlying this important industry, and its practice is facilitated by the Co-operative Dairy Associations which collect from large and small farms alike and regulate the payment to each member in accordance with quality and cleanliness. In general the cows are kept in the open from June to November, while the cow-sheds for winter occupation are airy and well-lit, and the few that one saw occupied were kept in a condition approached by few English cow-sheds which I have seen.

Even when the milking is done in the fields the wearing of washable caps and aprons is still practised, and hand-washing between each milking is made possible by the use of a water-cart with towels which follows the milkers down the line of cattle.

The Co-operative Dairies, of which several were visited, have very fine controlling laboratories, and there is, in addition, a State experimental dairy at Hillerød, at which research work is carried on. Curiously enough, however, bacterial counts are practically never done, and there is no municipal or national enforcement of bacterial standards for various grades of milk, the place of such standards being taken by the regular carrying out of reductase tests with methylene blue (milk with the special designation of "Infants' milk," for example, has to keep its blue colour for six hours after the addition of the re-agent).

Very little pasteurisation of milk is carried on except of skimmed milk returned to the farms for pig feeding after removal of the cream for butter-making; it is possibly for the reason that so little pasteurised milk is used for human

consumption that the process universally adopted is an application of the Flash process by means of which milk is raised to a temperature of 136 degrees Fahr.

Although it is not possible to give figures as to the quantity sold loose and in bottles, there is no doubt that the sale of bottled milk has reached a higher point than with us, and I noted ordinary bottled milk was selling at 43 ore per litre, as compared with loose milk at 41 ore—a difference of only one-fifth of a penny per pint.

The only grading of milk is the special designation of "Infants' milk," which is obtained from cows subject to a veterinary inspection at least twice per month, with a tuberculin testing at least once a year; such milk is allowed to be sold only in bottles, and costs approximately one penny per litre more than ordinary milk.

The sanitary control of the milk industry is for the most part by means of municipal bye-laws, which follow the lines usually laid down in England, with additions relating to the health of the personnel engaged, who, for example, may not be contacts or carriers of infectious disease, but I would emphasize the fact that the requirements of the large private companies are often more exacting than those of the local authorities, and that much of the credit of the present happy state of affairs in the milk industry must be given to them.

Some interesting minor points emerged from one's inspection of farm and dairy establishments; as, for example, that a small dairy farmer, having only 16 cows, found it worth while to keep milk records for each individual animal; and that the large Trifolium milk establishment estimated its establishment costs (collection, cooling, bottling, cleaning and returning churns) at 21 ore (2d.) per litre or rather less than half the selling price.

Meat Inspection.—The slaughter of pigs and the export of bacon constitute an important Danish industry, and the export slaughter-house at Odense, which deals with a thousand pigs a day, was one of such establishments visited. A very thorough veterinary inspection before and after slaughter is conducted, and a large staff is kept searching for trichinæ, six sections from each pig being examined; the American representative was interested to note that trichinæ were found in only one out of 265,000 Danish pigs in 1922, although they were comparatively common in American imports.

As regards bovines, the incidence of tubercle was stated by the Royal Veterinary College to be very high, up to say 50 per cent., but it is

satisfactory to note that the number of accredited herds (Bang's system) is growing. In the slaughter of large bovines a pistol is always used for preliminary stunning, and in the opinion of the veterinary surgeons whom I asked, the flesh is in no way inferior to that of animals stunned by the pole-axe. After inspection the meat is marked first or second-class.

Included in the second-class meat, as a result of expert bacteriological examination, is the flesh of certain classes of animals which are dealt with in a rather rule-of-thumb manner in this country, there not being to my knowledge any analogue to the bacteriological laboratory attached to the Meat Market in Copenhagen. In cases of suspected general disease, the suspicion of which in England might or might not lead to the total condemnation of the animal according to the knowledge or standard of the particular meat inspector, 24-hour cultures in broth or agar of specimens from lymphatic glands, spleen and kidneys are made and examined; last year some 200 out of 3,000 specimens thus examined showed cocci and the carcasses were condemned in toto, as is always done if pathogenic bacteria are found—in the case of the remaining specimens, however, it was possible to pass the meat for consumption.

Epidemiology.—As might be expected Denmark closely resembles Great Britain in the incidence and nature of its epidemic diseases. There is now no cholera, no plague, no malaria and very little typhoid or dysentery. Smallpox is even less common than in England, although there has recently been a small outbreak due to an imported case. The control of epidemic disease is, as with us, a matter for the local authority, advised by its Medical Officer. Notification of infectious disease is made on a weekly form (in practice anything important is reported at once) and there is no fee for notification. Isolation Hospitals are freely provided, and there is a statutory right of free admission thereto.

The Copenhagen infectious diseases hospital now detains uncomplicated scarlet fever cases for five weeks as contrasted with its former practice of seven or eight, and now experiences only 2 per cent. return cases as against a figure of six or seven previously; there is a routine swabbing and examination for diphtheria bacilli of scarlet fever patients on admission, as is customary in most English isolation hospitals, and it has been found advantageous to repeat this at the end of seven days, when additional positives are found owing to the diminution in the number of cocci in the throat.

In diphtheria the hospital on occasion gives 200,000 units of anti-diphtheria serum, 20 or 30 c.c. of the dose being given intravenously; such doses are usually given at one sitting.

The Schick test is not practised nor is there any attempt to immunise isolation hospital staffs against diphtheria by the use of toxin-antitoxin.

It is interesting to note that there are statutory provisions for the control of infectious disease carriers—in particular typhoid carriers, as to whom the excellent working rule is adopted, in view of the possibility of many repeated negative examinations being subsequently followed by a positive, of regarding a person once a carrier as always a carrier.

In other diseases, for example diphtheria or cerebro-spinal meningitis, the practice of swabbing contacts has been abandoned.

As regards disinfection after notification of infectious disease, domestic fumigation with formalin is carried out, but there is the same scepticism on the part of the epidemiologists and health officers as to its necessity.

Whooping Cough, it is interesting to note, is the subject of routine diagnostic culture tests which enable a pronouncement of infectivity to be made in the first few days of the illness before the appearance of the characteristic whoop; similar culture observations have established that the maximum period of infectivity is four weeks.

Reference to this section would be incomplete without a tribute to the splendid work carried on by Professor Madsen and his staff in the State Serum Institute, from which valuable results may be expected in connection with the standardisation of therapeutic and serological reactions.

Social Welfare.—As regards social welfare legislation Denmark is admittedly in the van. Its Old Age Pension Acts, its industrial accident legislation, its sick club system and its generous provision of well-equipped hospitals, are well known.

The provision for old age merits special mention. Apart from and additional to the provision of the Poor Law proper, which is meant for the improvident or the undeserving, Denmark has excellent institutions of size proportionate to the need of the locality, to which persons over the age of 65 years of good character, who suffer from sickness or who have no children or relatives at hand, are admitted as an alternative to the drawing of the Old Age Pension.

These institutions (Old Age Homes) are comfortably furnished with individual bedrooms and excellent sitting rooms or day rooms, and are run under a sympathetic administration which

pays for any labour offered by the inmates; the attractive nature of these homes greatly impressed me and the other participants in the Interchange. The cost of the large Old Age Home in Copenhagen, accommodating 780 persons on the healthy side, worked out at approximately 29s. per head per week, including loan charges.

Maternity and Child Welfare.—The organisation of work to promote Maternity and Child Welfare extends far back to semi-religious or philanthropic agencies which, from the 17th century onwards, attempted to deal with certain specific features characteristic of Danish social life, and at the present time presents curious contrasts to the work associated with this title in England.

Correlated with the high illegitimate birth-rate is the large share of attention which Danish legislation has given to secure the supervision of foster children and of children maintained in public or semi-public infants' or children's homes. Among other creations of such legislation are the Child Welfare Councils, of which there exists at least one in every municipality, and to which are entrusted the power of removing from home any child under the age of 18 years when the step is necessary for the welfare of the child. The State makes grants for expenditure on child welfare and an examination of the accounts for 1922-23 shows that about one-half of such grants are spent in provision for such wards of the Child Welfare Councils, one-sixth goes in subsidies to children's homes and one-twelfth in Day Nursery work. In addition to the Day Nurseries, of which there are 14 in Copenhagen alone, public Kindergartens for children under school age are also provided with accommodation for at least 3,500 children in Copenhagen.

The absence of anything corresponding to Infant Welfare Consultations as we know them in England, and of Health Visitors, is striking. There are, it is true, in Copenhagen some eight breast-feeding controlling stations, which supervise the health of infants wholly or partially breast-fed, children depending entirely on artificial feeding being excluded; but such stations are not the busy institutions which we know in England, and seem to care for only about 600 or 700 infants each year out of a total number of 14,000 births.

The midwifery service stands high: the training is centralised in the Copenhagen State Hospital and lasts a year: practice is supervised by the Medical Officer of Health, and although the midwife may not use surgical instruments it

is noteworthy that she may perform version. Two-thirds of the midwives are district midwives with state or municipal salaries and pensions. Puerperal mortality is low—in 1922 puerperal fever caused only 70 deaths or 9.2 per 10,000 births, as compared with 13.8 per 10,000 in England and Wales.

In countries such as Denmark, where the Hospital provision has reached such a high state of perfection, it is not surprising that arrangements for parturient women are well organised, and not only in the State Hospital in Copenhagen but in its analogues throughout the provinces there are excellent maternity wards available for the accommodation of women at the time of child-birth irrespective of their marriage state. Further, there are a number of privately founded Homes for Unmarried mothers, receiving a state subsidy, which admit girl-mothers and detain them with their infants for at least a year after the birth of the child; during this time they receive domestic training, and a satisfactory proportion of them are stated to marry and lead regular lives afterwards. Ante-natal work, on the other hand, does not seem to be highly developed yet, although it was noted that free consultations for pregnant women have recently been established at the State Hospital in Copenhagen.

The amount of credit to be given to each special organisation for promotion of maternity and child welfare, in respect of the falling infant mortality rate cannot, of course, be exactly defined, and it will suffice to say that the infant mortality rate which in 1875 was 154 had fallen to 102 by 1910 and in 1922 was 85.

School Medical Service.—There is a well-organised school medical service independent of the health service proper in the capital and the large towns, but none in the rural communities. The service is staffed with part-time school medical inspectors whose duties closely follow those assigned to corresponding staff in this country. A full examination is conducted at the commencement and at the end of the school life, but there is, in addition, the usual following-up, and an annual inspection of pupils from which selected children are picked out for more detailed examination. A high standard of personal cleanliness is reached by both town and country children, and verminous conditions of the hair are far less common than in our own country.

There is a staff of school nurses whose duties include treatment at minor ailment clinics, and a certain amount of home visiting.

The treatment of defects is for the most part left to the parent, although for certain minor

diseases there are nursing stations or minor ailment clinics in the capital. The only type of defect systematically treated is dental disease, to cope with which there are excellently equipped dental clinics carrying out an annual examination (in the clinic, not in the school) and treatment of all scholars, free for the first year with an almost nominal charge for subsequent years. The popularity of such treatment can be ascertained from the fact that at the Copenhagen municipal clinic 96 per cent. of the children referred for treatment attended to receive it.

Excellent provision is made for the exceptional child. There are schools for the *blind* and for the *partially blind*—I noted the working rule in this connection to be to try a period in sighted classes in cases verging on the border line of blindness. In the myope classes I noted the use of an oblong reading glass some 4-in. by 1-in. giving a magnification of two or three times, which was used for reading ordinary type; also the use of the Epidiascope for demonstrating natural history by the projection of images of flowers, etc. In the schools for the blind I saw Guldberg's writing machine, a device by which the blind pupil is enabled subsequently to reproduce ordinary script.

There are special schools for the *deaf*, as well as for the *hard of hearing*. In the latter, classes are limited to 12, and the desks are placed in a semi-circle round the teacher. The criterion for admission is that the better ear hears the whispered voice at half a metre or less—if the hearing is better than this front seats in the ordinary classes of the elementary school are recommended; most of the pupils suffer from chronic ear disease, while 40 per cent. of them have speech defects.

The pupils in these classes have a weekly examination by an aural surgeon and a monthly hearing test. Otorrhœa is treated by syringing, by removal of adenoids or by a mastoid operation. A useful substitute for the syringe is a small douche-can hung on the wall.

As regards the *educable feeble-minded* provision is made partly in sections of the general asylums, and in auxiliary schools or special classes, of which the largest is found in Copenhagen and provides for about 700 pupils; education of the mental defective is not, however, compulsory. The school, home or combined mental deficiency institution is divided into a higher grade, where some literary education is given, in addition to the manual training, and a lower grade, analogous to the recent English development of occupation centres, where no literary training at all is provided.

The *physically defective*, in particular in Copenhagen, receive excellent attention at the special School and Home for Cripples, which has as sections workshops, orthopædic clinic and school. In the school for an hour twice daily special exercises prescribed by the orthopædic surgeon are overlooked by specially trained teachers, and the enthusiasm and determination shown by teacher and pupil in the carrying out of the strenuous exercises devised to remedy spinal curvature are admirable. It should be noted, however, that the supply of cases to this orthopædic clinic was not a routine of the School Medical Inspection scheme, but was rather haphazard and a result of parental or private medical initiative.

This question of remedial exercises carries one on naturally to a few words on *physical training* in Denmark.

In every elementary school visited—town or country—a well-equipped and furnished gymnasium was found provided as part of the school premises; commonly suitable shoes and costume are provided by the school authorities and are retained on the school premises. Instruction is for the most part left in the hands of the ordinary class teachers who receive special training, and the children carry out the exercises with energy, precision and enjoyment. Physical training has to include instruction in swimming in all schools which are within three kilometres of the seaside.

As regards the *school buildings* the town schools are planned with 1,000 or 1,200 places; class rooms are for 36 pupils only, well-lit, with a large amount of window-space freely opening—although it is regrettable to note that their opening appeared to be left entirely to the individual class teacher who, for the most part, had a preference for the closed window. All the new schools are provided with baths in the basement, each child receiving one bath fortnightly.

An admirable health movement, of which we have only a feeble copy in England, is the organised provision of country holidays for town scholars, who are sent singly or in small groups to the homes of country people who provide free board and lodging, the State Railway granting free passes. Such holidays give the town child a very useful insight into rural life, and in many instances are followed by the subsequent employment of the town child in a village or on a farm. In 1916 it is stated that there were 56,000 elementary school children in Copenhagen, of whom 22,000 were placed with private families in the country, while about 3,000 spent their time in

holiday camps started and supervised by the teachers.

Tuberculosis.—I have commented elsewhere* in some detail on the Danish anti-tuberculosis schemes, and I need say no more here than merely to call attention to a few points of difference from English practice.

There is no functionary corresponding to the Tuberculosis Officer, and hence there is no one individual who has oversight of a case throughout its whole course, while the tuberculosis dispensaries serve less as clearing houses than is the case in England, this function being to some extent carried out by the tuberculosis hospitals. Very admirable elements of the Danish scheme which are little, if at all, represented here, are first and foremost the whole-hearted recognition of the curative powers of local and general carbon arc-light treatment; such powers are matters of common knowledge, I take it, in the case of lupus and surgical tuberculosis, but public health administrators are not, I fear, sufficiently appreciative of what is being accomplished by their help in the cure of laryngeal tuberculosis. The work of Dr. Strandberg at the Finsen Medical Light Institute, in Copenhagen, of which he gave an account before the Royal Society of Medicine in April, 1924, referred to a series of 100 cases of laryngeal tuberculosis in 80 of which tubercle bacilli had been demonstrated in the sputum—53 cases were reported as cured of their laryngeal disease, while in most of the remainder the voice was improved and pain and difficulty in swallowing were abolished.

Secondly, familial placing, or boarding-out of healthy children from infective homes is practised, and since 1911 some 2,155 such children have been boarded out under public supervision in Copenhagen.

Another element in the Danish scheme is the open-air cure resort established by voluntary effort in Copenhagen, which consists of extensive grounds and cheap shelters frequented by patients before or after admission to the sanatorium or hospital; the patients here are under medical supervision and are allowed to undertake work in or out of the establishment in accordance with their powers. Such an arrangement is an obvious boon to the married women, who can spend several hours of the day under hygienic conditions and at the same time are enabled to keep in touch with their household affairs.

Further, one municipality has obtained provision through philanthropic agencies of special dwellings for the tuberculous in which superior

* "Medical Officer," 20th September, 1924.

accommodation, with a garden, is provided at the rent of the patient's former cramped and unsuitable flat.

The results obtained by the anti-tuberculosis campaign in Denmark, which is probably the country in Europe which relatively has spent most on such work, have placed Denmark as the country with the lowest tuberculosis death rate, the figures for 1920-1-2 of deaths from all forms of tuberculosis having been 1.06, 0.99 and 0.95 per thousand respectively, as compared with rates of 1.13, 1.13 and 1.12 for the same years in England and Wales.

Venereal Diseases.—Denmark has the credit of being the first country to introduce legislation dealing with the spread of venereal disorder, and its first regulations, dating from 1788, had as their guiding principle, the right to free treatment coupled with the obligation to submit thereto. Such a policy has been made easier by the absolute and effectual prohibition of unqualified medical practice and of the advertisement of patent medicines.

In the provinces venereal patients are treated in the ordinary hospitals, with the exception of three or four of the larger towns which, as in Copenhagen, have special clinics either in hospital buildings or in the residences of private practitioners specially trained and appointed by the municipalities.

The incidence of syphilis, as determined by the number of cases treated in the Copenhagen municipal clinics, shows a fall from 8.8 per 10,000 in 1910 to 4.6 in 1922; the fall has been progressive, except for a slight rise during the war.

The serological diagnosis of syphilis is centralised in the State Serum Institute in which a card index is kept of all syphilitics in the country. This index has been established only three years, but now contains the names of about 35,000 patients and its value lies in the possibility of checking the numbers of cases notified to the health authorities as well as in the transmission to the treating doctor of information as to the patient's previous history.

The treatment of gonorrhoea which also shows a fall, though somewhat fluctuating, during the last 10 or 15 years, is much less satisfactory, as in the case in many municipal clinics in this country.

A point of interest is that whereas British army and colonial statistics indicate the ratio of prevalence of syphilis and gonorrhoea to be 1:3, British civil statistics of the numbers attending the treatment centres give a misleading sugges-

tion of equal distribution, while Danish experience points in the reverse direction and shows only one case of syphilis to five or six of gonorrhoea. Does this mean that a century of venereal treatment in Denmark is attenuating the virus of syphilis against which a specific is possessed, or does it merely mean that the Danes are more alive to the importance of treating gonorrhoea? In either case there is ground for our encouragement.

Housing.—The same shortage of housing accommodation for the smaller wage-earning classes obtains in Denmark as in England, and dates from the war period. The shortage is being met, partly by co-operative building associations or public utility societies and partly by municipal enterprise aided with state subsidies. The cost of building is high, and there is the same complaint of diminished output on the part of the workers. The type of building provided is for the most part a self-contained three, four or five-roomed flat in a three or four storeyed building, although it is interesting to note that there is a growing tendency to the erection of small detached two-storey cottages on the outskirts of the towns. The newer blocks enclose a common open space which is available for recreation. Bathrooms are not commonly provided in such dwellings, and each family is allowed the use of a common laundry for three consecutive days each month.

My notes on the municipal housing scheme at Aarhus describe the dwelling-house as a three-roomed flat, two flats sharing the use of a W.C. and each possessing a cycle shed and a small garden. The rent of such a dwelling is approximately £24 per annum, paid out of a weekly wage of a typical tenant of £2 15s. A State subsidy of 15 per cent. on the cost of erection had been received by the municipality and the rent-roll covered the remaining cost.

Artificial Light Treatment.—Fitting into no recognised division of public health activity as we know it in England, and thus requiring special mention, is the Finsen Medical Light Institute in Copenhagen, which consists of laboratories, outpatient clinics, 90 beds for skin diseases, 66 beds for surgical diseases, 16 beds for diseases of the ear, nose and throat, and 45 beds for internal diseases.

The Institute rose out of very modest beginnings in the grounds of the Copenhagen Municipal Hospital in 1896, and was transferred in 1901 to its present site to deal with the rapidly increasing number of patients who were treated with local concentrated light.

Between then and his death in 1904 Finsen was engaged on researches dealing with the effect of general light baths. His researches were continued and extended by his successor, Dr. Reyn, who has definitely established the important part played by general carbon arc-light baths in the treatment of surgical tuberculosis and lupus.

The results obtained in these diseases are, of course, universally accepted, but I was particularly interested in the claims made on apparently good authority for the extraordinary results obtained by the use of local and general light treatment in cases of tuberculosis of the larynx. I have referred in the section on tuberculosis to Strandberg's series of 100 cases and in earnestly commending to all his original paper published early this year for corroborative detail, would say that no longer are ultra-violet rays on their trial, but rather we ourselves as the advisers of public bodies with whom their employment rests.

I am conscious that the remarks offered have been disjointed and scanty, but the attempt to do justice in a short space of time to the demonstrations and discussions of six or seven weeks, is not an easy task. I cannot end, however, without taking this further opportunity of recording my very deep sense of gratitude for the unfailing kindness and splendid hospitality everywhere shown to the participants in the Danish Interchange, which, coupled with the intensive work of those responsible for the organisation of the professional side of the study tour, will leave the Interchange an outstanding memory and a continuous encouragement to those who were fortunate enough to take part therein.

FOOD INSPECTION IN SWITZERLAND.

BY

R. H. H. JOLLY, M.D., B.S., D.P.H., Medical Officer of Health, Wolverhampton.

Switzerland is surrounded on all sides by Countries who export food to her because by reason of her climate, her soil, and the nature of her territory she is unable to be self supporting.

Twenty years ago the Federal Government realized the importance of legislation providing for a more strict supervision over foodstuffs brought into the country from outside and also, as a natural corollary, for those foods which were produced in Switzerland itself. It was not, however, until the year 1909 that the Federal Law became compulsory in all the Swiss States. The administration of this legislation is partly in the hands of the cantons and partly in the

hands of the Federal Government itself. The latter retains the right to exercise control over imported animals and imported foodstuffs at the frontier stations but delegates the control of home grown or home manufactured foods to the cantons themselves. At the more important frontier stations the supervision of imported foods is conducted by inspectors belonging to the Federal Service, but at the smaller stations it is carried out by specially qualified Customs Officers, or, in the case of Meat, by Part-time Veterinary Officers.

Although the Federal Government delegates the internal administration of the Law with regard to food and drugs to the cantons themselves it doubtless retains a considerable amount of control as it subsidises the expenses of the cantonal work in this direction to the extent of 50 per cent. In the cantons themselves two separate departments enforce the above-mentioned enactments.

The Director of the Chemical and Analytical Laboratory has charge of the investigations and supervision connected with the purity and freedom from adulteration of foods, wines, beers, drugs, etc., whilst the examination of animals intended for sale for food, meat and its preparations, and perishable foodstuffs come under the control of the Veterinary Department. The Public Health Department of a town or canton is not primarily responsible for the control of foods, although a varying degree of co-ordination between the different departments may actually be present.

It is instructive to note that the Federal Law with regard to edible materials includes domestic articles in daily use whose composition may render them harmful. One finds that cooking utensils are analysed for the presence of lead, and children's toys are prohibited if they are coated with lead or arsenical paint. Face powders, tin foil for wrapping sweets, cartons for containing food, are also among the articles specially required to be examined for the presence of poisonous substances. In certain cantons patent medicines intended for internal consumption are not permitted to be sold until they have been analysed and their efficiency tested at the hospitals, but it does not appear that this practice is universal. The importance which the Swiss people attach to a pure and wholesome food supply is instanced by the large and well equipped laboratories belonging to, or subsidised by the various cantonal authorities, and also by the number of inspectors, clerks, and laboratory workers retained for these special duties alone. As an instance of the great

attention paid to the inspection of food and the taking of samples the town Zurich may be mentioned. This district, with a population of approximately 200,000 persons, has appointed five inspectors whose whole time is given over to the supervision of places where food is manufactured or retailed and the taking of samples. These appointments are exclusive of the men employed by the Veterinary Department for the supervision of meat and of animals. It is not suggested that this same degree of supervision is exercised in the rural districts, but the following figures for the entire country indicate that the general standard is high. In 1923 the total samples of food and drugs examined in the whole of Switzerland worked out at 20 samples per 1,000 population, a proportion which is more than six times as great as that for England and Wales during the same period.

Detailed instructions of the method to be followed in examining articles of food and drink are contained in a manual issued with the authority of the Federal Government. This book also gives lists of the possible adulterants of each article and the official methods of detection.

The question of preservatives is a very interesting one at the present moment. In Switzerland no preservatives at all are permitted in milk, cream, edible fats, or mineral waters. The only permissible addition to butter, margarine, and cheese is common salt. Sulphites not exceeding a certain fixed proportion are allowed in preserved and dried eggs, dried fruit, mustard, fruit juices, and beer. Salicylic Acid not exceeding 0.25 per cent. is permitted in jellies. Until recently Formic Acid was prohibited in fruit juices, but it may now be added in very small quantities. In vegetables which have been subjected to a regreening process, copper salts may not exceed one part in 10,000. It will be noticed that boric acid is strictly forbidden in any article of food or drink and that Salicylic Acid is only allowed in jellies but not in any other food. The employment of colouring matter is also carefully regulated and a list of prohibited pigments has been drawn up.

As was pointed out by Dr. Burgi, the Chief Federal Veterinary Officer, a considerable amount of the meat consumed in the country had to be imported, Switzerland not being self supporting in this respect.

In a pre-War year it was stated that 118,014,000 kilogrammes of meat produced in Switzerland were passed for human consumption and 36,175,000 kilogrammes of imported meat.

It was further stated that the consumption of meat per head of the population was steadily increasing each year, although it had not quite regained the pre-War figure of 50 kilogrammes per head. Assuming that the pre-War proportion of foreign meat to home grown meat is still maintained it is obviously most important that careful control should be exercised at the frontier both in the interests of pure food, but also in order to prevent the introduction of various animal plagues which might readily infect home grown herds.

Although Switzerland is bounded by foreign countries on all sides the natural configuration of her frontiers tends in a large measure to restrict the routes by which merchandise can be introduced and therefore facilitates the inspection and control of imported animals. These latter are all examined at the frontier stations by a Veterinary Officer before admission into the country. After inspection they must be forwarded to the Public Abattoir of their place of destination by the shortest route and must be slaughtered within twenty-four hours of arrival at the Abattoir. If a locality does not possess a Public Abattoir it cannot import foreign animals for food. Public Abattoirs licensed to deal with foreign cattle must have special sidings communicating with the railway and the Veterinary Officer in charge of them must hold the Federal Veterinary Diploma. Although imported cattle, etc., are all examined at the frontier they have to undergo a second veterinary examination prior to slaughter.

Turning now to home grown animals one finds that they also must all be slaughtered in a Public Abattoir if the carcasses are intended for sale for food. Home slaughtering is only permitted on farms and similar places when the entire animal is intended for consumption by the family themselves. In practically all the Swiss cantons the private slaughter-house has been completely abolished and every district of any size at all boasts its own Public Abattoir and has made Bye-Laws for the management thereof.

After slaughter at the Abattoir the carcasses are examined and the meat is either (1) Passed unconditionally, (2) Passed on certain conditions, or (3) Condemned, seized, and destroyed. Meat in the second category may only be sold to private families and is not allowed to be purchased by hotels, restaurants, or wholesale dealers in meat products. It may not be sent out of the canton nor used in the preparation of sausages or similar articles. A register is kept at the Abattoir shewing the names and addresses of all purchasers of

this class of meat. The price of this meat is fixed by the Abattoir Superintendent according to a definite scale and the buyer is informed that it is of inferior quality and is advised to subject it to prolonged cooking. All meat coming into this category (*état de basse boucherie*) is specially marked with a Δ and is thus readily distinguishable from the first class meat which is marked with an O. It should be added that imported frozen meat is all marked with a $\square$.

There is no doubt that the condemnation of all meat of a doubtful quality is a wasteful proceeding but there certainly are objections to the sale of inferior meat, particularly that from diseased animals. The class of persons who will buy this stuff may not realize the importance of the prolonged cooking which is recommended. These risks were fully appreciated and an alternative proceeding was tried at certain of the Swiss Public Abattoirs. The authorities themselves cooked all the second class meat before permitting it to be sold. It was found, however, that there was no sale for this cooked meat and so the earlier practice had to be reverted to.

The stunning of all animals before slaughter is compulsory in the Public Abattoirs throughout Switzerland, no exception being made even for pigs. The slaughtermen, who are appointed by the Abattoir Authorities, naturally have their own preference in the matter of humane killers, but the captive bolt pistol invented by Fritz Kuchen appears to be a favourite weapon. It was stated that at the Abattoir at Bâle there had been no accident in 50 years with a humane killer.

As the Jewish method of slaughtering is prohibited, Jews living in Switzerland have to go meatless or import their meat from foreign countries.

All the large Abattoirs run a special salvage plant for recovering by-products from condemned organs or whole animals.

Non-edible fats, chemical manure, and poultry foods are usually manufactured and although the sale of these articles does not entirely cover the cost and upkeep of the plant, it is claimed that it materially reduced the expense of the destruction of unsound meat.

Gut scraping and tripe boiling are generally carried out in a part of the abattoir specially set aside for this purpose.

The power of framing regulations covering the transport and handling of meat rests with the Local Authorities themselves. Judging by the cleanliness of the carts and the careful way in which the meat leaving the abattoirs is covered up

and protected from contamination, these powers are well enforced.

Wholesale and retail establishments for the manufacture or sale of foodstuffs are under the supervision of officers of the Local Authority who simultaneously deal with the hygienic state of the premises and take the necessary samples for examination for purity and freedom from adulteration. In connection with the manufacture of cooked meats, ham, bacon, sausages, etc., it may be noted that no preservative is permitted to be added with the exception of salt, sugar, saltpetre, or vinegar. No colouring matter of any description is allowed as an addition to sausages or their envelopes. The question of food inspection had received considerable attention in Switzerland, and the good work that is being done manifests itself in the decreasing percentage of adulterated samples which are being obtained annually.

That very strict supervision is necessary is self evident when the actual percentage of adulterated samples is considered. In 1923, taking the figures for the whole of Switzerland, 13.2 per cent. of all the samples examined were found to be adulterated. The figures for certain of the large towns give a far better ratio than this, some of them falling as low as 6 per cent. of adulterated samples. As in other countries it is doubtless the fact that the freedom from adulteration depends upon the amount of supervision that can be exercised.

The Swiss Authorities also pay great attention to the analysis of milk, the samples of which amount to nearly 60 per cent. of all those taken for analysis. In milk too the percentage of adulterated or unwholesome samples is a high one (8.9 per cent.) but not nearly as high as that for other foodstuffs.

In Switzerland with its twenty-five separate states Federal legislation on a great many matters is slow because of the difficulty in getting unanimity of view from a population consisting of several different races. The legislation now in force with regard to a pure food supply is therefore all the more noteworthy.

MR. WALTER MARTIN ASH, M.B., B.S., Lond., F.R.C.S. Ed., deputy county medical officer for Middlesex, has been appointed medical officer of health for Derbyshire at a salary of £1,400 a year, with £200 travelling expenses. There were 52 applicants, seven being selected for the interview.

DISINFECTION.

BY

JAMES WHEATLEY, M.D., D.P.H., Medical Officer of Health, Salop, C.C.

Perhaps no subject has in recent years given rise to more difference of opinion than the desirability of disinfection after infectious disease. This probably has arisen largely from the foolish unscientific use of disinfectants in the past and from the fact that the necessity for disinfection has not been considered sufficiently carefully in relation to each type of disease, and the different conditions of environment.

We should not allow the gross abuse of disinfectants in the past to influence our judgment one way or the other of the value of disinfection properly carried out. We may assume that this gross abuse has been stopped for many years in all districts where there is an efficient sanitary service and this aspect of the question need not be further mentioned.

It is also universally recognised by medical officers of health that most disease is spread by personal contact with diseased persons or carriers.

The question remains whether a fraction of the cases of infectious diseases, varying probably with each disease, is spread by infected articles, and whether some of this can be prevented by disinfection. We do know that a very considerable proportion of the cases of alimentary diseases, e.g., typhoid fever and dysentery are spread by infected articles, principally food.

Disinfection, if practised, should be placed in its proper position in relation to the other measures for the prevention of the spread of disease. The essence of sick nursing from a preventive aspect is (1) to prevent direct infection (2) to prevent the room and articles becoming infected and (3) to exercise rigid cleanliness throughout the whole course of illness. Disinfection and a general clean up at the end of the illness cannot in any sense take the place of these precautions. It is because these continuous precautions are so frequently imperfectly carried out, that final disinfection is thought by many to be necessary.

It is obviously no argument against disinfection to say that it cannot be carried out perfectly. If there is danger from an infected room and articles, it is an advantage to remove say 70 or 80 per cent. of this danger.

If the necessity for final disinfection is admitted in certain cases, the factors that might govern one in determining the desirability, urgency or

otherwise are (1) the type of disease, (2) the kind of room and nursing and (3) whether the room will afterwards be occupied by susceptible persons. The influence of the second of these factors is obvious and need not be dwelt upon. It is quite obvious too that there is little use in disinfection after diseases that are spread almost entirely if not entirely by carriers and not by the sick person. This applies to cerebro-spinal fever, poliomyelitis and encephalitis. It probably applied to some extent to diphtheria and scarlet fever but not nearly so completely. Experiments have been made with regard to those two diseases which tend to show that final house disinfection has no perceptible effect upon their spread. This is not astonishing considering that it has not been possible to prove the influence of the much more radical and expensive measure of hospital isolation on these diseases. The reason is probably that both diseases are spread almost entirely by carriers, unrecognised cases, or cases previous to diagnosis, and consequently the effect of disinfection and hospital isolation if any, must be small and hidden by other conditions.

The amount of infection given off and the possibility or otherwise of intercepting it, is important. For example a disease may be of an infectious nature and yet remain closed until death; or the only infectious material may be under a dressing. The extreme in the other direction is advanced phthisis with copious expectoration, uncontrollable coughing and unintelligent management.

The length of time the infection will remain virulent outside the body is important. Concerning many diseases we need further information on this point, but with regard to tuberculosis, we know that the bacillus will remain virulent under the conditions commonly obtaining in cottage houses for a considerable length of time; on the other hand the infection of measles probably rapidly disappears outside the body.

In any particular disease the smallness of the dose of infectious matter that will prove effective may be an important factor in determining whether a disease is likely to be caused by infected articles. The extraordinary experience of the spread of disease around smallpox hospitals, which lead to the theory of aerial infection, was probably due in part to the minuteness of the dose necessary to produce the disease. The same reason may explain the difficulty of preventing the spread of chicken pox by "bed isolation." Another obvious reason for the difficulty

in controlling these diseases is that the infection is given off from the whole surface of the body, and not simply from the orifices as in practically all other diseases.

The case of smallpox illustrates very clearly another set of circumstances that may very much influence the necessity for disinfection. Smallpox in an unvaccinated community is the disease of all others requiring thorough disinfection. If, however, no unvaccinated person visits the house, disinfection may be neglected without danger. This illustrates a point that needs some emphasising, viz., that the importance of disinfection depends to a considerable extent upon the possibility or probability of susceptible persons coming into contact with the infected room or articles. Fortunately in most instances only the persons who have been exposed to infection from the first are exposed to infection after the illness is over, and if they have escaped infection during the earlier dangerous periods they are not likely to be infected later. This fact probably very greatly diminishes the danger to the rest of the household from lack of disinfection, and particularly applies to phthisis. In this disease the rest of the household have usually been exposed to dangerous infection for a long period and have been almost certainly infected with either the production of the disease or the production of some immunity.

A very different state of things arises however, if the sick room is at an hotel or lodging house where the inmates are constantly changing, or a house where a fresh family comes in after the death. Knowing the persistence of infection of certain diseases particularly tuberculosis, there seems little scope of difference of opinion as to the necessity for disinfection on such occasions.

The smallness of the danger from infected articles or surfaces is due no doubt to the fact that the transmission of the infection from these articles or surfaces to susceptible parts of the human body is difficult. When the infected substances are articles of food the transmission is easy, as instanced by the spread of typhoid fever and dysentery and less commonly of scarlet fever and diphtheria. The importance of disinfection of articles of food, that have been in contact with infectious disease, is so great that we usually employ the radical method of destruction. The articles other than food that most urgently need disinfection are those receiving most infectious material and most likely to come into contact with the mouths of the persons, e.g., pillows. On the other hand infection probably remains on

the surface of such articles and does not penetrate unless in a liquid form of some bulk.

It is clear that there are many matters to be taken into consideration in arriving at the desirability of disinfection after a case of infectious disease. The necessity for disinfection and its scope in any case of infectious disease should be decided on by the Medical Officer of Health during the progress of the disease. The following are the conclusions that the writer draws:—

- (1) Disinfection when performed should be carried out with the definite object of limiting infectious disease and not as a sop to public opinion. This is essential if the public are to be educated.
- (2) One should not be dissuaded from undertaking disinfection because it cannot be carried out absolutely completely. If 90% of the infection is removed the danger is correspondingly reduced.
- (3) One should not be led into undertaking heroic measures in order to remove with absolute certainty every possible danger. This principle applies throughout our public health work—the last 5% of safety may cost far more than 95%.
- (4) The points of importance in deciding whether disinfection is desirable are the amount of infection given off, the viability of the organism, the nursing and general condition of the household and the probability of susceptible persons coming into contact with the infected rooms and articles. It is obviously no use to disinfect after diseases that are spread entirely or almost entirely by healthy carriers.

Disinfection in this memorandum is used to mean not only destruction of infection by heat or chemicals, but removal of infection by washing. A room is disinfected if it is washed and the infectious material poured down the drain with the water; and articles thoroughly washed in the ordinary way may be considered to be disinfected.

It is not the purpose of this memorandum to discuss the mode of disinfection or the disinfecting materials. There should not be much difficulty in making a satisfactory choice, but it does appear most desirable that the disinfection carried out should be a process of thorough cleansing.

MR. HENRY GORDON SMITH, M.D. (State Med.) Lond., D.P.H., has been selected from 45 candidates for the post of medical officer of health for the city of Lincoln. Dr. Gordon Smith's preferment creates a vacancy at Shrewsbury.

THE TRAINING OF D.P.H. CANDIDATES.

Report of Committee on the Six Months' Practical Training under the Rules of the General Medical Council adopted by the Council of the Society of Medical Officers of Health, 20th March, 1925.

Your Committee beg to report that four meetings have been held at the House of the Society, that each meeting was well attended by members of the Committee, and that Dr. Andrew Balfour attended on each occasion.

Careful consideration has been given to the new resolutions and rules governing the training of candidates for a diploma or degree in sanitary science, and the Committee have also had before them three memoranda on the subject. (From Dr. G. Buchan, Professor Kenwood, and Dr. Robert A. Lyster.)

Admission to the Public Health Service.

1. The D.P.H. forms the essential means of entrance to the public health service, and the conditions governing the training and examinations leading to that qualification are, therefore, of vital interest to every member of the service. These conditions are equally important from the point of view of the general public, and the Society would be doing public service by taking an active part in influencing the developments that must take place before long, not only in the requirements for the special training for the D.P.H., but also in the instruction of the medical student in the subject of preventive and state medicine.

2. Instruction in preventive and state medicine has not advanced to the same extent as in the other subjects in the medical curriculum, and the average candidate for post-graduate work in public health has had less training in his subject than is the case of any entrant into any other branch of medical specialism. To this commencing handicap there has been added until this year the disadvantage of an obsolete set of rules and conditions concerning training and examining for the D.P.H., with the result that in no branch of medical specialism has the training played so small a part as it has in the creation of the average M.O.H. In practice the result of this inequality and lack of practical training is that the diplomate in public health must serve a period of apprenticeship in some junior official capacity where he receives a training of a much more restricted character than would be possible if his curriculum for the D.P.H. were arranged satisfactorily. This fact has an important bearing upon the subject of commencing salaries for

officers entering the service.

3. The recent improvements in the rules and conditions governing the D.P.H. examination afford an opportunity to make the course of training and examination lead to more satisfactory results by producing a more uniformly and more highly-trained entrant into the public health service.

4. Uniformity in training and examination is desirable and, although this can only be secured fully by a "one portal" system, a great advance could be made by the London School of Hygiene setting a high standard, and by the General Medical Council using their influence to cause the other training and examining bodies to follow suit. As the School of Hygiene will eventually secure a monopoly of the D.P.H. teaching for London it is possible for that institution to lay down such requirements and conditions as would have been impracticable when several training schools in London were competing for students. The possibility of students leaving London for the provinces on account of the high standard is remote; on the other hand, the superior produce of a higher grade system of training would lead to a demand for the best trained men, which would in its turn undoubtedly attract a greatly increased number of students.

Training in Practical Public Health.

5. Much of the training in the past has been in the nature of demonstrations, both in connection with the courses of lectures and by attendances in some sanitary area fulfilling the requirements laid down in the rules. Such training amounts to a series of illustrations and gives insufficient insight into the routine application of the principles of practical public health organisation.

6. Although no single district can in any circumstances afford completely satisfactory training, yet it is felt that thorough whole-time work in any district is likely to give better results than casual attendances and demonstrations even in several selected areas. Concentrated training, in a public health atmosphere, for at least three months, following the ordinary day by day routine of a well-organised health department, would be likely to produce results superior to those obtained under the existing system, or any system based upon the minimum requirements of the new D.P.H. regulations. The medical officer under whom this work is carried out would be able to express opinions as to the capacity and suitability or otherwise of candidates, and such reports should invariably be part of the evidence to be considered by examiners before granting the Diploma.

7. The more common method at present is for a candidate to obtain training in a large urban area, supplemented in a few instances with visits to other varieties of districts. It is urged by some, however, that a more logical method would be for a candidate to attach himself to a county area for the study of public health administration in the smaller urban and rural districts where the problems are found in their more primitive, natural, and elementary states, and to supplement this training by visits to large towns for the study of specialised items in their highest form of development. On the other hand, many hold that the best training is afforded by a well-organised urban district. Probably the best solution will be to combine the two.

8. It has been suggested that the attendance of a number of students daily for a period of three months would seriously inconvenience a health department and entail an amount of work which could only be paid for by charging prohibitive fees for the course. In practice, however, there may be no difficulty in finding health departments which would quite easily absorb half-a-dozen men at a time. It should be remembered that most of the time would be spent in sharing the actual daily work of the department. On the other hand, there are great practical difficulties in arranging for the instruction of students on two half-days a week over a period of six months.

9. It is felt generally that the more nearly the training approaches to a period of apprenticeship the more satisfactory will be the results from the point of view both of the public and of the service.

10. All courses of instruction should be under central control and supervision. The rules of the G.M.C. which admit the certificate of any M.O.H. as defined, whether he gives any real training or not, need revision in this respect. In the meantime it is recommended that students attached to the London School of Hygiene should be allotted only to areas where special provision is made for them, and that the necessary arrangements should be made by the School.

11. It is not desirable that students should attend a course of instruction at a hospital for infectious diseases as a separate item of training, and the requirements of Rule 5 (Infectious Diseases Hospitals) and Rule 6 (six months' practical administration) should be combined.

12. Clinical instruction should not be regarded as part of the course in practical administration, although all students would undoubtedly have time and opportunity to enlarge their clinical experience during that part of the three months

(at least) whole-time instruction in the work of a public health department which would be devoted to infant welfare centres, school clinics, v.d. clinics, and tuberculosis clinics. The essential object of this part of the training is, however, the application of clinical knowledge to public health problems rather than actual clinical instruction.

13. It is recommended that this report be forwarded to the Ministry of Health and the London School of Hygiene, with a request that it be brought before the General Medical Council.

Society of Medical Officers of Health.

COUNCIL MEETING.

A meeting of the Council was held at the House of the Society, on Friday, 20th March, 1925.

The President (Dr. Robert A. Lyster) was in the chair and there were present: Prof. A. Bostock Hill, Drs. Cates, Banks, Stocks, Garstang, Snell, Stirk, Wilshaw, Charles Porter, Barlow, Pearce, Ridley Bailey, J. T. C. Nash, Flemming, Wheatley, Pedley, Thos. Evans, Jolly, Clements and Frederic Thomson.

The minutes of the last meeting having been approved and signed messages of apology for absence were received from Prof. Harold Kerr, Lt.-Col. Herbert Jones, Dr. Eustace Hill, Dr. Ernest Ward, Lt.-Col. F. E. Fremantle, M.P., Lord Dawson, Dr. C. Sanders, Dr. A. Greenwood, and Prof. F. E. Wynne. The President reported that the Executive Secretary was unable to be present owing to a family bereavement.

Election to Council.—The President welcomed Prof. A. Bostock Hill on taking his seat on the Council as the duly elected representative of the Malayan Branch of the Society.

Correspondence.—(1) From the Royal Commission on National Health Assurance acknowledging receipt of proof of evidence to be submitted by the President and Dr. J. J. Buchan on behalf of the Society. (2) From the Board of Education expressing regret that by inadvertence copies of recent circulars had not been forwarded to School Medical Officers in accordance with the undertaking given in their letter dated 9th May, 1923. (3) From the Board of Agriculture inviting the Society to nominate additional representatives to serve on the General Committee of the proposed International Dairy Congress. A report on this matter will be submitted to the next meeting of Council. (4) From the Metropolitan

Asylums Board in reference to the Scale of Salaries for their medical staff. *Referred to Salaries' Committee.* (5) From the College of Nursing asking the Society to nominate representatives for a deputation to the Minister of Health in support of the Bill for the Registration of Nursing Homes, now before Parliament. The President with Drs. Porter and Clements were nominated to attend with the deputation. (6) From Dr. W. A. Young (Winchester) in reference to the revised Scale of Salaries. *Referred to Salaries Committee.* (7) From the Ministry of Health, the War Office, the Air Ministry, and the Admiralty in reference to the model county survey submitted by the Naval, Military and Air Force Hygiene Group of the Society. *Referred to Group for consideration and report.* (8) From bodies representing the Life Assurance Companies, and from individual assurance companies, in reference to the proposed co-operation with the Society in regard to public health matters. It was agreed to consult other bodies before taking further steps in this connection.

Medical Officials and Income Tax Abatements.—The following letter was forwarded by the Ministry of Health for the information of the Society:—

INLAND REVENUE,
Somerset House, London, W.C.2.
28th February, 1925.

Sir,—I am directed by the Board of Inland Revenue to refer to your letter of the 3rd instant (11a 116,003/25) enclosing a copy of a letter from the Society of Medical Officers of Health on the question of their members' title to relief from Income Tax in respect of subscriptions to medical societies and associations.

I am to explain that a doctor in private practice is assessable under Schedule D of the Income Tax Acts, and that under the Rules of Schedule D in the First Schedule to the Income Tax Act, 1918, he is entitled to deduct, in ascertaining the amount of his assessable profits, any expenses "being money wholly and exclusively laid out or expended for the purposes of" his profession. On the other hand, a doctor who holds an appointment is assessable in respect of his salary or emoluments under Schedule E, the provisions of which as to admissible deductions, are slightly different. Rule 9 of Schedule E provides that "if the holder of an office or employment is necessarily obliged to incur and defray out of the emoluments thereof the expenses of travelling in the performance of the duties of the office or employment . . . or otherwise to expend money wholly, exclusively, and necessarily in the performance of the said duties, there may be deducted from the emoluments to be assessed the expenses so necessarily incurred and defrayed."

At various times representations have been made to the Board by Medical societies that their members should be granted relief from Income Tax in respect of their subscriptions, and in certain cases the Board, after giving full consideration to the objects of the societies and to the benefits received by members, have decided that the sub-

scriptions could properly be allowed as a deduction under the Rules of Schedule D.

As regards Schedule E, however (the Schedule applicable to Medical Officers of Health) the Board do not consider that a subscription to any society or association is an expense admissible as a deduction under Rule 9 unless continued membership of the society or association is an indispensable condition of the tenure of the appointment or employment.

I am to add that the determination of Income Tax liability in any particular case rests, not with the Board, but with the body of Income Tax Commissioners concerned, and a doctor assessable under either Schedule must show to the satisfaction of the Commissioners that a subscription to any Society is a deduction admissible under the appropriate rules. Moreover, if a taxpayer is dissatisfied with any assessment that may be made upon him, it is open to him to appeal within the statutory time limit to the body of Commissioners concerned.

I am, Sir,
Your obedient Servant,
(Signed) L. E. JONES.

The Secretary,
Ministry of Health.

It was agreed that a further letter should be addressed to the Ministry of Health urging that in the public interest medical officers should be placed on the same footing as private practitioners in regard to tax abatements for subscriptions to societies and journals necessary for the maintenance and improvement of their professional efficiency. Reference was made to the judgment delivered in the case of *Simpson (Inspector of Taxes) v. Tate*, by Mr. Justice Rowlatt in the King's Bench Division, on March 12th, 1925 (see *The Medical Officer*, 21st March, 1925, p. 130), which entirely supports the contentions of the Board of Inland Revenue as set out in above letter. The hope was expressed that the Minister of Health would take any steps possible, by legislation or otherwise, to place medical officials in a position not less favourable than private practitioners for keeping in touch with the latest developments of medical science and practice.

The Midwives' Acts.—The following report from the Special Committee on the Midwives' Acts was approved and adopted:—

Your Committee held meetings on 17th October, 1924, and 13th March, 1925, when it was agreed to forward the following recommendations for consideration by the Council:

- (1) that the Central Midwives Board be asked to take steps in accordance with Section 1 (1) of the Midwives Act, 1918, with a view to the re-constitution of their Board;
- (2) that on the reconstituted Board increased Representation should be given to the Society of Medical Officers of Health;
- (3) that in order to strengthen the representative and expert character of the Board, the British Medical Association and the College of Nursing be asked to apply for representation on the reconstituted Board;

- (4) that the Rules of Procedure of the Board should be modified to ensure that the Board shall act only in a judicial capacity, leaving it to Local Supervisory Authorities to be the prosecutors;
- (5) that in the Board's "Directions to Midwives" the second paragraph of No. 1 should read as follows: "In the case of a *primipara* or whenever illness or abnormality has occurred in the previous pregnancy . . . the midwife . . . shall urge the patient to seek advice from her medical attendant, or at a hospital or other suitable institution."
- (6) that the previous recommendations of the Committee, adopted by the Council on August 3rd, 1923 (see *Proceedings of Council, Public Health*, Sept., 1923, pp. 343 *et seq.*) in reference to (a) desirable amendments of the Midwives' Acts, and (b) the revision of the Rules of the Central Midwives Board, be again forwarded to the Board with a request that those suggestions which have not already been adopted shall be reconsidered.

A supplementary paragraph to the Committee's report, was referred for consideration by the Branches of the Society, *viz.*:—

Your Committee have given careful consideration to the letter referred to them from the National League for Health, Maternity and Child Welfare, enquiring whether the Society considered any amendment was needed with regard to the powers of delegation contained in Section 9 of the Midwives' Act, 1902, but repealed by Section 12 of the Midwives' Act, 1918.

Your Committee recommend:

- (7) That in view of the decision arrived at by this Committee and confirmed by the Council of the Society in August, 1923 (*Public Health*, Sept., 1923, page 343), the repeal of Section 12 of the Act of 1918 should not be recommended, and that no useful purpose is likely to be served by re-opening the discussion.

Training of D.P.H. Candidates.—The Council approved and adopted the report submitted by the Committee appointed to consider the requirements for the adequate training of D.P.H. Candidates. [The Report appears on p. 248 of this issue of "Public Health."]

Representation on B.M.A. Council and A.R.M.—In order to ensure representative nominations for the election of two Public Health members on the Council of the British Medical Association, and of four members and deputies for the Annual Representative Meeting of the same body, it was agreed to recommend Fellows of the Society to vote for the following candidates in the order named:—

For Council.—(2) Dr. R. A. Lyster, Dr. G. F. Buchan.

For A.R.M.—(4) Dr. T. W. Naylor Barlow, Prof. H. Kerr, Dr. R. W. Stocks, Dr. T. Eustace Hill.

Deputies for A.R.M.—(4) Dr. R. H. Wilshaw, Dr. D. Morley Mathieson, Dr. P. H. Stirk, Dr. Gibbons Ward.

London Panel Committee.—The Council approved the nomination by the Metropolitan Branch of Drs. Clark Trotter and E. G. Annis for re-election as representatives of the Society on the London Panel Committee.

The Council then adjourned.

METROPOLITAN BRANCH.

The Branch met at the House of the Society at 4 p.m. on Friday, 3rd April, the President (Dr. Charles Porter) occupying the chair.

Arising out of a paper read at a previous meeting by Dr. A. Louise McIlroy, Professor of Obstetrics and Gynaecology, University of London, the Branch took into consideration what steps might be taken in London to improve the institutional treatment of tuberculosis complicated with pregnancy, and directed the Honorary Secretary to enquire of Metropolitan Medical Officers of Health and the Almoners of the principal hospitals in London what facilities are provided in their respective boroughs or institutions for the treatment of tuberculosis complicated with pregnancy, and what arrangements are in operation for the institutional confinement of tubercular women.

The Branch gave further consideration to communications from the Home Counties and Midland Branches requesting the support of the Branch to the nominations of Dr. G. F. Buchan and Dr. T. Ridley Bailey, respectively, for the Presidency of the Society for the Session 1925-26, and it was decided to support the candidature of the former gentleman.

Careful consideration was given to the Report of the Special House and Journal Sub-Committee appearing in the February issue of "Public Health," and the following decisions were arrived at:—

- (1) That the Branch support the view that the Society should publish only one Journal.
- (2) That the Branch think it advisable for the Society to have a weekly publication.
- (3) That the Branch think it inadvisable to embark upon a weekly publication until sufficient reserve funds are in hand.
- (4) That the Branch are in favour of the annual subscription being increased by half-a-guinea (whole-time medical officers to pay 2 guineas, and part-time and retired medical officers to pay 1½ guineas).

Attention was given to the reference from the Council of the Society, which also appears in the February issue of "Public Health," in regard to the question of the circulations of questionnaires,

the Hon. Secretary was directed to inform the Council that they are in favour of the recommendation that questionnaires from non-medical bodies, involving official and professional considerations, should not be answered by members except through the Headquarters of the Society, but that the Branch consider that an exception should be made in the case of London in regard to questionnaires dealing with matters which are peculiar to London.

The Honorary Secretary was requested to communicate the Branch's decisions in this matter to those London Medical Officers of Health who are members of the Society, requesting that circulars or questionnaires addressed to them from official and unofficial sources should, where possible, not be answered by the individual Officer approached until the communication had been considered by the Metropolitan Branch and that enquiries from representatives of the Press in regard to matters which concern all London Medical Officers of Health should not be answered by individual Medical Officers, but that enquirers should be referred to the President of the Branch.

The Branch received and considered the Report of the Sub-Committee appointed by the Council of the Branch for the purpose of considering the possibility or practicability of adopting a uniform standard throughout London in regard to the enforcement and execution of the Public Health (Meat) Regulations, 1924, and, further, for the purpose of considering what steps Medical Officers of Health should take in London for the purpose of securing due compliance with the Regulations in regard to stalls and shops.

The Report was adopted and a vote of thanks was accorded the members of the Sub-Committee for their valuable efforts.

HOME COUNTIES' BRANCH.

The sixth meeting of the Session 1924-25 of the Home Counties' Branch of the Society of Medical Officers of Health was held at the house of the Society on Friday, 6th March, 1925, at 3.30 p.m.

The minutes of the previous meeting were read and approved.

Apologies for absence were received from Drs. George F. Buchan, H. P. Newsholme and A. B. McMaster.

The Secretary reported the receipt of a letter from the Secretary of the Northern Branch, in which it was stated that the Northern Branch had decided to nominate Dr. George F. Buchan for the Presidency of the Society for the Session 1925-26.

After discussion of the report of the Special House and Journal Committee it was moved by Dr. Saunders and seconded by Dr. Holroyd that it was desirable that there should be one Journal dealing with public health matters instead of two; that that journal should be issued weekly; that if necessary for these purposes the Home Counties' Branch was willing to support the increase of subscriptions as recommended by the Special House and Journal Committee.

It was further moved and seconded that the Council, in considering the increase of subscriptions, should have special regard to the position of Assistant Medical Officers, and that subscriptions might be assessed on the basis of percentage of salaries.

The Secretary submitted circulars 557 and 559 from the Ministry of Health, dealing with the Training of Health Visitors and the Training and Supply of Midwives.

During the discussion which followed, Dr. Burton drew attention to the fact that circulars from the Board of Education on medical matters were not sent direct to School Medical Officers. The Secretary was instructed to bring this matter before the Council of the Society for their consideration.

Dr. R. H. Vercoe then read his paper entitled "Population Problems."

An interesting discussion followed, in which the President, Drs. Saunders, Holroyd, Linton, Burton, Clements, Greenwood, and the Hon. Secretary took part.

Dr. Vercoe suitably replied to a vote of thanks for his interesting paper.

The seventh meeting of the Session 1924-25 of this Branch was held at the House of the Society on Friday, 3rd April, 1925, at 3.30 p.m.

The minutes of the previous meeting were read and approved.

The Secretary submitted a letter from Dr. F. Garland Collins, of West Ham, in which it was requested that an opportunity be given to discuss the Public Health (Meat) Regulations, 1924. On discussion it was agreed that these regulations, together with certain other memoranda of the Ministry of Health and Board of Education should be put down for discussion at the next meeting of the branch. It was stated, further, that in the event of a sufficient number of medical officers being interested, Dr. W. J. Howarth (Medical Officer of Health of the City of London), was prepared to give demonstrations on Meat Inspection. The branch expressed its approval of Dr.

Howarth's consideration, and a large number of members expressed their intention of taking advantage of the demonstrations. It was stated that no fee would be charged for the demonstrations.

Dr. Cates (Medical Officer of Health of Surrey), reported that a sessional meeting of the Royal Sanitary Institute would be held at Reigate, on May 22nd, and suggested that if it could be arranged the May meeting of the branch might be held in conjunction with that of the Sanitary Institute. In consideration of the somewhat lengthy programme for the May meeting it was agreed that the ordinary monthly meeting should be held at the House of the Society as usual, but that an extra meeting of the branch should be held at Reigate on the 22nd May.

The Secretary was instructed to ascertain the particulars, and circulate them to the members of the branch.

Dr. W. W. Jameson then read his paper on "Milk-Borne Scarlet Fever."

He described such an outbreak in Finchley. The epidemic began with five cases of a very acute type, the milk supply of the affected households being the same dairy. No evidence of the source of infection was discoverable at the dairy, but after careful inquiry Dr. Jameson discovered two similar cases of disease occurring at a farm in the Home Counties, one of four farms which supplied the dairy in question. Antecedent to these two cases there had been a case of quinsy in one of the farm workers.

The total number of cases occurring was 20, all falling ill within a period of 10 days. Dr. Jameson had required the dairyman to submit all milk to pasteurization, and in addition to stopping the milk supply from the affected farmer, had all precautions taken to isolate the farm patients, to have the cows dealt with at another farm, and to have the herd inspected by a veterinary surgeon, who reported the herd to be sound. It appeared possible that the sudden cessation of the epidemic may have been due to the commencement of efficient pasteurization.

Dr. Jameson then gave a valuable summary of the literature of milk epidemics of scarlet fever, in which he discussed how far milk outbreaks might be due to bovine infection, and how far to human infection. In conclusion, he summarized the Statutory powers to deal with outbreaks of milk-borne infections.

A very interesting discussion followed, in which the following members took part: Drs. Paterson, Buchan, Scurfield, Newsholme, Warren,

McIntosh, Tate, Gilmour, White and Greenwood. Dr. Jameson suitably replied to a vote of thanks for his interesting paper.

NORTHERN BRANCH.

A special meeting of the Branch was held in the Medical Institute, 7, Windsor Terrace, Newcastle-upon-Tyne, on Friday, 6th March, 1925.

Present: The President (Dr. W. H. Dickinson), Vice-President (Dr. R. MacLeod), and Drs. Mabel Brodie, Alex. Dey, P. A. Dormer, Luke G. Dillon, J. A. Hislop, Jas. Hudson, G. Hurrell, Mary E. Howie, H. Kerr, G. C. M. M'Gonigle, A. M. Masters, T. N. V. Potts, A. F. G. Spinks, and Edith S. Williamson.

The minutes of the meeting held on the 6th February, 1925, having appeared in "Public Health" were taken as read, and signed by the Chairman.

Apologies for absence were received from Drs. J. M. MacLachlan, J. Steedman, F. H. Morison, K. Fraser, R. McCoull, and C. R. Gibson.

The Chairman referred in sympathetic terms to the death of Dr. Stewart Carson (M.O.H., Alston U.D.), and the meeting approved of the action of the Honorary Secretary in having sent a letter conveying the condolence of the Branch with Miss Carson.

The Honorary Secretary read a letter from Dr. T. Eustace Hill, thanking the members for their kind message and good wishes.

Dr. A. M. Masters (District T.M.O., Durham C.C.), was elected a member of the Branch.

Policy of the Society in relation to House and Journal:

The six recommendations of the Special House and Journal Committee were fully discussed, and the following decisions arrived thereon:—

- (1) That the Society publish only one journal. *Approved.*
- (2) That it is advisable for the Society to have a weekly publication. *Approved.*
- (3) That it is inadvisable to embark on a weekly publication until sufficient reserve funds are in hand. *Approved.*

The Honorary Secretary was instructed to ask for information as to the probable purchase price of the "Medical Officer."

- (4) That the annual subscription be increased by half-a-guinea (whole-time medical officers to pay 2 guineas, and part-time and retired medical officers 1½ guineas) for the following among other reasons:—

- (a) to meet the increased indebtedness (about £150 per annum) caused by the purchase of the house.
- (b) to improve the present monthly publication of "Public Health."
- (c) to give an honorarium to £105 to the editor.
- (d) to accumulate a reserve so as to be able to publish a weekly periodical and to press home the continued need for the improvement of the status and conditions of service of public health medical officers, and generally to further the objects outlined in this report.

Dr. Dillon moved, Dr. MacLeod seconding, "That the members of the Northern Branch of the Society of Medical Officers of Health consider that it is not expedient at the present time to increase the amount of the annual subscription if this can by any means be avoided."

- (5) That it be impressed upon members that annual subscription should be paid within a reasonable time of the commencement of the financial year on the 1st October, and that all members in arrears should pay arrears immediately.

Approved.

It was suggested that members should be urged to pay subscriptions by bankers order, and that this method should be brought to the notice of each individual more prominently than is being done at present.

- (6) That it be impressed on Branch Secretaries and members generally that the membership of the Society can be effectively increased, and that each member should act as a recruiting agent.

Approved.

Policy of the Society in relation to National Health Insurance:

The draft policy of the Society in relation to National Health Insurance as published in the March issue of the Journal was read over and carefully discussed point by point. It was felt that successful administration undoubtedly demanded the unification of the existing services (Municipal, Local Insurance Committee and the Poor Law) preferably under the last-named, particularly as the medical services already undertaken by the Municipality were at least equal in annual cost to those of the other two combined; also that maternity benefit should be transferred to the statutory M. and C.W. Committee and the Municipality. Further, it was agreed that a re-arrangement of the unit of administration was

necessary, since the small Local Authorities were not in a position to carry on so important a scheme satisfactorily, and that the unit should consist of (1) the big towns, and (2) such combinations of lesser local authorities, as would give a reasonable population for satisfactory working but less than that of the whole of the large counties, since if these latter were crowded units the essential intimate principle of "local" Government would be lost.

It was moved from the chair that the Branch formally approve the Society's draft "policy," and this was agreed to unanimously.

NORTH WESTERN BRANCH.

A meeting of the Branch was held in the Union of Lancashire and Cheshire Institutes, Manchester, on Friday, March 13th, 1925.

Dr. J. Beard (President), was in the chair, and there were 21 members in attendance.

The minutes of the last meeting were read and confirmed.

The President tendered the congratulations of the Branch to Dr. T. W. N. Barlow on his election to the Fellowship of the Royal Society (Edinburgh).

Dr. Barlow reported that the Scale of Salaries had been accepted by the Association of Municipal Corporations who had agreed to circularise its constituent Authorities recommending adoption of the scale.

A discussion on "Health Propaganda—Difficulties and Suggestions" was opened by Dr. S. T. Beggs (Middleton). He based his remarks on the work that had been done in his own area. The methods adopted had been:—

- (1) *The Press.* A short article on a health subject had been published each week in the local newspaper, and up to date between 200 and 300 such articles had appeared of which he mentioned many of the titles.
- (2) *Health Week* had been successfully held each year for the past three years and a special booklet on health matters was prepared last year and a copy presented to every householder in the Borough.
- (3) Through the *schools* many valuable leaflets and pamphlets had been distributed.
- (4) Similarly posters and even cross-word health puzzles were in use at all the *Clinics and Welfare Centres.*
- (5) The *Health Visitors* are instructed to make full use of all pamphlets whilst visiting in the homes.

All this work had been accomplished up to the present without any special expenditure and nothing was provided in the estimates for it.

The difficulties in propaganda work were:—

- (1) That it is not officially recognised as part of the Public Health Service. It is more or less an individual effort.
- (2) There is no co-ordination between Local Authorities.
- (3) That no lead nor scheme for propaganda work has been suggested by the Ministry of Health.
- (4) That no grant is obtainable from the State for this purpose.

Dr. Wheatley in moving a vote of thanks to Dr. Beggs said that he recognised that research into and teaching of the laws of health was of the utmost importance—everything else sank into insignificance. He mentioned the resolution passed at the Bournemouth Congress of the Royal Sanitary Institute that Public Health propaganda should be made a duty of all Sanitary Authorities and outlined suggestions that had been made to the Ministry of Health with regard to this by the Society of Medical Officers of Health. A further deputation from our Society would go to the Ministry in April and probably in time a definite scheme would be formulated requiring all Local Authorities to undertake this work for which the usual 50 per cent. grant would be made.

The question as to how the Central Body other than the official body, the Ministry of Health, should be constituted was a difficult one as many organisations were anxious to control the work. However once a definite scheme was issued we would make real headway.

With regard to the actual work, he was of opinion that the most useful of all forms consisted of talks to young adults, although lectures to adults may have an effect in stimulating interest. One of the greatest Public Health measures we have had for some time would be the institution of continuation classes throughout the country.

Dr. Spence (Eccles) seconded and stated that he considered that work among adults was comparatively useless and that work amongst the school children was most valuable. He mentioned various difficulties that arose and said it was important that the co-operation of the N.U.T. should be obtained.

Dr. Wood (Bootle) suggested that the most useful forms of propaganda work were in order of merit—first Press Articles, well put and oft repeated, and secondly, advice directed by Health Visitors in the home to the problem of the moment. Right at the bottom of the list came

Health Weeks, Exhibitions and *ad hoc* meetings for adults at which one was usually talking to the converted.

Addresses to existing organisations on their usual meeting day helped to evoke a friendly atmosphere towards the subject. The need for a central bureau for supplying information to Medical Officers of Health when required was urged by Dr. Milligan (Glossop).

Dr. Veitch Clark (Manchester) considered that so far as school children were concerned the introduction of any new subject was difficult. Hygiene could only be effectively taught to individuals who had reached sufficiently mature years to understand the reasons for it.

Continuation Schools were not the only avenue of approach to adolescents but through Social Clubs and gatherings of all descriptions we should attempt to make it part of the ordinary everyday life of young people.

Drs. W. M. Gray, Talent and Mulholland also joined in the discussion and the President conveyed the thanks of the meeting to Dr. Beggs, who suitably replied.

The next meeting will be held on April 3rd, at the Education Offices, Deansgate, Manchester, when Dr. J. G. Woolham will give a paper and demonstration on "The Assessment of Physical Fitness."

An ordinary meeting of the above Branch was held in Manchester, on Friday, April 3rd, 1925.

In the absence of the President (Dr. J. Beard) owing to indisposition, Dr. James Wheatley was elected to the chair, and twenty-three other members were in attendance.

The Minutes of the last meeting were read and confirmed.

Dr. J. Gilbert Woolham gave a paper and demonstration on "The Assessment of the Physical Fitness of Schoolboys." He based his remarks on an investigation undertaken to ascertain the character of the distribution curve of results based on an assessment of physical fitness by the Heald Thomson combination of Dreyer and Flack tests, (a) on a random sample of schoolboys, (b) on schoolboys referred for examination on account of ailments.

The Heald-Thomson formula for the "Dreyer products" was modified, standard weight being calculated from the sitting height and chest girth instead of from the sitting height alone. The formula for the "Flack product" was modified (1) as regards the denominator,

$$1,000 \times (\text{Age in years}) 1.807$$

being substituted for 52,000, (2) and for the persistence test half the height of the Hg column in the expiratory pressure test, as found for each case, was used.

The results entered on the Heald-Thomson graph gave the following:—

Areas—0	1	2	3	4	5	6	7	Scale of Assessment.
Boys—0	1	8	18	29	18	5	2	Distribution found.
Boys—0	1	5	19	31	19	5	1	Ditto, calculated on a probability basis.
Boys—1	9	18	24	11	14	3	1	Distribution of ailing boys in areas of graph.

The close approximation between the series found and that calculated supports the view that this combined method of assessment is of value when applied to schoolboys. The distribution of ailing children is skewed towards the lower values.

A hearty vote of thanks to Dr. Woolham for his interesting address was proposed by Dr. McClure, seconded by Dr. Milligan, and supported by Dr. Wheatley.

YORKSHIRE BRANCH.

A fair attendance of members gathered in Leeds, on March 27th, when a discussion was opened on "Smallpox" by Dr. A. B. Dunne, Medical Officer of Health, Doncaster Rural District, etc. Dr. Dunne described the mild type of disease which he had been dealing with recently. The onset in the majority of cases had been abrupt, there being prostration necessitating a day or two in bed; afterwards the patient would feel quite well, but would discover a few spots. The eruption was usually slight, spots being few in number. He had not seen a case which left the patient any the worse for having had the disease. The disease was, in his opinion, true smallpox, but of a mild type. At first he feared the type of disease, mild in the early cases, might later show cases of the old-fashioned severity; but longer experience has shown that the disease was remaining mild in type; it was breeding true to its initial type. Dr. Dunne thought we should have to modify our administrative procedure; if the disease kept to its mild form it would become increasingly difficult to insist on expensive isolation. We should have to explain to the public that we were dealing with smallpox, but of a mild form. In regard to neglect of vaccination he thought that persons desiring exemption for their children ought to have to go before two magistrates' sitting in Petty Sessions, so as to show their earnestness. At present there existed too much slackness among magistrates in granting

exemptions to anybody who asked. As regards vaccination during smallpox outbreaks, powers ought to be given to the Ministry of Health to declare any sanitary district an infected district, within which the sanitary authority could compel the contacts in infected houses to be vaccinated. This would do away with the recurrence of cases in the same house. He knew of one house which had been disinfected eight times for successive cases, the inhabitants having refused vaccination. Dr. R. P. Garrow, of Chesterfield, who had kindly accepted an invitation to visit the Branch, described his experiences and set out his views on the theory that there were two diseases—smallpox and another milder disease which passed under various names. It was idle for physicians to say that the present form of disease was clinically inseparable from the old form of smallpox. The general public had discovered the difference, and native races of many countries had not only recognised the two distinct forms, but had christened them with distinctive names. The supposed analogy with the present mild form of scarlet fever could not be maintained, as scarlet fever had been gradually lessening in virulence over many years; there was no such phenomenon observable with smallpox, for we had had the old severe form occurring in Poplar, while the mild form existed elsewhere. There was some evidence that patients who had had para-smallpox could be successfully vaccinated later; this was not the case with patients who had had smallpox.

An interesting discussion took place, in which the President (Dr. J. Mair), Drs. Johnstone Jervis, Pearce, Williams, Hebblethwaite and Banks joined, and Dr. Garrow, as a visitor to the Branch, was accorded a vote of thanks.

A SUBSCRIPTION list has been opened to provide a memorial to the late Dr. C. B. Ker, Medical Superintendent of the City Hospital, Edinburgh, and a circular has been issued to all past and present members of the medical and nursing staffs of the hospital whose addresses are known inviting them to contribute. The appeal is being issued in the names of Dr. Alexander James, the consulting physician to the hospital; Dr. William Robertson, the medical officer of health for the city; Miss Thomas, the matron of the hospital; and Dr. A. Joe, the senior assistant. It is proposed that the memorial should take the shape of a monument at Dr. Ker's grave in Morning-side Cemetery, and, if funds permit, the erection of a plaque in the hospital. Subscriptions should be forwarded to Mr. Macdonald, steward, City Hospital, Edinburgh.

Reviews.

THE PNEUMOCOCCUS AND PNEUMOCOCCAL AFFECTIONS. By L. Cotoni, C. Trucke and Mlle. A. Raphael. English edition by D. S. Page, M.A., M.B., Cantab., D.P.H., and Eva Morton, M.R.C.S. (Eng.), L.R.C.P. (Lond.). Pp. 202. Bibliography pp. 16. Price 16s. John Bale, Sons and Danielsson.

Drs. D. S. Page and Eva Morton have rendered valuable service by their translation of the detailed and comprehensive study of "The Pneumococcus and Pneumococcal Affections," the combined work of L. Cotoni, C. Trucke and Mlle. A. Raphael.

The subject matter embraces a wide field of investigation which was begun in 1908 and but recently completed. It includes the results of the author's researches carried out in M. Nicolle's laboratory under the guidance of that distinguished worker in collaboration with M. Debains, correlated with the large amount of information derived from observations of other investigators, the wide scope of which may be gathered from the extensive bibliography quoted in the appendix.

The authors have divided their monograph into three parts entitled (i) The Pneumococcus, (ii) Its habitat, and diseases of pneumococcal origin, (iii) Treatment of Pneumococcal disease.

Part I. is introduced by a historical summary of the organism, first isolated by Talamon in 1883, and regarded essentially as the micro-organism of the pneumonic exudate, subsequently studied and named by Frænkel.

Later workers established its distribution and pathogenicity in the human body to be far wider than at first credited and also showed its presence and less known pathogenicity in animals.

Its essential characters of being encapsuled and lanceolate, in pairs or short chains, and staining by Gram's method, as well as its solubility in bile are fully discussed, and the difficulty of distinguishing it from streptococcus in culture preparations is rightly insisted on, as well as its abnormal bacillary and polymorphic forms.

Stress is laid on its failure to grow readily on ordinary culture media and the authors claim that after long study the most suitable media in their experience is a peptone water (Chaptoteaut) containing salt and glucose (medium T), which yields luxuriant growth. For isolation from known contaminated material, medium T and agar for plate culture is necessary, and subsequent sub-

culture to medium T, containing ascitic fluid, ensures successful growth of the pneumococcus.

The fermentation of insulin and other sugars did not prove sufficiently constant to be characteristic, whereas the solubility of the pneumococcus in bile is regarded as of far greater diagnostic importance, not only in the differentiation of pneumococcus and streptococcus, but also generally in separating virulent from non-virulent pneumococci, the latter being always insoluble. Variable results with the strains in each species were obtained in regard to hæmolytic action on blood media. It was found that the formation of methæmoglobin by the pneumococcus was more common than the production of hæmolsin, and that a hæmolytic strain might become non-hæmolytic.

Other features of the organism which were studied included its readiness to grow anaerobically, its optimal temperature, sensitivity to acidity, resistance to low temperatures and variable sensitivity to heat. Its generally recognised character as a delicate organism did not prove to be without exception. The authors favour the inclusion of organisms designated streptococcus mucosus capsulatus among the pneumococci. Much attention is devoted to the study of pathogenicity and the virulence of the recently isolated pneumococcus, when kept *in vitro* and after passage through animals. The mouse, rabbit and guinea-pig in order of susceptibility were made use of and the range of the minimum lethal doses was found to vary much according to the animal and strain of pneumococcus employed. In the study of immunity, experiments with many strains on the retention of virulence *in vitro*, using special technique with medium T, yielded interesting and important results and led to the conviction that a pneumococcus which has become non-pathogenic does not necessarily remain so.

Further researches on the evolution of virulence in the course of animal passage showed that increase in virulence, though possible, is very variable and as a rule fails.

A phenomenon which attracted attention, but defied explanation, was the loss of some strains in transference from animal to animal, as though virulence became exhausted.

It is of interest to note that this arrest of passage is suggested, in interrogation, as having the same origin as that of the arrest of epidemics, an epidemiological problem hitherto unexplained, the solution of which might enlighten this particular result of animal passage.

As regards the toxigenic power of the pneumococcus the authors' investigations, though incomplete, so far confirmed the results of R. Cole who had unsuccessfully attempted to explain the mechanism of death in pneumonia by the toxic action of the organism and the changes taking place in the hæmoglobin.

Extensive investigations into the question of anti-pneumococcal immunity led to the conclusion that the production of active immunity essentially depended on the animal immunized and on the immunizing strain employed, for it was not found possible to produce immunity in the mouse, whereas the rabbit was capable of being immunized. Similarly in the study of passive immunity it was also found that the protection afforded by antipneumococcal serum depended on the animal on which the serum was tested, being monovalent in the case of the rabbit, but multivalent for the mouse.

This complexity they could only explain by assuming that the complement in the mouse was very much more active than that of the rabbit. Moreover the valency of a serum was not strictly proportional to the virulence of the strain from which it was prepared and a multivalent serum could only be obtained by the use of a strain of high virulence.

Full attention is devoted to the important work of late years on the classification of pneumococci into types by observers in America and South Africa, and notably at a more recent date by Drs. Nicolle and Debains. The latter's investigations, quoted *in extenso* led the authors to support the conclusions arrived at, that "the types of pneumococci are essentially agglutination types."

Part I. of the monograph concludes with a description of the preparation and properties of immune sera.

The authors find that whereas types are divided according to their agglutination results, a serum may be strongly agglutinating and yet not possess prophylactic power.

Owing to the varying intensity of the action of pneumococcus against different strains of sera they regard the organism as a complex body of component antigens, both dominant and accessory, admitting of more successful immunisation with some strains than with others.

An omnivalent serum being probably impossible of attainment from a single strain, they advise that each pneumococcal strain should be inoculated into a separate animal and that the serum from all the animals should be mixed.

In the practical use of anti-pneumococcal sera, although the aim should be to apply the serum

most potent against the particular strain of pneumococcus involved, if known; in an emergency it would be preferable to inject the serum which is active against the largest number of pneumococcal strains.

It yet remains however for future research to improve the preparation of serum and to simplify its use.

Part II. deals with the Habitat of the Pneumococcus and diseases of Pneumococcal origin. Its distribution is recognised as much wider than generally supposed, and, from the many observations now available, it must be regarded as probably ubiquitous in the animal kingdom and able to maintain its vitality outside the animal body for longer periods than was formerly realised; moreover numerous researches confirm its habitual presence in certain mucous membranes. A large section is devoted to the pneumococcal diseases occurring in the human subject and to the origin of pneumonia, whether dependent on auto-infection or contagion, paths of infection which still remain obscure in spite of much experimental work.

With reference to the presence of the pneumococcus in the bloodstream and pneumonia being regarded as a septicæmia, the authors from their experience hold that "bacteriologically there is no septicæmia in patients suffering from pneumonia, clinically pneumonia is essentially a local not a general disease, anatomically the lesions of septicæmia of a more or less hæmorrhagic type do not overshadow the pulmonary changes described by Laennec."

In cases where found in bloodstream, they regard the pneumococcus as denoting a low resistance of the patient rather than a high virulence of the organism. But in the more susceptible coloured races the results of pneumococcal infection are more nearly allied to a septicopyæmia, as evidenced by frequent metastatic complications.

The crisis in pneumonia has received very full and interesting study, both clinically and as regards its mechanism, by detailed analysis of all its various aspects, thermometrical, chemical and hæmatological, from which and from experimental evidence it is concluded that this phenomenon is a "general manifestation, in which the whole organism is concerned," and marks "the transition from an abnormal to a physiological course," the result of a "conflict between antibodies and antigen," and to be regarded as a "manifestation of hypersensitivity."

In discussing prognosis three variable factors are emphasised as of importance in each individual, the virulence and number of organisms

in opposition to the resistance of the patient—all difficult to estimate and still presenting in pneumonia an ætiological problem not yet solved.

In Part III. the treatment of pneumococcal diseases by the specific (bacteriological) forms of therapy are more especially dealt with. Sero-therapy by means of anti-pneumococcal serum has been applied as a prophylactic with some success during influenza epidemics, and, more extensively as a therapeutic in both primary infections and pulmonary complications of influenza, has been found to give satisfactory results, particularly by intravenous administration. Prophylactic vaccination met with extensive trial in South Africa by Wright, and, later, Lister, using a vaccine composed of pneumococci of the three groups in equal doses, and by others during the war and in America, and in considerable degree during the influenza epidemics in this country in 1918 and 1919 with promising results, but its value is by no means established, nor can that of bacteriotherapy in pneumonia yet be estimated.

In regard to chemotherapy, little advance has hitherto been recorded, despite experimental and clinical work by numerous investigators advocating the use of certain quinine derivatives such as ethyl hydrocupreine and optochin.

The translation of this joint monograph will appeal to a wide circle of readers, and, whether attracted from the bacteriological or clinical standpoint, will well repay careful study.

AN INTRODUCTION TO SCHOOL MEDICINE, by H. Leslie Cronk, M.A., M.D., D.P.H., Cant. Pages X-236; illustrations 8; size crown 8vo. Price 7s. 6d. net. H. K. Lewis & Co., Ltd.

Dr. Leslie Cronk has made cuttings from recent literature in regard to the clinical topics most interesting to the school medical inspector. He has combined these with his own observations, and has written a book which is very interesting in its up-to-date information and very readable by reason of its easy and enjoyable style.

The title of the book is slightly misleading; it is not so much an introduction to the subject suitable to a beginner as a refresher on clinical details suitable to the practised old hand.

By "School Medicine" Dr. Cronk means the methods of diagnosis, treatment, and prevention of minor departures from health, which a child attending school with more or less regularity may present, and the scope of the book is strictly limited to accord with this definition. It contains nothing relating to administration, to mental

variations, to special schools, to curricula, to physical training, to residential institutions, to school furniture, to equipment, or to school buildings, and very little in regard to infectious diseases. The longest chapters are those upon tonsils and tuberculosis. There are some unfortunate errors in reference to well-known school hygienists; for instance, Sir William Hamer is wrongly described on p. 67, Dr. Margaret Hogarth on p. 89, and Dr. James Kerr on p. 201.

We are rightly very catholic and broad-minded in these days, but it will nevertheless come as a shock to some to find Dr. Cronk giving as much weight to the views of advertising quacks as to those of recognised authorities.

But this broadness of outlook is the book's chief charm, and every school doctor will find it a stimulating addition to his library, and in its author, if not a guide, at least a philosopher and friend.

"MOTHERCRAFT." Published by the National League for Health. "Maternity and Child Welfare." 5th Edition. Price 4s. 6d.

This consists of a number of articles dealing with the care of the mother and child, written by authorities on the various subjects. When a work has run into five editions in such a short period it is unnecessary to say more than that in its revised and enlarged form it will maintain the excellent reputation it has already gained. Seven new chapters have been added, treating upon the wasting disorders of infancy, infectious diseases, the re-establishment of lactation, the sun cure and its artificial substitutes, the psychology of infancy, simple ailments and nursery hygiene.

THE eleventh annual conference of the National Association for the Prevention of Tuberculosis will be held at the Royal Society of Medicine on 6th and 7th July. Professor Pirquet of Vienna will introduce the discussion on tuberculosis in childhood; Professor Holger Moellgaard, of Copenhagen, and Professor Knud Faber, of Copenhagen, will discuss the treatment of tuberculosis by "sanocrysin." It is announced that the Minister of Health is prepared to sanction the payment of the reasonable expenses of three delegates from local authorities. The fee for the conference is 1 guinea, and a copy of the report of the proceedings will be supplied. Further particulars may be obtained from the secretary of the association, Miss F. Stickland, 20, Hanover Square, W.1.

Correspondence.

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

SCHOOL ATTENDANCE AND PUBLIC HEALTH.

Sir,—Your article in the April issue of "Public Health" on "School Attendance and Public Health" is very much to the point, but I do not think you have drawn attention to one aspect of the question which is bound to have an adverse effect on the condition of the school children. This is the relation which exists between the average attendance at a school and the salaries of the teachers employed therein.

Schools are graded according to the average attendance into five grades.

Grade I	with an average attendance of not over 100.
Grade II	" " " " 101 to 200.
Grade III	" " " " 201 to 350.
Grade IV	" " " " 351 to 500.
Grade V	" " " " over 500.

The schools are regraded triennially according to the average attendance in the preceding three years; a provision which was introduced to neutralise the effect of epidemic diseases on the attendance of the school children.

In this town there are 27 school departments; of these 5 would come into Grade IV if the names on the register were alone considered, 18 into Grade III, 2 into Grade II, and 2 into Grade I. Of the 5 possible Grade IV schools one drops at once into Grade III because the average attendance required to maintain Grade IV status is too high, viz., 98%, while the other four require average attendances of 87%, 87%, 86%, 81%, to remain in this Grade. Similarly of the 18 possible Grade III schools three drop at once into Grade II because the average attendance required is over 95%, while in the case of others near the border line the average attendances required to maintain their status are 90%, 88%, 86%, 84%, 83%, 79%, 79%. Of the 2 Grade II schools one, an infants' school, will become degraded if the average attendance during the selected three years falls below 85.

There is every inducement, therefore, for the head teachers to do their utmost to keep the average attendance at their schools as high as possible, particularly in those cases where the margin separating them from the Grade above or below is a small one; an extra inducement is added by the fact that each year there is a decline in the number of children on the registers which brings

them even nearer to the grade below. It is not surprising to find in these circumstances that the head teachers are more effective in maintaining a high average attendance than are the school attendance officers.

This anxiety to keep the attendance high in order to avoid degrading, with consequent reduction of salary, manifests itself in an increasing reluctance to exclude children who are unfit to attend school, whether the unfitness be due to disease or vermin. There has of late been a considerable increase in the number of children at school showing evidence of vermin, and it is significant that head mistresses, who formerly would not tolerate the presence of a child with a verminous head in their schools, are now more inclined to protest at their being excluded.

I do not doubt that the majority of teachers would set the interests of their pupils before their own interests, but it is certainly unfortunate that this conflict of interests should exist at all. Admittedly the finding of a satisfactory basis for teachers' salaries is a problem bristling with difficulties. I consider, however, that the selection as a basis of the number of children on the registers is open to less objection than is the selection of the average attendance.

By increasing the number of children in each Grade, as for example Grade I, not over 120; Grade II, 121 to 235; Grade III, 236-400; Grade IV, 401-575; Grade V, over 575, the result would correspond in practice very closely with the Grades as at present constituted, and the "average attendance" would to a great extent cease to be a thorn in the flesh.

I am,

Yours faithfully,

J. D. INGRAM.

Municipal Offices,

Crewe.

8th April, 1925.

THE death has occurred of Dr. Richard Field Castle, for over 30 years medical officer of health for the Darfield Urban District. Educated at Cambridge University and St. Bartholomew's, he qualified M.R.C.S. in 1886, and graduated M.B., Ch.B., three years later. Keenly interested in his public health duties, Dr. Castle was a Fellow of the Society of Medical Officers of Health. The memorial service at Darfield parish church was conducted by the Bishop of Sheffield, and a great congregation testified their affection and respect for one who had faithfully served his generation.

Public Health

THE JOURNAL OF

The Society of Medical Officers of Health.

No. 9.

JUNE, 1925.

VOL. XXXVIII.

Subscription price, 31s. 6d. per annum, post free in advance. Single copies, 2s. 6d., post free.

CONTENTS.

EDITORIAL—

An Agreement	261
Food Poisoning	262
Mayoral Banquets	263
Assurance Companies and the Public Health	264
The League of Nations Health Committee	265
The Milk Supply of New York City	266
The Protection of Underground Water	267
Assurance Companies and the Public Health (By D. Morley Mathieson, M.A., M.D. Edin., D.P.H., Medical Officer of Health, Birkenhead)	269
The Influence of Aerial Transport on Epidemiology (By Air Commodore David Munro, C.B., C.I.E., D.M.S., Royal Air Force)	271
Unification in Public Health Administration	274

SOCIETY OF MEDICAL OFFICERS OF HEALTH—

Ordinary Meeting	278
North-Western Branch	278
Metropolitan Branch	279
Home Counties Branch	280
Yorkshire Branch	281
Notices	288

REVIEWS—

A Text-Book of Pathology	282
Manson's Tropical Diseases	284
Reports on Mentally Defective Children	284
Dependency, Orphanhood and Fertility	285

CORRESPONDENCE—

Reginald Dudfield	286
Disinfection	286
How Quacks Flourish	286

Editorial.

AN AGREEMENT.

We publish as a Supplement to this issue a letter which the British Medical Association has addressed to Local Authorities as to the remuneration to be paid to whole-time Medical Officers of Local Authorities. This letter is the outcome of action begun by the Council of the Society of Medical Officers of Health at its meeting on 17th October, 1919. At that time the Council was impressed with the poor remuneration which whole-time Medical Officers of Local Authorities were receiving, and with the fact that few of the promising graduates in medicine determined upon Public Health as a career. The Society, as the body of medical men specially interested in the advancement of public health, felt that progress in public health matters was impossible unless the conditions of the service were radically improved. The Council of the Society, therefore, formed a Committee in 1919, which has been re-appointed year by year, and has been instrumental in achieving the results expressed in the letter which we publish.

The original scale of salaries of the Society of Medical Officers of Health has been amended by the British Medical Association, and as a result of negotiations with the Ministry of Health and representatives of the Associations of Local Authorities, and the scale which is now published is one which the Ministry of Health and the Association of Municipal Corporations consider reasonable, other associations of local authorities having refused or reserved their acceptance. In our opinion the scale now published represents less than the just claims of Medical Officers of Local Authorities, but we loyally accept it as an instalment towards the fulfilment of our legitimate aspirations.

We would especially direct the attention of Medical Officers to the scale, and would say that

it is not unlikely that from time to time there will arise Local Authorities who will not abide by the agreed compromise contained in the letter addressed to them, or otherwise will refuse to act in accordance with the general spirit of the agreement. We hope such cases will be rare, but should they unfortunately occur we sincerely trust that Medical Officers will be guided in their actions with respect to such appointments by the lead which will be given them from time to time by the British Medical Association and the Society.

Already the work which has been done since the formation of the Committee in 1919 is bearing fruit, as shown by the increased salaries which are now being offered by Local Authorities to medical men entering their service. But while such results have been achieved in respect of new appointments, we regret to record that there are still many Medical Officers in office who, after years of faithful and continuous service do not receive the minimum salary which would be fixed for a new appointment. We trust that as a result of the issue of the letter, Local Authorities of their own accord will do justice to experienced servants so that Public Health Medical Officers may feel reasonably satisfied with their conditions of service, a state of affairs which has not existed for many years.

Battles on questions of remuneration are never entered into by the medical profession without considerable repugnance, and in this case the Council of the Society were influenced, not by pecuniary motives only but also by reasons of State. The Society realises that only by the maintenance of a first-class personnel in respect of the professional matters appertaining to public health can the health of the nation be advanced, and a realisation of this should enable Local Authorities in the interest of the Public Health with which they are charged to give effect to the letter which has been issued to them.

We desire to congratulate the Council of the Society on the results of its labours, and especially those who have been active in the prosecution of the campaign for the better remuneration of Medical Officers of Local Authorities. We would also thank the British Medical Association, for without their help the results which we publish in the letter could not have been achieved. We should add that we feel sure that both bodies by their united efforts have established a better means for the more rapid advance of public health than has ever before been achieved by any individual or group of individuals. For research cannot be conducted, good work done, nor progress made in an atmosphere of discontent, which

throughout the negotiations it has been the main object of the professional associations on their part to secure the means to allay.

FOOD POISONING.

An instructive report, based on a study of 100 outbreaks alleged to be due to Food Poisoning, has been issued by the Medical Research Council. Consideration of it will repay medical officers of health who are concerned in the investigation of such occurrences. The authors of the report are Dr. W. G. Savage and Mr. P. Bruce White. It deals with cases which have occurred between 1914 and 1922, and is a continuation and amplification of the report issued by Dr. Savage in 1913. Much has been done in the interval to fill in the gaps of our knowledge of the subject, but there are still important points to be determined before we can learn how these outbreaks may be prevented. The Council appeals to the profession generally, and to medical officers of health in particular, to give more assistance towards the elucidation of the problem. In many instances practitioners do not inform the medical officer of cases coming under their notice, and doubtless there are numerous cases in which the gastric disturbance is so slight as not to lead to the sufferers calling in medical assistance. The authors of the report acknowledge their indebtedness to medical officers for their co-operation in providing detailed epidemiological facts, in collecting and forwarding samples, and in following up special points which the interim facts suggested as desirable, but in a few instances they complain that little interest was shown by the medical officers of health concerned towards the research aspect of the enquiry, interest being confined to the administrative problem involved, so that when an outbreak had ceased it appeared they regarded it as an outbreak finished, and of no further significance. They have not shown the same concern to extend their enquiries in directions at least as essential in the interests alike of the public and of science, namely, the detection of the paths by which infection had reached the food materials. There may of course, be reasons for this; some medical officers are not provided with the same staff as are others, and particularly part-time officers may not be able to devote the time to a detailed enquiry, and local authorities may not be willing to incur expense for bacteriological assistance.

The Ministry has issued instructions to guide medical officers in their investigations, and the services of Drs. Savage and Bruce White are at

their disposal for examination of material and for advice. We feel sure now that the reasons for thorough investigations have been pointed out, that all medical officers of health will recognise its importance and do their best to assist. We know now that, with few exceptions, food poisoning is due to organisms of the Gaertner, or, as the authors prefer to call it now, the *Salmonella* group, chiefly *B. aertryke* and *B. enteritidis*. The former is a widespread cause of enteritis in mice and other rodents (though not commonly in rats). It is occasionally found in pigs, and as a cause of enteritis in calves. *B. enteritidis* causes disease in cows and calves and in rats, probably also in other animals. Neither of them occur as normal inhabitants of the human or animal intestine. We may gather from this, that incriminated foods may either consist of meat from diseased animals or that they have been contaminated possibly through the agency of rats, mice and flies. Two good examples are given of secondary infection from existing cases, but as a rule case to case infectivity is rare, and the authors do not believe that human beings act as chronic carriers.

To prevent the occurrence of outbreaks of food poisoning evidently several lines of action seem to be indicated. Better supervision is required to prevent the sale of meat from diseased animals; there is need for special control of places where made-up goods are prepared, and of the methods employed. The authors recommend that such special supervision could best be exercised by requiring that every person carrying on such a business should be licensed, and that the same requirement should be extended to makers of ice-cream. It is also evident that the public should be instructed to prevent access of flies, rats and mice to foodstuffs in their homes. With regard to canned foods greater difficulty exists, as so many of these are not canned in this country, and infection of the contents occurs before the food is put in the tins, or at least before the tins are hermetically sealed. It is suggested that a properly developed system of coding would enable any particular consignment to be traced to its source, or would materially facilitate investigation.

The authors further suggest that notification of cases believed to be due to food poisoning should be made compulsory, or that coroners should be required to inform the medical officer of all cases in which the suggested cause of death is from some form of poisoning. If the system of licensing be introduced, it should be one of the conditions of the granting of a license that all allegations of food poisoning from the consump-

tion of articles manufactured under the license should be reported at once to the medical officer of health.

MAYORAL BANQUETS.

The need for constant supervision of our sources of oyster supply is once more emphasised by the unfortunate experience of Portsmouth. From a report prepared by Dr. Marcus Fraser we learn that last November the Mayor gave his usual banquet, at which 135 persons attended. According to the menu a very tempting dinner was provided, and from the enquiries made by Dr. Fraser it is interesting to note which of the items appealed to the guests. Oysters, soup, pheasant and salad appear to have been partaken of by the majority. Eighty-three of the guests were subsequently taken ill, and by a process of elimination suspicion fell strongly upon the oysters. The symptoms were those of acute gastro-enteritis, and three guests eventually developed para typhoid *B.* Many of the attacks were severe, but fortunately none proved fatal.

The explanation of the occurrence is one familiar to medical officers of health. The oysters were brought to table direct, without having been re-laid in order to allow them to cleanse themselves. They had been collected from two sources, and subsequent examination of oysters dredged from these beds showed that in one 60 per cent. of the oysters contained bacillus coli and *B. enteritidis sporogenes*; bacteriological examination of the oysters from the other bed gave a much better result, only 10 per cent. contained *B. coli*. Owing to the excellent work which has been carried out for some years by the Worshipful Company of Fishmongers most of our oyster layings are kept under constant and close supervision. Unfortunately, however, all the oysters put on the market, as the present case shows, have not complied with the conditions which would allow them to be sold in London. From the position of the beds it is quite possible that their liability to sewage pollution may be intermittent, and this contention is supported by the statement that oysters from these beds had been previously sold and consumed in Portsmouth without any known ill effects.

Dr. Fraser suggests that the remedy is for the public to purchase oysters only from firms who guarantee their oysters to have been supplied from layings which have been inspected and approved by a competent authority. Has the time not arrived when we should ask for something

more than this? Should it not be the law that no oysters should be sold which do not comply with the requirements of the Fishmongers' Company? We know from experience that the Ministry of Health is somewhat timorous in its dealings with food questions, but if strong representations were made by important boroughs, such as those of Portsmouth, Winchester and Southampton, who have suffered, they would doubtless be induced to take more drastic steps to protect consumers of the succulent bivalve. Meanwhile, it might be well if medical officers of health were consulted by their respective Mayors when banquets are in contemplation, so that enquiries might be made with reference to the oysters it may be intended to supply.

It is interesting to note that France has had a similar experience. In 1913 a voluntary association of oyster producers and merchants (wholesale and retail) was formed to assure the wholesomeness of oyster production and distribution. By the year 1922 the association included most of the firms, but following a number of serious accidents in certain towns, as the Minister of Hygiene expresses it in a memorandum on the subject, hygienists and municipalities demanded that control, hitherto optional, should be made compulsory, and in July, 1923, a Decree was issued complying with their demand.

At one time Britain held the lead in all matters of public health. Are we content now for other nations to set us an example?

ASSURANCE COMPANIES AND THE PUBLIC HEALTH.

All life assurance is based upon an actuarial computation of the expectation of life of policy-holders, these being known as "selected risks."

It is presumed that the persons insured will, on the average, enjoy a certain calculated duration of life, in common with other persons of similar age, sex, occupation, and physical condition. Obviously the success, and, indeed, in the last resource the solvency of a life assurance company depends primarily upon the skill with which this expectation of life is computed, and upon the stringency of the selection of applicants for policies. It is equally true, though perhaps less obvious, that every insurance society is very directly interested in the prolongation of life, and in the improvement of the health of the community in general.

British companies, almost without exception, have been content to rely upon the increasing accuracy of their statistics (and a consequent

more accurate rejection of risks that will probably prove unprofitable) in order to secure the interests of their policy-holders and to increase the prosperity of the companies. They have, we venture to suggest, insufficiently realised the benefit which they, as financial undertakings, have derived from the general improvement in the expectation of life which has attended the ever-widening work of the Public Health Services; and have not yet recognised the possibilities which are opened up by a contemplation of this subject.

But here and there signs of a dawning recognition are appearing. Recently, for example, at least one company has begun to carry out publicity and educational work on the lines which were long ago laid down by Medical Officers of Health, and which have been followed by them for many years. Last year this company inaugurated a "Health Service Bureau," to distribute to its policy-holders literature relating to general hygiene and the prevention of disease, and to set up machinery for the study of mortality and morbidity statistics. To quote the Society's preliminary announcement, its object was "to carry out a definite and extensive programme of general welfare. . . . Whatever will promote better health and longer life will be within the range of the service."

Again, other companies have instituted schemes for free periodical medical examinations of their policy-holders, thus identifying themselves with a principle long advocated by hygienists, and put into practice in the School Medical Service for the past seventeen years.

While we welcome these developments, and the appreciation which is implied of the great principle of prevention, we cannot help feeling that the initiative and enthusiasm and financial resources expended upon these would be even more usefully employed, provided a closer association with the national health services could be established. Overlapping and redundancy is always wasteful, and is especially to be deplored in a field where there is scope for so much well-directed labour. With this in view we have read with particular interest a paper on "Life Offices and the Case of the Policy-Holder," read by Dr. Otto May, Medical Officer to the Prudential Assurance Company, before the Assurance Medical Society.

Instructive as is his account of the health activities of one of the great American life companies, we feel that the true significance of his paper lies not so much in the information it gives as in its implied recognition of the desirability

of British Companies taking positive action to raise the general standard of health, in addition to perfecting their machinery for the exclusion of unprofitable risks. It is true that Dr. May's conclusion is that any financial expenditure that the life offices may be disposed to make should be in the direction of supporting voluntary organisations, but he would probably agree that the work of voluntary agencies depends very largely upon the degree of their co-operation with the Public Health Services. As the purpose of his paper was rather to draw attention to the health activities of American companies than to outline any such possible developments in this country, we can welcome his conclusion as being indicative at least of an approach towards a consideration of the potential employment in the cause of public health of the vast amount of statistical and other information at the disposal of the Insurance Companies.

We have the more reason to feel confident that Dr. May's conclusion as to the direction which the activities of the life offices should take is more by way of opening up the ground for a fuller investigation of the subject, than a definite pronouncement in favour of assisting voluntary agencies, if only because of the importance he attaches to what is known as the Framingham Demonstration.

Framingham was selected as a typical industrial town for adoption by the National Tuberculosis Association of America, the object being "to show . . . how greatly the death-rate from tuberculosis could be reduced by properly organised team-work." The experiment proved strikingly successful, the death-rate per 10,000 falling from an average of 121 in 1907-16 to 38.2 in 1923, this latter rate comparing with an average for similar towns in the same year of 84.6. The Metropolitan Life Assurance Company of New York made a grant of \$200,000 to the Tuberculosis Association; but the team-work to which Dr. May refers involved more than the mere grant of money. It meant the closest collaboration between officials of the Company, of the voluntary association, and of the State Health Department, a collaboration which was responsible for special propaganda, for the establishment of an expert consultation service, and for a detailed examination of a considerable proportion of the apparently healthy population.

While such an experiment confined to a town of 17,000 inhabitants might have proved successful without the co-operation of the State Health Department, it is obvious that its application under such circumstances on a national

scale would have been utterly impossible. To limit the co-operation of the Assurance Companies to voluntary agencies would be to restrict very largely the enormous value of the Companies' mass of statistics relating to disease and mortality; only by the closest interlocking with the service whose function it is to promote the general health can their potentialities for good be developed to the full.

Such an interlocking the Society of Medical Officers of Health believes could be achieved by the formation of a Joint Consultative Committee consisting of representatives of the Society and of the Insurance Companies, on the lines suggested by Dr. D. Morley Mathieson, in a paper read before a meeting of the North-Western Branch of the Society last December, an abstract of which appears on p. 269. Dr. May's address on the achievements of the American life companies has, we feel, paved the way for the formation of such a committee, and should stimulate interest in an aspect of assurance business which British companies will discover to be well worth exploration.

THE LEAGUE OF NATION'S HEALTH COMMITTEE.

The Health Committee of the League of Nations at its fourth session—April 20th to 25th—passed no less than twenty-eight resolutions, almost all relating to the different branches of the League Health Organisation's activities. The first question dealt with was the approval of the programme of interchanges for 1926, providing for collective interchanges in Great Britain, Germany and Denmark, the continuation of the participation of Latin-American countries in the interchanges, a collective study tour to be organised in Africa in accordance with the recommendations of the Congress of Tropical Medicine held in Loanda in 1923, an interchange of specialists in child-welfare, a conference of port health officers from the Mediterranean and Black Sea, a number of individual fellowships and a first interchange of sanitary engineers.

In pursuance of its central task of establishing co-operation between the national health administrations, the Health Committee devoted considerable attention to the development and perfection of its international service of epidemiological intelligence. Postal information is now being received regularly from all European countries (except Albania and Portugal), from all North America, Australasia, and from such African and Asiatic territories as possess a statistical service.

By means of the Far Eastern Bureau of the Epidemiological Intelligence Service just established at Singapore, wireless information is now being received weekly on the incidence of cholera and plague in Far Eastern ports. The Health Committee authorised endeavours to obtain from the health administrations concerned similar telegraphic information from Mediterranean and Black Sea ports. All this material is worked up into regular epidemiological bulletins, which will eventually be wirelessly to all health administrations.

The work of the Commission on Public Health Instruction was approved and the Committee gave instructions to proceed on the same lines, namely to ascertain which of the factors in the teaching of hygiene in different countries may be utilised to the best advantage for promoting human welfare and to analyse the different kinds of instruction in hygiene in relation to general medical education and to the habits of the public.

It was decided to continue the work of the Tuberculosis Commission on the incidence of tuberculosis, with the principal object of ascertaining the cause of the general decline in tuberculosis and the reasons for the great differences in tuberculosis mortality and morbidity in different countries. It is hoped that this investigation will throw light on the relative importance of the different causes of tuberculosis.

The Cancer Commission of the Health Committee is for the moment confining itself to the investigation of the specific problem of the difference in cancer mortality in various countries. The cancer mortality in certain cases, for example, is twice as great in England as in Italy. The work done so far has established the fact that this difference is real, and not due to external causes such as better diagnosis or more accurate statistics. Future investigations will comprise work in the United States and Switzerland, under the direction of the national health authorities.

The Health Committee further decided that two of its principal members should present a preliminary report for the next session in regard to abuses arising from the use of patent medicines. Among other matters considered by the Committee, on which Sir George Buchanan is the representative of the British Government, were the standardisation of sera and serological tests, the epidemiology of small pox, sanitary regulations concerning emigration and immigration, and malaria control. It will be gathered therefore that this branch of the League's activities is doing a great deal to promote useful and harmonious co-operation between the nations.

THE MILK SUPPLY OF NEW YORK CITY.

The improvement of the milk supply is so difficult to accomplish on account of the many interests involved that the experiences of other countries, and especially those of the United States of America, where concerted efforts have proved very successful, are of the greatest value and are worthy of careful consideration.

Mr. Wilfred Buckley, who has done so much to focus the attention not only of the general public but also of the farmers on the pressing need for a clean milk supply, has investigated the present position of the milk supply of New York City, and has published under the auspices of the National Clean Milk Society, with which he is so closely associated, the results of his observations. He has always been a strong protagonist of grading of milk, in fact, in this he has differed in his opinion from most of us; nevertheless, his work in the interests of clean milk has been invaluable.

Mr. Buckley points out that the general milk supply of New York is classified into four grades, Grade A raw, Grade A pasteurised, Grade B pasteurised, and Grade C pasteurised (for manufacturing purposes only). Grade A is equal to our Certified milk in being produced from tuberculin tested cows, in being cooled to 50° F., and in containing a maximum number of bacteria of 30,000 per c.c. This grade includes Certified Milk as authorised by the State law. Grade A pasteurised is from cows which have been examined by a veterinary surgeon, is cooled to 50° F., and does not contain more than 30,000 bacteria after pasteurisation or 200,000 before pasteurisation. The third Grade, Grade B, is similar to Grade A except that after milking it should be cooled to a temperature not exceeding 60° F., and should not contain 100,000 bacteria after pasteurisation or 1,500,000 before pasteurisation. According to Mr. Buckley, Grade C is in reality a penalty grade, and seldom if ever, is any milk sold under this designation. It is interesting to note that the only raw milk sold is of the quality of Certified Milk, all other milk being required to be pasteurised. Pasteurisation in New York City means heating to a temperature of at least 142° F., and holding at such a temperature for 30 minutes or more. Delivery of all milk must be made in sealed bottles.

In London, and in some of the provincial towns, particularly Birmingham, the tendency is to have all except Certified or Grade A (Tuberculin Tested) milk pasteurised by the positive holder method as defined by the Milk (Special Designations) Order at 145° F., for 30 minutes. So long as insufficient care is exercised at the cowsheds and so long as

regular veterinary inspection of the cows is lacking the natural tendency will be the pasteurisation of the general milk supply, at least in London, and in the larger towns.

Mr. Buckley in his pamphlet particularly draws attention to the high quality of the milk supplied in New York by the Clover Farmers Company, consequent on their action in supervising the farmers and in getting them to deliver milk of a high quality, much of which is supplied to the Infant Welfare Centres of that City. The high quality of the milk has been obtained by the payment of a bonus to the farmers according to the bacterial quality of their product. This method has met with some success at Birmingham where, as Dr. Robertson has previously pointed out, a certain distributing company has effected a great improvement in its supplies by offering bonuses in a similar manner to producers. The general adoption of this practice on the part of distributors would go a long way towards improving our general milk supply.

The milk question is not a simple one, on the contrary, there are many difficulties to surmount and different methods may succeed under different conditions. One thing of which we are convinced is that whatever method promises to bring about an improvement is worthy of a serious trial.

THE PROTECTION OF UNDERGROUND WATER.

The ever-increasing demand for water in England and Wales, due not only to the growth and greater urbanization of the population, but also to the larger consumption of water per person, and the demand for higher standards of purity render the present unsatisfactory position with regard to underground water as a danger that must be remedied at the earliest possible moment. To meet this demand requires not only efforts to find fresh sources of supply, but also that existing supplies should be conserved and safeguarded. The report recently issued by the Advisory Committee on Water, of the Ministry of Health, refers to the latter only.

Whilst all water authorities are compelled to take such steps as will not deprive any neighbours of their water rights, these neighbours are under no such restriction and can deprive the authority of water by sinking wells, etc., and may carry out works which may ultimately effect the purity of the water. Mines and shafts may be sunk, and thus denude the whole surrounding area of water, and the aggrieved persons have no remedy. So many instances of such effects (vide appendix to

report) have come to the notice of the Ministry of Health that they decided to appoint an Advisory Committee, which has resulted in the publication of the Report under review in the hope that water engineers, Medical Officers of Health, and others, will make further suggestions before the Ministry proceed to draft a Bill for submission to Parliament.

The Report deals mainly with the protection of good underground water from waste and pollution. The principal interest affected is that of mining. A fair remedy ought to be found, as it is to the advantage of the mining industry to prevent the incursion of underground water.

Waste.—Under the common law every landowner has unfettered rights in regard to all water under his land which does not flow in defined channels. He is entitled to abstract an unlimited quantity of such water for his own use or sale to others, and he may allow any water, which he does not require, to run to waste. Instances are quoted such as: An East Kent colliery pumps water from strata below the chalk and discharges it on the surface in large quantities; another colliery Company elsewhere pumps huge quantities of water to waste within a water company's statutory limits; in Flintshire lead-mining operations have tapped the source of St. Winifred's well at Holywell; disturbances in water-bearing strata through mining operations divert the natural flow of underground water into new channels, and thereby affect the supply of water in wells.

Pollution.—Heavy pumping by a colliery company has had the effect of drawing sea-water into the underground supplies of a neighbouring public well, and thus rendering the water unfit for public supply purposes. Waste water discharged on the surface in great quantities has gained access to and contaminated the water in the chalk formation.

The remedy suggested is some form of State control, in order to remove or mitigate the harmful result of the present system. Particular reference is made to—

- (a) The control of the abstraction of underground water.
- (b) The prevention of waste of underground water.
- (c) The prevention of contamination of underground water.

With certain defined exceptions, it is proposed to make it unlawful for any person to commence to construct any new well, boring, shaft, etc., or extend any existing well, boring, or adit, for the purpose of abstracting underground water unless he has given notice to that effect, and if objection

is raised he must obtain a licence from the Ministry of Health. These requirements shall only be in force in areas to which they have been expressly applied by order of the Ministry of Health, made after public local inquiry. This last proposal is considered to be a necessary safeguard to important industrial interests involved.

The Committee further recommend certain provisions which will prevent unnecessary waste of underground water by unsealed bore-holes.

To prevent contamination of underground water the Committee recommend that sections 61 and 62 of the Waterworks Clauses Act, 1847, should be enlarged so as to render them clearly applicable to underground water supplies, and also increase the penalty. The proposed additional words: "Or to escape into the sub-soil in the vicinity of any well or adit belonging to the (waterworks) undertakers" are worthy of note, as it is doubtful if Parliament would accept them without modifications. For example, a cesspool 100 yards distant from a well in one direction might be a great source of danger, whereas a similar cesspool only 20 yards away in a different direction might be harmless. In a fissured formation practically every cesspool may be dangerous, but a covering of impervious clay might effectually prevent pollution. Moreover, Clauses 61 and 62 cannot be enforced unless and until a water has been fouled, and even then the definite source of pollution has to be proved. The following words of Clause 61 "whereby the water of the undertakers shall be fouled" might be replaced by "whereby the purity of the water of the undertakers shall be endangered."

It is further recommended that certain provisions, included in special Water Acts and found to be of great service, shall be made general. General provisions for protecting wells, and for dealing with exceptional cases by the Minister of Health and empowering the Minister to obtain returns of water abstracted from underground complete a fairly comprehensive survey of the important problem before the Committee.

General criticism of the Report may be confined to the following observations:

(a) It will be noted that the Report is intended chiefly for mining areas, and presumably would not be applicable to other districts without the consent of the Minister of Health. How would this affect our extensive bare chalk areas? Brighton has recently had to purchase wide areas round their wells, and has had to obtain special powers to make bye-laws to prevent people sinking cesspools and stacking manure over or near

their wells and adits. Doubtless many other Water Authorities suffer from the same danger of pollution, but they might not be able to afford to go to Parliament to get the special powers that Brighton has got. It does not appear that any of the recommendations would cover cases of this kind. Yet it is of the utmost practical importance that the contemplated Bill should enable any Water Authorities to obtain these powers from the Minister of Health without having to go to the expense and trouble of promoting a Bill before Parliament.

(b) Whilst all Water Authorities are limited by their special Acts of Parliament as to the amount of water they may take from any definite source, there are no suggestions or recommendations as to regulations being prescribed which would prevent the neighbouring landowners from pumping as much water as they like. A clause might be introduced restricting any landowner from abstracting more than a certain amount of underground water without the consent of the Minister of Health.

(c) There is no mention in the Report of the frequent instances of "swallow holes" into which impure water may gain access on the occasion of every heavy rainfall, thereby contaminating the water in the chalk and other fissured formation in which they occur.

Instances of this kind of pollution are much more frequent than many of those referred to in the Report.

The whole Report raises the question whether the contemplated additional and new powers should be conferred on the Minister of Health, or whether the whole country should not be divided up into areas controlled by Water Boards such as was suggested by the Royal Commission, and whether these powers should not be conferred on these Boards, who would be entrusted with the conservation of quantity and preservation of quality of all sources of water in their areas.

It may in conclusion be remarked that admirable as these additional powers may be in their effect, yet pollution in a lesser degree will still continue, and although prevention of pollution will be the first and possibly the most important line of defence, every Water Authority should be fully alive to the immensely augmented second line of defence which we owe to Sir Alexander Houston's excess lime process of treatment, and which has been recently demonstrated (in every detail) by Dr. Thresh, at Chelmsford, and Langford, to render safe any polluted water.

ASSURANCE COMPANIES AND THE PUBLIC HEALTH.*

BY

D. MORLEY MATHIESON, M.A., M.D. Edin.,
D.P.H., Medical Officer of Health, Birkenhead.

In his "Discourse of the Sepulchral Urnes lately found in Norfolk," Sir Thomas Browne speaks of the medical profession as striving "to preserve the living; . . . to keep men out of their urns"; and regards this preoccupation with matters concerning the period of earthly tenure as being appropriate to a body of men "whose study is life and death, who daily behold examples of mortality, and of all men least need artificial mementos, or coffins by our bedside, to mind us of our graves."

At the time when these words were written sickness and disease were still regarded as normal and inevitable happenings, whose onslaughts might indeed be opposed, and if possible countered, but were accepted as part of the eternal scheme of things, like the attacks of the footpads who infested the highways. The conception of an organised policy of intervention between disease and the individual *before* attack had not yet arisen; this has been the discovery and inspiration of comparatively recent years. Its direct outcome in this country has been the establishment of the special branch of the medical profession which we know as the Public Health Service: a service staffed by men specially educated and trained in the prevention of disease, and working together as a more or less co-ordinated team.

The ideal of prophylaxis is not, of course, the preserve of the Public Health Service alone; general medical and surgical work is by degrees becoming inspired and modified by the same outlook. But it is the special duty and privilege of the Public Health Service to foster this ideal, to extend by investigation and research the ambit and territory of preventive medicine, and to design the machinery which will most efficiently apply new knowledge to definite problems and produce the best results.

The results already achieved by public health endeavour have not been negligible. The incidence of many forms of disease has been diminished; the standard of general fitness has been raised; the duration of useful and enjoyable life has been prolonged.

The fulfilment in increasing measure of Job's

* Extracts from a paper read to the N.W. Branch of the Society of Medical Officers of Health, 12th December, 1924.

prophecy "Thou shalt come to thy grave in a full age, like as a shock of corn cometh in his season" has even produced in America, that land of inspiring optimism, a new subject for medical study, "Geriatrics," whose aim is to "make old age a pleasure rather than a burden." A recently-published manual on this subject includes a chapter on "Love in old age," where no doubt the amorous potentialities of the octogenarian are discussed with sympathy and insight. An alluring prospect of declining years full of activity and usefulness is conjured up by a perusal of the publisher's brochure, and it would seem likely that the contented mind of the "youth renewed like the eagle's" will be disturbed only by the knowledge that one's insurance premiums must continue to be paid long after the sum assured has been contributed.

But it is not only the medical profession which is devoting continuous study to the decreasing incidence of disease and the increasing length of the span of life. There is another organisation, or group of organisations, which is acutely interested in the endeavour "to keep men out of their urns"; I refer to the Insurance Companies, or more specifically to those companies which deal chiefly or entirely in Life Insurance. It is the object of this paper to indicate the bond of common interest that exists between the Public Health Service on the one hand and the Life Insurance Companies on the other; and to suggest that closer co-operation between these two groups would be to the advantage of both.

A Life Insurance Company which undertakes this year the insurance of certain individuals does so on the basis of an actuarial calculation of the expectation of life of those individuals. This calculation is necessarily founded on the knowledge possessed at present by the Company's officers of the probable duration of lives of the type to which the particular examples belong. This knowledge in its turn is the outcome of experience of the effects of disease, heredity, and damaged physique in the past; *but it takes no account of possible future progress in the direction of improved expectation of life.*

If, therefore, in the period following the signing of the contracts there occurs, and is maintained, a rise in the health level of the community, together with an increase in the average duration of life of individuals of the type concerned in the transaction, the probable result to the Insurance Company is financial gain. Conversely, a rise in the general death rate, and a diminished expectation of life, would result in financial loss.

Looking back, it would appear to be obvious that the steady decline in the general death-rate over the last half century (even though much of the diminution occurred in the lower age-periods) and the steady rise in the expectation of life must have been of enormous benefit to Life Insurance Companies.

What objection to this contention could be advanced? It might be suggested that much of this benefit was handed over to the insured persons in the form of bonuses, etc. This, however, does not diminish the force of the argument. The payment of good bonuses by insurance companies is on a par with the payment of large dividends, or the distribution of bonus shares, by other commercial organisations; each is regarded as an indication of thriving business, and attracts the investor.

Again, the directly opposed interests of life insurance business and annuity business might be cited as tending to balance each other. But annuity business is a relatively small matter; in 1922 the premiums paid in respect of annuity insurance in British offices in the United Kingdom amounted to 2½ million pounds, as compared with 45½ million pounds paid in respect of life insurance.

Another comment which may be anticipated is that the improvement in general health and increased duration of life associated with Public Health activity have affected entirely, or practically entirely, the poorer classes, and that with these Insurance Companies have relatively little concern. In answer it can be urged firstly that a very large, and steadily increasing, volume of life insurance is effected among the working classes, a considerable portion of it being concerned with the insurance of children. It would be easy to name one large company (whose invested funds amount to 155 million pounds, and whose income in 1923 was 14 million pounds), which does a very large business in this class of insurance. Secondly, it is completely fallacious to regard Public Health work as being essentially of benefit only to the poor. Epidemics are no respecters of persons—palaces have in the past paid their toll with cottages; the decline, for example, in the tuberculosis death-rate has been general throughout the community; and even the venereal diseases clinic is a protection to the rich as well as to the poor.

The gradual, but steadily progressive, development of Life Insurance work, and the application step by step of increasingly accurate scientific principles to this work, form a most interesting study. Up to the beginning of the eighteenth

century insurance of any description was little more than a wager between the company and the policy-holder, in which the premium was so great as to make the risk incurred by the company almost negligible. In the long period of our history during which violence was almost as frequent a cause of death as sickness, insurance could scarcely be carried on upon any other terms; but the advance of more peaceful conditions saw at first little attempt to base the contract between insurer and insured upon any more scientific harmonisation of the amount of the premium with the expectation of life. During the nineteenth century, however, Life Insurance was set on sure foundations. To-day there are 85 companies in this country which transact Life Assurance business, their incomes from premiums in 1922 being 49 million pounds and their accumulated funds 480 million pounds. It is not possible to state the number of their policy-holders, but from the announcement in a circular sent out by one company that this company alone has issued nearly 2 million policies, one may conclude that a very large proportion of the population has made provision in this way for relatives and dependants. Comparisons with other commercial undertakings are difficult to make, but it is safe to say that a group of companies which, though rivals, can scarcely be called competitors, whose interests are identical, and who control funds to the extent of nearly 500 million pounds, must rank among the most powerful business organisations in the country.

No combination of interests can reach such vast proportions without acquiring power to exercise an influence, beneficent or other, upon public opinion; and, through public opinion or, more directly, in Parliament, to mould the social progress of the country. It is noteworthy that in the late House of Commons 42 directors of Insurance Companies sat as members; since the recent General Election this number has probably been increased.

Now it is surely a fundamental concern of Insurance Companies to see the health of the community improved, and to prolong life—not because, as Greene, in his volume on "Examination for Life Insurance" declares, they are "the most beneficent and unselfish of all business institutions," but for honest commercial reasons.

In other words, it is not merely of general national interest, but also of particular interest to the Insurance Companies, that the Public Health Service should be based on sound principles; that it should be securely established; that it should be supported by Parliament and by local governing

bodies throughout the country; that it should be placed outside the scope of reactionary attacks and be regarded as a non-party institution, with freedom to develop and function on the most efficient lines.

There is at present little evidence of recognition on the part of Insurance Companies of this fact, self-evident as it may appear to the Public Health worker. Can there be doubt, however, that with closer co-operation, and the establishment of facilities for the interchange of ideas, this recognition would come, and that the Public Health work of the country, and indirectly the Insurance world, would benefit?

Apart from general questions of policy, there is much common ground open for scientific research. Enormous masses of statistical material have been accumulated and sifted alike by Public Health and Insurance workers. These are constantly being added to; fresh conclusions are reached, and new lines of thought are discovered. It is at least doubtful whether public health research is utilised to the full for insurance purposes; it is certain that insurance research is not utilised to the full for public health purposes. For example, an American company once made a careful investigation of over 22,000 deaths in order to relate the proportionate mortality from tuberculosis with the degree of family infection. The resultant knowledge was applied merely to secure a more efficient acceptance or rejection of applicants for insurance. But this investigation should surely have performed a wider service, not merely in the interest of the community but of Life Insurance; for though a higher discrimination in selection is important to the Companies, still more important is a progressive increase in the number of applicants who may be accepted as good risks. To limit the application of the results of investigations in such a manner is as shortsighted as would be the action of a man who bought an expensive herd of cows merely to keep short the grass on his lawn, and neglected their milk-producing capacities.

In contrast with this an interesting development of Life Insurance work, which has a definite public health significance, may be mentioned. A certain company has recently extended to its policy-holders the opportunity of being medically examined free of charge once every two years, "in the confident belief," it declares, "that the result will prove beneficial both to the policy-holders themselves and to the Society."

But particular examples of similarity of interest need hardly be quoted; they will occur readily to the mind of any worker in either field. The im-

portant consideration is, can anything be done to bring about sympathetic co-operation and interchange of thought? From every point of view it would appear to be desirable at least to make the attempt; and one could venture to suggest that steps should be taken to set up, if this be found possible, a joint standing consultative committee comprised of representatives of Life Insurance Companies on the one hand, and of Medical Officers of Health on the other, with the following objects:

- (a) to interchange statistical information,
- (b) to discuss problems of common interest,
- (c) continuously to promote the work of preventing disease and prolonging life.

THE INFLUENCE OF AERIAL TRANSPORT ON EPIDEMIOLOGY.*

BY

Air Commodore DAVID MUNRO, C.B., C.I.E.,
D.M.S., Royal Air Force.

The title which I have chosen for my address, Gentlemen, may well strike you as fanciful.

On seeing it you may have thought to yourselves "Well, I wonder what he can find to say about that!—the number of passengers and the amount of goods carried by air in a year isn't enough to make a song about let alone a lecture! And if it's a fairy tale, we'd rather stick to H. G. Wells!" Well, Gentlemen, it may be a fairy tale (and some of Mr. Wells' fairy tales have come true) and it is a fairy tale to the extent that it is prophetic—and who knows what the future may bring forth?

Even at this stage of the development of flying, however, certain dangers have become apparent, and it is, I think, more reasonable deduction than a flight of imagination to envisage the circumstances under which practical measures of various kinds may have to be undertaken by health authorities.

I would not have you think that these have been neglected, and I disclaim at once any suggestion that nothing has been done or that enough has not been done to meet the existing situation. There are already in existence certain International Agreements as regards Air Quarantine Regulations—which I shall refer to later but shall not bore you with the text) and I am not a prophet crying in the wilderness.

I have not of recent years seen a definition of the word "epidemiology," but I have always taken it to mean "the science of the origin and spread

* Presidential Address to the Naval, Military and R.A.F. Hygiene Group, London, 5th December, 1924.

of disease" and if this be accepted the possible connection between the spread of disease and the latest and quickest means of transport becomes at once apparent.

I am not concerned here with all the factors which influence the origin and prevalence of communicable disease so as to make it endemic, epidemic, or pandemic. Of such factors some are still unknown but others we know about (though still imperfectly) such as the influence of meteorological conditions, accumulations of susceptible persons, imperfect sanitation and facilities for transmission.

It is under the last of these factors that aerial transport comes. That infection tends to spread along trade routes and to follow lines of human communication has, of course, long been recognised and also that from time to time most of the specific infective diseases become specially prevalent over large or small areas. History records many of the more serious outbreaks. Regulations whereby the control of such diseases can be made effective have been made and added to from time to time as experience has grown, until now most countries have regulations controlling all areas of infections and the movements of all persons across the frontiers. Now the effectiveness of all such regulations largely depends on information received in advance by the people administering the regulations and it is one of the objects of this paper to point out the particular importance as well as the difficulty of getting early information where aerial transport is used—and the danger to population when considerable masses of the people take to travelling by air—as in time I have no doubt that they will. (Brancker's wireless talk on 17/11—airships with 100 cabins.) Taking the definition of an epidemic as a disease which is widely diffused and rapidly spreading, attacking many people in a given area at the same time you will readily see how important is any means of transport which turns days into hours and weeks into days in influencing the rapidity of its spread. The intervals between embarkation and landing is so shortened that no longer is it possible to quarantine a possible contact or "suspect" (not "on board" of course, but on landing) unless by means of wireless notification to the air-port of arrival the authorities there can get sufficient time to take action. The steps therefore required to deal with the progress and diffusion of such diseases as cholera, typhus, smallpox and influenza, have to be considered in this new light and constitute one of the Medical Problems of Aviation of International importance. As I see it the central health organisation of each

country (Ministry of Health at home) may have to develop an intelligence department which for rapidity will have to work under what I may call "Active Service" rather than peace conditions—capable of obtaining prompt regular and full information and wirelessly it on to air-ports of other countries. Some further international organisation may also be necessary to co-ordinate the immediate notification of the incidence and spread of dangerous epidemic disease in all countries.

As I have already remarked—the Health Authorities in most countries are fully alive to the altered circumstances which necessitate revision of their Regulations and various International agreements have been concluded and executed.

The International Health Organisation of the League of Nations, an assembly which carried on the "Office International d'Hygiène Publique" which was established by the Convention of Rome, 1907, has already the sort of Organisation appropriate to deal with the question as a whole. They have, I understand, already considered the matter and similar matters of international concern. One of the terms of reference of the assembly is:—

"To organise means of more rapid interchange of information on matters where immediate precautions against disease may be required (e.g., epidemics) and to simplify methods for acting rapidly on such information where it affects more than one country."

and also:—

"To furnish a ready organisation for securing or revising necessary agreements for administrative action in matters of health, and more particularly for examining those subjects which it is proposed to bring before the Standing and General Committee with a view to International Conventions."

Much latitude is also given to the organisation to work out its own procedure as circumstances dictate, and one question which has been discussed by the Assembly is "wireless" by the free use of which alone can rapid information be "broadcast." Such important questions where all nations are concerned can only be settled in this sort of way; rules and regulations within a country can be more easily made and this country is perhaps ahead of any in such organisation.

The measures taken in regard to ships coming from infected ports have a long history, beginning with the now obsolete Quarantine Acts

going on to the International Sanitary Convention of 1903 with which our present practice conforms, and ending with the recent International Sanitary Convention of 1903 with which our present practice conforms, and ending with the recent International Sanitary Convention of 1903, with which our present practice conforms, and ending with the recent International Sanitary Convention of 1912. One of the most creditable contributions of this country to the public health of the world resulted from the appreciation which was given in England to the fundamental principles which should govern the action taken by port authorities to prevent the introduction of diseases like cholera and plague. Similar regulations were adopted by most countries, and only a few retained the old Quarantine laws. The working of these regulations depend in a large measure on a system of formal notification by all countries of the first occurrence of cholera and plague, through the various diplomatic channels.

As you are doubtless aware already in this country the Ministry of Health issues a weekly bulletin and the information obtained by telegram and weekly despatch from most parts of the world combined with the progress made in Public Health along the past century make this country fairly safe from any ordinary menace by sea. But is the information speedy enough to safeguard it from menace by air? Time is lost by present methods and it would appear that something more rapid and thorough is needed now that air ports are included.

Again, although this country is so favourably placed as regards climate, and so well organised as regards water supplies, healthy food control, etc., it has Imperial obligations to meet of which the prevention of the spread of Tropical disease is one—and an onerous one.

In this connection, if I am not taking up too much of your time, I should like in illustration of what I have been saying about the possibilities of rapid spread, to take as an example an outbreak of cholera in Iraq last year, which brought to my own notice the possibilities of aerial diffusion.

The epidemic commenced in Abadan in Persia, in August, and spread to Iraq at the beginning of the cold weather.

This, incidentally, is the time of the annual pilgrimages to the holy places of Kerbala and Nejaf—bearing out the usual close association of this disease with pilgrimages, native festivals, etc. This, as I have already said, is well known, as is also the meticulous care which is taken to

minimise the risks of infection entailed in the pilgrimages to Mecca, in Arabia, Juggernath, in India, etc.—in the medical inspection quarantine, preparation of accommodation, provision of protected water and food supplies, and special conservancy arrangements.

Now inter-communication between Iraq, Palestine, and Egypt by aeroplane has developed to such an extent that the journey between Baghdad and Cairo is now a journey of under 24 hours' duration, and performed regularly by an Air Mail Service—in less than the incubative period of the disease, therefore, the "contact" or "carrier" could be in Egypt.

By thus increasing greatly the speed of convection—spacing the "ports of call" over wider intervals and allowing for possible "forced landings" *en route* you can imagine how in a few hours the disease might have been widely disseminated before any preparation could have been made.

In this instance, however, Egypt was made alive to the possibilities and at the instigation of the R.A.F. Medical authorities and in collaboration with them the Egyptian Public Health Department instituted methods of control with the most satisfactory results.

Shortly, these measures consisted in the detention of all individuals arriving from Iraq until such time as the necessary bacteriological examination and agglutination reactions had been carried out for detection of carriers—a matter of five days.

The Egyptian Public Health Department gave much assistance in lending a staff of bacteriologists for this purpose and placing at the disposal of the R.A.F. accommodation in their hospital at Suez. It was agreed that any case in which the vibrio of cholera were found would be admitted as a patient to the cholera wards on payment of charges mutually agreed upon. Contact with the outside population was avoided and measures taken to prevent importation of food-stuffs, etc., from outside.

Similar precautions might require to be taken to isolate carriers and contacts coming from dysentery or influenza infected areas. Indeed I will not labour the point, or particularise the diseases of which one instance is sufficient to illustrate the text.

I have now, I think, said enough about the possible influence of aerial transport in increasing the rapidity of spread of infection and would now like to refer for a few minutes to an equally important—if not more important point—and that is the possibility through aerial transport of

introducing *de novo* diseases into countries which, owing to their geographical position or the excellence of their preventive measure have hitherto been immune to them.

For instance, India does not suffer from yellow fever, yet the conditions favourable for its spread, once introduced are there—not only climatic and meteorological but due to the abundance in India of the necessary parasitic carrier—the *Stegomyia* Mosquito. At present so far away is the nearest endemic source that there is no patient in the incubator period of the disease who would not develop it *en route* and thus come under observation and treatment so that the requisite protective measures could be taken: and no infected mosquito who could survive the journey.

But imagine a Communication Service—say an Airship line between India and Africa (and this may not be many years ahead)—taking hours instead of days and the danger becomes very real. I mention yellow fever as an example but instances could be multiplied—I can envisage new pastures for the trypanosome now so restricted in the area of its ravages.

As one other example which touches us nearer home it would not be out of place to mention the outbreak in recent years of rabies in England which was, I believe, attributed in the first instance to the importation of a rabid dog in an aeroplane—England having been immune from this disease for many years. Without reference to the Home Office I cannot tell you what this outbreak cost the country in time, labour, and money spent on the institution and carrying out of the necessary measures to stamp out the disease and provision of anti-rabic treatment. The cost was considerable. Nor have I the figures of the exact numbers of cases of rabies reported—they are not necessary to point out the moral—but I remember that there were a number of cases and that the muzzling order was in force in many countries.

Yet one other point before I finish, *viz.*: Can aeroplanes spread disease from the air by means of contaminated material thrown overboard (infected fomites, excreta, etc.) causing a focus of infection where they fall?

This is, I think, not a serious danger. We do as a matter of fact have specially designed receptacles in long distance machines to prevent the escape of excreta, but even should this occur the influence of gravity in the fall reduces semi-solids to a finely particulate state. This has been proved by the experiment of dropping eggs out of aeroplanes from several thousand feet. They

simply disappear into fine egg-rain before they reach the ground.

Suppose, however, infected excreta be substituted for eggs, might not the bacteria-rain be dangerous (let alone it being unpleasant)—a rain of death in fact?

Probably they would not survive the swiftness of their descent but so far as I know no investigations on this point have been made.

May I conclude with a final—and probably fanciful—simile in comparing the aeroplane to those winged insect plagues, which as all epidemiologists know, are carriers of disease and death and amongst the chief enemies of mankind.

We have the sandfly, the tsetse fly, and the mosquito as specific vectors of definite diseases, and the house fly as an impartial carrier of many.

On these insects we make war—but on the aeroplane we cannot—nor could one wish to destroy what is, if properly used, to become one of the greatest benefits to mankind—as the victory of the air has been one of his greatest achievements.

Only let us be forewarned of the dangers, lest we from our point of view of guardians of the public health may under conditions of epidemics be tempted to call the aeroplane “the greater winged plague.”

On the conclusion of the Address, Surg.-Cmdr. Shaw, in proposing a vote of thanks to the President observed that it was not customary to discuss a Presidential Address but many very interesting points had been raised upon which a discussion might usefully take place. Colonel Warrack seconded the proposition which was carried unanimously.

UNIFICATION IN PUBLIC HEALTH ADMINISTRATION.

At the meeting of the Society held on Friday, February 20th, 1925, a discussion took place on “Practical Unification in Public Health Administration.”

Lt.-Col. F. E. Fremantle, O.B.E., M.P., in opening, said the present moment seemed to be ripe for trying to work out the practical requirements for unification in public health administration, both centrally in the Government departments in Whitehall and locally in the County, County Borough, and District Councils. Confining his remarks to the central authorities, Col. Fremantle stated that a large number of Government departments, all concerned with public health in its wider aspects, had to be considered.

First, the Ministry of Health, obviously the major department, and within it distinct sections, *e.g.*, poor law and health insurance. In addition, and quite outside it, was the Board of Education, with a nominal connection between the two. Secondly, the Home Office, that dealt with factory life and industrial disease to a large extent exclusively, and was accountable for something like one-third of the life (eight hours in each twenty-four) of the whole population engaged in industry. Then there were the India Office, the Foreign Office, and the Colonial Office, all dealing with health problems on a large scale—problems that affected not only the health, prosperity, and development of the territories with which they were directly concerned, but indirectly affecting the health of this country. Mention had to be made, too, of a temporary department of enormous importance to the health of the community, the Pensions department, and last, but not least, the three fighting services, the Admiralty, the War Office, and the Royal Air Force, that in time of war played a preponderant part in the health of the nation, and in time of peace had almost endless ramifications in connection with the Civil Service. The Board of Trade and the Ministry of Labour also had considerable connections with public health work directly and indirectly. The growth of the whole system was analogous to the development of the British Army. As with the various regiments of the Army, the different departments of Government had developed separately, and it had not been realised that the medical work was anything more than incidental to the work of the department and the work of humanity. Only quite latterly had the medical profession by degrees developed the theory and got it well established with the laity in Government that prevention was better than cure and, moreover, a matter of economy. In growing up separately it was only natural that the medical section should have been entirely subordinate to the legal and administrative sections of the central authorities. The battle in the departments had been won, he thought, almost completely as regards the Ministry of Health, but not so completely in the Board of Education, where to an increasing extent it had been held that the Board should be responsible for the education of the body as well as of the mind of the child. It had not been won in the Home Office, though a number of distinguished men had done excellent work there, but under the greatest difficulties. The medical officers of health of the last generation all thought that a great move had been made when Sir Arthur

Whitelegge had been made Chief Medical Officer, and it was understood had direct access to the Minister, not by virtue of the fact that he was a medical man but because he held office as Chief Factory Inspector. With a layman as Chief Factory Inspector, the medical men had no direct access to the Minister, who could not be properly advised on health questions. The battle had not been won in the India, Foreign, and Colonial Offices, or even in the Pensions department. The Admiralty, War Office and Royal Air Force, were all independent of each other, yet in many instances there would be similar problems to be dealt with. Starting from that standpoint, what could be suggested with a view to unification? The recruitment of men for the services involved very similar and comparable problems, and it seemed absurd for each department to be tackling them separately. They all ought to work together, and there should be some sort of conjoint committee of investigation. It was highly improbable that the fighting services would co-ordinate their efforts with those of the civilian departments, but they could at least co-operate amongst themselves. Another point that should be recognised was the wastefulness of the system whereby medical men who had served in the fighting services or the Colonial and Foreign Offices retired at the age of 45 or 50 years, and in many cases were unable to be used in this country. With some system of unification it should be possible to find work for them. There was need for co-operation between the central offices just as much on the question of public health as there was in the matter of general defence. Even as a Committee of Imperial Defence co-ordinated the policy of the three fighting services, so a beginning should be made in the co-ordination of the central health services by the formation of a Permanent Standing Committee. It might be suggested that the Minister of Health should undertake it, but Col. Fremantle believed that it would be stronger and better if such a committee were developed independently by the Privy Council, who already had been given the function of industrial and medical research under the Government. Such a combined Committee under the Privy Council should have for its object the co-operation of the health problems throughout all the departments of Government, and have the power of making recommendations to the several departments in such a way that action taken on them could be reported back to the Committee. In conclusion, Col. Fremantle pointed out that as Chairman of the Medical Committee of fourteen Members of Parliament

(non-party) and also as party Chairman of the Committee on Health and Housing, he had received a considered reply from the Minister of Health to a number of main points that had been raised. These replies had shown that the Minister had his mind set on the principal health problems so far as they could be solved during the next three or four years. Many of the main factors were already under enquiry. The Committee on Local Government had met, the Insurance Commission were taking evidence, the question of Mental Health and also of Hospitals were under consideration, and it was the intention of the Government to proceed with Poor Law reform in the very near future, presumably as soon as the Royal Commission had issued its report. Until these four Commissions had reported it could not be expected that a big move would be made, but now was the time to prepare public opinion for the right action in those important matters.

Following a vote of thanks to Col. Fremantle for his address,

The President extended a welcome to Sir Thomas Legge, C.B.E., H.M. Medical Inspector of Factories, and offered the congratulations of the Society on his recent well-deserved honour.

Sir Thomas Legge acknowledged his appreciation of the President's remarks, and proceeded to state that it had not been realised why the central departments had separate services. It was due to the difference of function which the departments exercised. For instance, it seemed incredible that the Ministry of Mines, which had not been mentioned, should not have a department of medical inspectors. With the aid of chalk and blackboard, Sir Arthur indicated in diagrammatic form the conditions in regard to factories and workshops, of which there are some 150,000, employing from 5 to 6 millions of people. The system of medical service was divided into three groups, the Home Office, the National Health Insurance, and the Public Health Service, embracing the Medical Officer of Health, School Medical Officer, and the Tuberculosis Officer. Large numbers of workers streamed out to the panel doctors and to the tuberculosis officer, but there was no return stream to try and catch those cases in their early stages. The five factory medical inspectors had the power to go into every nook and cranny in factories, but what were five amongst so many workers? There were also 200 factory inspectors distributed all over the country. Because the Act was so powerful and special knowledge was required for its administration, the appointments were those of a central

department, and not distributed amongst the local authorities who would not have the knowledge to carry out with advantage the requirements necessary. There was no reason, however, why there should not be a linking up with local associations. Then there were the 1,700 Certifying Surgeons, with their four-fold function, (1) the examination of young people, (2) the examination of people suffering from notifiable industrial disease, (3) the periodical examinations called for in processes dangerous to health, and (4) examinations under the Workmen's Compensation Act. There was no need to go much further than that to indicate a solution of the difficulty. Having regard to the fact that it was the National Health Insurance that dealt with the greatest number of people by far, and seeing that it was clinical knowledge that was wanted, Sir Arthur said he would like to see the Health Insurance Scheme take over all those duties of the Certifying Surgeons, and be in touch with the Home Office on the one side and the Ministry of Health on the other, the latter including the School Medical Service. There should also be a connecting link with the Medical Officer of Health and another with the Insurance Committee, with a means of communication between the two authorities last named. Under some such arrangement it would be possible for medical supervision in the factory to be exercised so as to intercept the illness that was bound to occur without such supervision, and so assist the National Health Insurance scheme, which one was pleased to know, was a going concern, but which certainly did need to give more assistance to those who paid for it, the employers on the one hand and the workpeople on the other.

Prof. H. R. Kenwood, C.M.G., said that the important matter that Col. Fremantle had so clearly put before them required a good deal of reflection before any opinion of value could be expressed. It was interesting to note how it had been proposed to deal with the practical unification of public health administration centrally. It had been done with very great discretion, and as he understood Col. Fremantle the suggestion was that where there were in the departments similar and comparable medical problems at issue, a committee independent of any one of them should be set up. Dr. Kenwood thought that was sound, but was not so sure that anyone would advocate anything beyond it. That the Ministry of Health would consent to such a body being formed outside its own province was doubtful. It was clear that in many central departments there was a special setting for special work, and

a need for special experience and knowledge. For instance, supposing the Medical Services of the War Office could be brought under the Ministry of Health, he could imagine nothing of value accruing from that. There were problems *ad hoc* to the Army, and the principles of hygiene had to be modified and adapted to all possible circumstances.

Col. H. P. W. Barrow, C.M.G., D.S.O., O.B.E., endorsed Dr. Kenwood's remarks with regard to the formation of an advisory body on health problems having a common interest.

The President, Dr. Robert A. Lyster, said the subject of unification was one of the most practical things to which they could give attention. If they did not consider it, or failed to come to such a decision that they could give as a lead to politicians, they would have a great deal of trouble in the future. Colonel Fremantle had realised the difficulties of persuading central departments to give up some of their existing spheres of activity, and had suggested a solution in the creation of another body. It was a tempting way out of the difficulty, but he was afraid that it was doubtful whether the politicians of to-day would agree to it. He agreed with Dr. Kenwood that the formation of a central body would have a very questionable value, but it was worth considering if it would achieve some degree of unification. With regard to Sir Arthur Legge's explanation of the position, the President said he was fairly convinced on certain points before entering that room, but the tangles that Sir Arthur had drawn on the board seemed to show how necessary it was to get rid of the present state of affairs, and as people who were handling most of the threads, the members of the Society ought to be able to offer a solution. Medical Officers of Health of wide experience or who dealt with large areas were the people to suggest a way out, because they were not concerned particularly with some of the matters, and could view the whole problem of health from a distance and get a better perspective than anybody. They saw a tremendous waste of money and effort, and also a lot of work to be done and obstacles in the way of getting at it. The President suggested certain unifications of urgent importance: first, the unification of the education medical service with the general public health work of the district, a subject on which they had had a discussion recently. To try to take one period of life and let that period be dealt with separately from the health point of view was an absurdity, and there was overwhelming evidence of the need of unification in that direction. Another thing for which they should strive was the absorption

similarly of the subject of health in workshops into the general health work. That would have to come if they were to get a business-like scheme in operation locally. Then there was the question of the poor law. If they were to have a good health service, the poor law must go, and it was to be hoped that the problem would be tackled by the present Government. Insurance work was nominally associated with the Ministry of Health but at the present time was a water-tight compartment. The old Local Government Board was composed of two parts, health and poor law; the Ministry of Health had three, health, poor law and insurance. Lastly, there was waste of effort, organisation and medical material as a result of the work of the Ministry of Pensions. Much saving could be effected if the work, which would sooner or later cease, were done in another way. The President hoped that expressions of opinion would be forthcoming from other members present.

Dr. H. W. Harding (M.O.H., Edmonton) drew attention to a recent circular of the Ministry of Health on the Training of Midwives, and said he was glad to note that the Ministry had come into its own and taken over that function. He thought that many of the things so much desired would come in due time, and that the next generation would probably benefit from the efforts which were being made by the Society at the present time in regard to unification of health activities.

Dr. T. S. McIntosh (Hendon) also expressed the view that the health functions of the Board of Education should be transferred to the Ministry of Health. Medical examination and treatment of school children ought not to be regarded as a part of education, but should be dealt with as a branch of the public health work of the country. The fact that it took place in connection with the school was merely an incident, and he had succeeded in getting that principle recognised locally in his district. His council had been persuaded to regard all maternity and child welfare, and school work as part of one whole, and had referred all those matters to a joint committee composed partly of the Council and partly of the Education Committee. Dr. McIntosh thought they could have local unification without even waiting for central unification. While he felt they were agreed that all health activities, including sanitation, child welfare, tuberculosis, school medical work, venereal diseases, factories, poor law work, and national health insurance, should be administered by one medical head and, if possible, by one local authority, the great difficulty

was to define the local authority. Personally, he did not see any prospect of the country being remapped from the point of view of local government in such a way as to arrange for areas to provide all their own health services. They had to look forward for years to local health administration being carried out by County, County Borough and District Councils, but should try to devise a satisfactory scheme for the distribution of functions as between those authorities. What he had in mind was that the County Councils should be regarded largely as bodies for providing institutional accommodation, a problem that could only be tackled satisfactorily in areas embracing very large populations. Even a fairly large borough or urban district of 70,000 inhabitants could not deal properly with the provision of institutional treatment involving, for example, orthopaedic schemes and such like. Dr. McIntosh desired to suggest tentatively that the County Councils should provide all the larger institutions and should co-operate with the County Borough Councils in that direction. When it came to other matters, there were certain services, the provision of dispensary treatment of tuberculosis for instance, which could quite well be carried out by fairly large urban districts or boroughs. In the case of those small urban and rural districts that could not really provide satisfactory services at all he would give the County Councils executive functions in those areas.

Dr. E. Colston Williams (County M.O.H., Glamorganshire) held that for the members of the Society to discuss what should be the problems of central government was a sheer waste of time, unless there was something which was wrong and should be righted. If they looked ahead for their own branch of the profession they would find an interesting melting-pot time and the need for a decision as to whether they should be medical administrators of a very different type. On considering their activities it would probably be found that they needed purging of some of their dross. Referring to the supervision of meat, Dr. Williams asked why the work was not taken out of their province and put on proper lines. Then again, the activities of many sanitary authorities were largely concerned with nuisances and the service of notices. Sanitary engineering had now reached a pitch when that work should be dealt with by the Department of the Engineer and Surveyor. On the other hand, for example, except for the diagnosis and classification of mental cases, the medical officer of

health had no medical function. It was just as well to come home and see how things lay in one's own particular province. If they were to deal with preventive medicine let them do so and cut off the excrescences. It was necessary to bring a little heart searching to those personal problems and to try to get a little outside themselves occasionally.

Society of Medical Officers of Health.

ORDINARY MEETING.

An Ordinary Meeting was held at the house of the Society on Friday, April 24th, 1925. The President (Dr. R. A. Lyster) in the chair.

The minutes of the last meeting having been approved and signed, the following candidates were elected to the Society.

As Fellows:

Brincker, John Augustus Herman, B.A., M.B., B.C. Cantab., D.P.H.; Brown, Reginald, M.R.C.S., L.R.C.P.; Cheater, George William, M.B., B.S. Lond., M.R.C.S., L.R.C.P., D.P.H.; Cushing, Robert Jones Whittle Alexander, M.A., M.B., B.Ch., Oxon.; Halliday, Hilda Mary, M.R.C.S., L.R.C.P., D.P.H.; Hills, Wm. Charles Dillon, M.R.C.S., L.R.C.P., D.P.H.; Proudfoot, Margaret Mary, M.B., Ch.B. Edin., D.P.H.; Purdy, John Smith, D.S.O., M.D., C.M. Aberd., D.P.H.; Ross, John Macdonald, M.B., Ch.B., Ed., D.P.H.

As Associate:

Cook, R. E., L.D.S. Eng.

A number of nominations were received for the next election.

A discussion on "Public Health on the Continent" was opened by Dr. J. J. Paterson, Dr. T. S. McIntosh and Dr. F. T. H. Wood, and a contribution was read from Dr. A. T. Nankivell, who was unavoidably absent.

A report of the discussion will be published in "Public Health."

The meeting then adjourned.

NORTH-WESTERN BRANCH.

A meeting of the Branch was held at Fazakerley Hospital, Liverpool, on Friday, May 8th, 1925. Dr. Joseph Beard (President) was in the chair. There were present 32 members and several visitors.

The minutes of the last meeting were read and confirmed.

A resolution referred by the Council of the Society to the Branches:

"That in view of the decision arrived at by the Committee, and confirmed by the Council of the Society, in August, 1923 (*Public Health*, September, 1923, page 343), the repeal of Section 12 of the Midwives' Act. of 1918

should not be recommended, and that no useful purpose is likely to be served by re-opening the discussion." was considered.

It was first moved that "having regard to the irreconcilable views of the large sections of the Society on this matter it was not a subject on which the Society as a whole should express an opinion," but later this was withdrawn and it was resolved:—

"That a Sub-Committee consisting of three County M.O.H.'s and three Borough M.O.H.'s be formed to consider the position, and report to an early meeting of the Branch."

The following Sub-Committee was appointed: Drs. Butterworth, Wheatley, Meredith Young, Talent, Beggs and Spence. Dr. Talent offered to act as convener.

After the business of the meeting Dr. C. Rundle, O.B.E., gave a most interesting demonstration on "Artificial Light Treatment." It was pointed out that there were two classes of apparatus in use—the arc lamp and the mercury vapour lamp—the arc lamps again being of three types, pure carbon, tungsten and iron core.

The carbon light approximates more to sunlight than the mercury lamp although not so rich in ultra violet rays.

The apparatus in use at Fazakerley consists of two carbon arc lamps purchased in Copenhagen, which together with the motor transformer necessary in this case, cost approximately £400.

Exposures to the light as a rule were of 10 minutes' duration at the outset increased gradually to an hour.

A most interesting series of cases undergoing the treatment were shown by Dr. Rundle and by Mr. Morison, the Surgeon for the orthopaedic cases. In many gland and point cases especially with superficial lesions great improvement had followed the exposures.

A case of Rheumatoid Arthritis of old standing with great crippling had, after treatment, received such benefit that the patient was now able to work in the grounds scything grass.

Cases of laryngeal Tuberculosis too were markedly improved in at least two cases in a series of five.

Dr. Rundle pointed out that he did not think that there was any relationship between the amount of erythema produced and the therapeutic value of an exposure. The use of the lamp was contra indicated in cases of Pulmonary Tuberculosis, and also for treating old deep sinuses which after exposure appear to heal on the surface, an abscess forming at the bottom of the sinus.

Many questions on various aspects were put, and Dr. Rogers who had been specialising in this work for some time also gave his views on the subject. It appeared that this work is still in an experimental stage.

There are many forms of apparatus on the market ranging in price from about £30 upwards and there is much difference of opinion as to the best form to use. The results so far achieved, however, certainly warrant a further and more general extension of the work in this country. After the demonstration an excellent tea was provided.

A hearty vote of thanks was accorded to Dr. Rundle by the members present on the proposition of the President (Dr. Beard).

METROPOLITAN BRANCH.

A meeting of the Branch, attended by the President and eighteen members, was held at the House of the Society on Friday, 8th May, Dr. Charles Porter occupying the chair.

The minutes of the meeting of 3rd April were taken as read and signed by the Chairman.

Sympathetic reference was made to the death of Dr. Reginald Dudfield and the Branch approved of the action of the Honorary Secretary in having sent an appropriate letter to Mrs. Dudfield.

Consideration was given to a communication from the Metropolitan Grocers', Provision Dealers' and Oilman's Association, requesting the Branch to receive a deputation of its members for the purpose of discussing the Public Health (Meat) Regulations, 1924, and it was decided to accede to this request.

The Branch gave consideration to the fixing of a date on which to hold the Annual Meeting and Friday, June 19th, was decided upon for this purpose.

In view of the impending absence abroad of the Honorary Secretary, the Branch considered the matter of the appointment of a deputy and unanimously agreed to the proposal that Dr. A. Middleton Hewat be asked to serve in this capacity.

After disposal of certain other items of business of minor importance, the Branch proceeded, at the further invitation of the Metropolitan Asylums Board, on a visit of inspection of Queen Mary's Hospital for Children, Carshalton.

Dr. Pugh, the Medical Superintendent, and his assistant medical officer conducted the party through the various wards, where were seen many cases of chronic poliomyelitis. Great

interest was taken by the members in these cases, having regard particularly to the arrangements recently made by the Board, in co-operation with other public health authorities, for the extension of the facilities for prolonged orthopaedic treatment of the late and more chronic stages of this disease, with a view to preventing or limiting permanent crippling and physical deformity.

Cases of non-pulmonary tuberculosis were also seen and the application of ultra-violet rays in the treatment of these patients was interestingly discussed by the members.

The Hospital's workshop was also visited and excellent devices for use in cases of spinal and hip disease were demonstrated.

After lunch, which was very kindly provided by the Board, the Reverend Canon Curtis, Chairman of that body's Children's Committee, extended a very hearty welcome to the Branch.

Dr. Charles Porter, in reply, expressed warm appreciation of the courtesy of the Board in enabling Metropolitan Medical Officers of Health to obtain first hand knowledge of the fine work which is being performed at the hospitals under the control of that authority and said that the extent of the activities of these institutions had not hitherto been fully realised by the members of the Branch and certainly the general public could never adequately appreciate the great efforts made for their benefit.

In conclusion, Dr. Porter tendered the thanks of the Branch to the Board and its officers for the efforts made to blend in the best manner possible a pleasant outing with an excellent demonstration of a splendidly equipped and conducted hospital.

The day's programme having been completed, the Board kindly conveyed the members back to Town.

HOME COUNTIES BRANCH.

The Eighth Meeting of the session 1924-25 of this Branch was held at the house of the Society on Friday, May 1st, 1925, at 3.30 p.m.

The minutes of the previous meeting were read and approved.

An apology for absence was received from Dr. McMaster, the Medical Officer of Health for Dover.

The Secretary reported that the provisional arrangements to hold an extra meeting of the branch at Reigate on the 22nd May could not now be proceeded with. There was a short discussion as to the arrangements for holding the

Annual Meeting, at which the President expressed his regret he would be unable to be present. It was agreed that the arrangements for the Annual Meeting or for holding an additional meeting in the County of Surrey should be left in the hands of the Secretary.

Dr. H. M. Cameron Macaulay then read his paper on "The Destruction of Tubercle Bacilli in Milk by Pasteurization."

In the course of his remarks Dr. Macaulay suggested that the present unsatisfactory state of the milk supply of this country is directly responsible for a vast amount of tuberculosis among our young population. He thought that until such time as the universal establishment of tubercle free herds is adopted, pasteurization is the best remedy we possess for this condition of affairs. Dr. Macaulay went on to say that in a series of experiments conducted by himself he introduced living tubercle bacilli into the "holder" of a modern pasteurizing plant, during the normal daily working of the apparatus, and found that in every case such bacilli were destroyed the test of destruction being the inability to produce tuberculous lesions in a guinea pig. He expressed the opinion that both the human and the bovine variety of tubercle bacilli in milk are destroyed by pasteurisation in thirty minutes at a temperature of 145-150° F., and pointed out that as a practical point, it is important that licensing authorities under the Milk (Special Designations) Order, 1923, should satisfy themselves that there is a minimum of frothing in the "holder" of the pasteurizing apparatus.

A discussion followed in which Dr. Orr, Dr. Buchan, the President, and others took part. Dr. Macaulay was heartily thanked for his very interesting and instructive paper.

The Secretary read a letter from the Secretary of the Metropolitan Branch in which it was stated that the Metropolitan Branch would support the nomination of Dr. George F. Buchan for the Presidency of the Society.

The Secretary further reported the receipt of a letter from the Executive Secretary in reference to the administration of the Midwives' Acts. The Branch decided that the letter should be placed on the agenda for discussion at the next meeting.

A lengthy discussion on the administration of the Public Health (Meat) Regulations, 1924, followed. The principal feature of the discussion was whether it should be a requirement that butchers should provide glass fronts for their shops. It was unofficially stated that the

Ministry had expressed the opinion that such a requirement could not be universally enforced.

On the motion of Dr. Buchan, seconded by Dr. Orr, it was agreed that this branch is of the opinion that glass fronts should be provided in all cases.

In view of the reported expression of opinion by the Ministry, however, it was further resolved that the Council should seek an interview with the Ministry in regard to the interpretation of the Regulations.

Dr. Sanders (who had taken the chair after Dr. Greenwood had been called away) then invited comments on the Memorandum on the Duties of a Medical Officer of Health. A short discussion followed, after which the meeting terminated.

YORKSHIRE BRANCH.

An ordinary meeting of the Branch was held at the Education Offices, Leeds, on Friday, April 24th, at 3 p.m.

Present: The President (Dr. J. Mair) in the chair, Drs. Jervis, Moore, Wear, C. L. Williams, Scatterty, Gibson, Pearce, E. J. Howie, Belam, Fraser, Hebblethwaite, and Dunne.

Apologies for absence were received from Drs. Linton and Daley. The resignation of Dr. O. M. Holden as a member of the Branch was received with regret.

A letter was read from Dr. James Fenton, Honorary Secretary of the Metropolitan Branch of the Society of Medical Officers of Health, stating the Metropolitan Branch of the Society of Medical Officers of Health, stating the Metropolitan Branch have decided to support the nomination of Dr. George F. Buchan for the presidency of the Society for the forthcoming session.

The President drew attention to the loss sustained by the Yorkshire Branch through the death of Dr. R. F. Castle, for many years the part time Medical Officer of Health for the Urban District of Darfield. The Honorary Secretary was requested to send a letter to the relatives of the late Dr. Castle conveying to them the sympathy of his colleagues. The President reported that he had recently received a visit at his office from a lady who informed him that she had been recently appointed a School Medical Inspector under the Education Committee of the West Riding of Yorkshire County Council. She desired that Dr. Mair should afford her facilities for acquiring information respecting the performance of the duties of a School Medical Inspector.

The President stated that he had regretfully informed this lady that it was not possible for him to accede to her request. The members were aware of the fact that for some time these particular appointments appeared in the "British Medical Journal" under the heading of warning notices and were interested to find that whilst the salaries proposed were below the scale approved by the British Medical Association and Society of Medical Officers of Health a candidate accepting such an appointment should expect facilities to be afforded her by a member of the Society in order that she would be able to obtain some knowledge of the duties a School Medical Inspector is called upon to perform.

Dr. Cecil Williams opened a discussion on the Board of Education's Special Services Regulations, 1925. In his view (1) Children under five should have a medical certificate before admission to school. (2) Scholars leaving school should be furnished with a medical certificate. (3) Records of scholars leaving school should not be transferred to other schools on the ground that it does away with the privacy of the records of examination. If done this should only be with the permission of the parents or guardians of such scholars. Dr. Williams also dealt with the School Medical Officer's relationship to the mental and physical progress of scholars who received free meals. In his opinion such relationship should be abolished. He also expressed strong objection to the requirement making it obligatory for the School Medical Officer to consult the Head Teacher on the condition of a child about to be transferred from an elementary school to a special school for defectives. The President was of opinion children should be examined before admission to school which would be specially helpful respecting ringworm and verminous conditions. He thought the school entry age should be raised. Dr. Scatterty was Dr. Dunne spoke in general agreement.

Dr. Wear saw no necessity to object to the transfer of records in sealed envelopes. He was of opinion that progress of scholars respecting free meals was a medical matter. Dr. Fraser, School Medical Officer, Hull, pointed out the School Medical Officer does not certify a child's suitability but unsuitability. He drew attention to the Board's change of middle age, eight to nine to seven to eight, hence breaking the continuity. It was a long period from seven or eight to twelve or thirteen. In the case of scholars lately admitted, the examination gap might be as low as one year or as high as seven years. He

was not in agreement with Section 24, Article 3 and Section 26, Article 4. Dr. Gibson thought M. and C.W. records should be transferred to school on entry if not already done. In his view the duties of a School Medical Officer were somewhat vague at present and should be better defined. In his opinion also it was very unfortunate the Board of Education had again changed the intermediate age for examination. Dr. Belam objected to the alteration of age in the intermediate group. Dr. Moore discussed free meals in their relationship to height, weight, and haemoglobin. He would exclude all children from school until seven. Out of 316 so-called dull and backward scholars examined by him he found their inherent capacity normal, but owing to being driven into school the mentality was adversely affected. He stated that he always takes into consideration the report of Head Teachers for what it is worth before examining and certifying a scholar. Dr. Jervis thought the tendency is to have children in school at 3 or even 2 years of age and instanced the establishment of Nursery Schools. He wondered who is to give the proposed certificate to a scholar on leaving school, is it to be the School Medical Officer, a general practitioner, or the Certifying Factory Surgeon? Dr. Williams replied and it was decided to adjourn the discussion to a future date at such time as to make it possible for those engaged in the School Medical Service to attend. Dr. Williams then drew attention to the conditions under which certificates should be given under Section 8 of the Memorandum on "Closure of and Exclusion from School." Dr. Moore emphasized that a school is the wrong place for a sick child. Dr. Dunne asked for information respecting school closure where the Medical Officer of Health is not the School Medical Officer, and was advised that the School Medical Officer for the area was the official concerned and that he was the person to take whatever action might be necessary under the Memorandum.

Dr. Wear, C.M.G., read a paper on the Board of Education's Circular 1353, 1925, respecting the "Teaching of Infant Care and Management to School Girls," which has been forwarded to the Editor of "Public Health" for publication. This paper aroused general discussion. The feeling was unanimous that instruction in mothercraft should be invariably given by a member of the Public Health Staff. Dr. Elenora J. Howie said in her view it was important to get the girls at an impressionable age and before they were caught up in the whirl of outside things. One

point in having the lessons in school as opposed to centres is that it emphasizes the fact that proper scientific care of babies is compatible with higher education. Many girls are apt to think that marriage is the job for the less intelligent and that mothercraft does not require method and brains.

Reviews.

A TEXT-BOOK OF PATHOLOGY, General and Special, for the Use of Students and Practitioners, by J. MARTIN BEATTIE, M.A. (N.Z.), M.D. (Edin.), M.R.C.S., L.R.C.P. (Lond.) and W. E. CARNEGIE DICKSON, M.D., B.Sc., F.R.C.P. (Edin.). Third Edition. London: William Heineman (Medical Books), Limited, 1925. Pp. 1,103; Price 42s. net.

The continued popularity of this well-known text-book, now in its eighth impression, bespeaks its worth and value. Since its first appearance in 1908 it has received a warm welcome, both from teacher and from student alike, in all corners of the world, wherever indeed our mother tongue is spoken. Based primarily on the late Professor Greenfield's lectures in the University of Edinburgh, written by two of his ablest pupils, than whom there could be no better exponents of the subject, the book adds still more to the debt of gratitude the world owes to Scotland.

Human Pathology is, and will continue to be, an intensely fascinating branch of Medicine, and it possesses this attractiveness by reason of the fact that it provides a common meeting ground for a diversity of medical and scientific interests. The modern medical student is at the beginning of his career nurtured on chemistry, physics and biology. From these he passes to physiology and anatomy, thence to pathology, and so on to clinical medicine and surgery. He may be apt to consider his experience in these matters as representing so many indigestible meals, and it may only be in later years that he realises the full significance of the sequence and the character of the progression by which his whole capacity and effectiveness as an individual are built up. The sister sciences which contribute to the training of the medical student are just those which have gone and which still do go to the building up of human pathology. The unity of medical science is to be appreciated more in human pathology than in any of the other branches of medicine. The chemist, the physicist, the biologist and the anatomist of yore have all contributed to its beginnings. They did the spinning of the threads, as do their descendants now. It is for

the pathologist to weave the fabric. It is not always easy to discern how much the sister sciences have helped medicine until one looks on this fabric and sees therein the juxtaposition of so many coloured threads. Nor it is to be wondered at that such wholesale and full-hearted help should result in the fashioning of such an attractive and pleasing structure.

After his graduand days are over, the student as a rule discards the cram books which have helped him to face the inquisition of examiners, for these books seldom attain the position of real friends. It is a real test of interest that he should retain his text-book of pathology—as he often does—and take it as companion in his wanderings, much in the same way as he will retain a favourite pipe or fishing rod. We have known a harassed and busy practitioner, an old Edinburgh student, in a moment of leisure, take down Beattie and Dickson from his bookshelves for the sheer joy of browsing over its pages. Again, human pathology is the food on which clinicians are reared. For surely it happens that the best clinician, be he physician or surgeon, is he who sees his clinical problems through pathological spectacles, and who seeks profit to his soul by taking to heart the salutary revelations of the microscope or of the postmortem room.

And if pathology plays a part in the life of the general practitioner and of the specialist, how does it affect the outlook of those of us who are engaged in Public Health? The diagnosis of ailments in school children, *e.g.*, the after effects of lethargic encephalitis, may be determined on clinical grounds alone, but these are surely based on the evidence produced by pathologists as to the cerebral lesions which the virus produces. The finding of a cretin must just as surely be associated in the mind of a school medical officer with the pathological explanation of the clinical picture. In the diagnosis of diphtheria, the investigation of a meat-poisoning outbreak, the examination of a sputum for tubercle or of a water for *B. coli*, the medical officer of health has recourse to a trained bacteriologist who is no other than a pathologist. For is not bacteriology the grown-up child of pathology? The finding of tubercle bacilli in milk is not unconnected with a realisation of the state of the cow's udder and also of the effects which a tubercle-containing milk is capable of producing in children. The suspicion of anthrax in shaving brushes must recall to him the clinical and morbid picture of the disease as it affects man.

Yet, when we give to pathology its due mead of praise, when we express our indebtedness to it

in terms that are deservedly unstinted, there remains to those of us who would fossick deeper into the heart of things the question—Why so far and yet no further? For instance, the pathologist will give us differentiation of anaemias but can he yet tell us what is the cause of pernicious anaemia or of leukaemia? Or again, he will codify the types of kidney disease according to their microscopic appearances, but he can not state what gives origin to any one of the more commonly occurring forms of nephritis in man. Arterio-sclerosis is asserted to be due to a variety of causes, but may these not be contributory secondary causes rather than actual primary causes? With the exception perhaps of scarlet fever, the pathologist is unable to give us any information in respect of the aetiology of the common eruptive fevers. These and many other points are worth serious consideration, and they are here introduced as being provocative of reflection. It may be that the pathologist is fettered by conventions of his own forging. Has he been too fond of the post-mortem room? Would it not be better for him to forsake this dingy medieval torch and to seek other lights of greater brilliance?

He is already doing this. If modern tendencies are indicative of the direction in which progress is to be sought, then there already appear a number of paths by which we may attain a solution of many of our present-day difficulties. The only tissue which can be removed with comfort from the living human individual is blood. It is not long since the microscopic examination of a stained blood smear, the estimation of haemoglobin content, or the detection of an agglutinin represented the sum total of the pathologist's aspirations in this direction. Yet, now, how very different he finds the dark ground illumination picture of a blood cell to be. He has, too, the opportunity of living tissue culture, a method which in years to come may yield treasure of untold worth. The estimation of calcium or of sugar in blood are part of his ordinary daily routine.

Again, we are as yet only on the threshold of our knowledge in respect of the antibodies present in adult human blood. Why are most adults immune to the zymotic diseases of childhood? Many of them acquire an immunity without actually suffering from the disease in any recognisable clinical form. It should not be beyond the capability of the pathologist to show that protection depends on the existence of a specific antibody. And if the presence of an antibody is to be taken as confirmatory of the existence of protection,

then susceptibility is to be accounted for by the absence of this same substance. At the moment we are accustomed to look for a positive finding to help us in the diagnosis of disease, *e.g.*, an agglutinin in typhoid and a complement—fixing body in syphilis. The future may show that a negative finding in disease is of still greater diagnostic moment. In other words it may be necessary to pay greater heed to the absence of something than to its actual presence. Immunisation against typhoid by vaccination, protection from tetanus by tetanus antitoxin are striking examples in treatment of the provision of something that is missing. These are, indeed, first-rate instances of the march of medicine from therapeutics to prophylaxis.

In this sense human pathology of the future will be a pathology of the living. The pathologist will turn his back on the dead-house and will reach out to a newer and a fuller life in which the pipette will take the place of the microtome. It were idle to envisage such an era were we not prepared to help it come.

MANSON'S TROPICAL DISEASES. 8th Edition.
Edited by P. H. MANSON-BAHR, D.S.O.,
M.D. London: Cassells. 31s. 6d. net.

In no branch of medicine has greater progress been made than in tropical medicine. Happy is the man with a taste for adventure who takes up this as his subject. He need never weep for worlds to conquer. They are waiting, ready and armed, for his attack. One by one the diseases of the tropics are falling before the assault of the microscope, and to no great captain is greater honour due than to the late Sir Patrick Manson.

A new edition of his well-known text-book "Tropical Medicine" has recently been issued, re-edited by Dr. P. Manson-Bahr. The fact that this book has run into eight editions since first published in 1898 is alone sufficient to establish its value.

Those who face the East for the first time soon realise that what they learned of medicine in England will stand them in very little stead. The splendour of the tropics soon wears off, and gives place to tragedy, and that tragedy is disease. At Wembley last year, considerable space was given to Tropical Medicine, as many visitors there will remember. It was held that the country should realise that the Empire owes much of its present strength to the work of the doctors. Without them, many of our colonies would have lain stagnant and undeveloped. Some might even have

been abandoned as too costly in human life to justify being held.

Manson's Tropical Medicine was one of the first books dealing with this as a special subject. It has grown considerably, but in spite of a vast amount of detailed knowledge, it is still of comfortable size, in fact this edition is some seventy pages shorter than the last. Well-bound, well printed, well-indexed and with many beautiful coloured plates, it is a book which it is a delight to handle. The new edition has been brought up-to-date and whole sections have been entirely re-written. Several diseases formerly placed in a general category, have been transferred to the sections to which they are now known to belong. There are ninety-four new illustrations and four skeleton maps showing the geographical distributions of various diseases.

Many doctors in this country are liable to come in touch with tropical disease. For such there could be no better work of reference. Quinine is a useful drug, but it is no longer the panacea for all tropical conditions. A short perusal of this book will make many realise how ignorant they are of diseases which are so often overlooked in this country, diseases which they may be called upon to diagnose and treat at any moment.

To the young man going abroad, a marshal's baton in the knapsack may be useful, but a Manson's text-book in the suitcase is essential.

REPORTS ON MENTALLY DEFECTIVE CHILDREN.
Board of Education Circular 1359, dated
April 23rd, 1925.

The shower of circulars to Local Education Authorities emanating from the Medical Branch of the Board of Education is assuming almost the form of a pyrotechnic display. We regret to think that the unusual activity of late may not be unconnected with the impending departure of Mr. A. H. Wood, the Secretary of the Branch.

Circular 1359, dated April 23rd, 1925, covers a new edition of Form 306M, better known perhaps, as Schedule F, the form of report to be used in connexion with the examination of mentally defective children. Schedule F originally appeared like the European War in August, 1914, and was generally accepted as one of the minor horrors of the period. In 1921 Form 306M took the place of Schedule F and considerable relief experienced by certifying officers although many still considered the form over-long.

The present revision of Form 306M occupies four foolscap pages in lieu of the two pages of the 1921 issue, but a close comparison shows that the lengthening is apparent rather than real and in fact the new edition is more conveniently arranged than the old one. It seems a great pity that means could not have been found still further to shorten the form. The Circular states, however, that the Board do not consider that it is just to the child that a decision should be taken on any less exhaustive examination. Much of the information may be collected by other officers than the certifying officer, alternative forms will be accepted and further it is not suggested that every question on the form need be answered in every case.

A caution is given that there are cases which can only legally be notified by the Education Committee to the Mental Deficiency Committee after reference to the Board. It is necessary to emphasise this point as irregularities in this respect on the part of Local Authorities have been brought to light.

The Board also lays it down that, in their opinion, only in the very rarest circumstances would it be right to certify a child as a moral imbecile. Other opinions will no doubt be held on this point.

DEPENDENCY, ORPHANHOOD AND FERTILITY: From
the Registrar-General's Census Report.
London: H.M. Stationery Office. (Price 30s.)

This further Census Report consists of some 252 pages of tables. 230 pages out of the total are concerned with the "dependency" statistics, *viz.*, particulars of the numbers and sizes, *etc.*, of families of children under sixteen years of age. These statistics distinguish between the families of married men, widowers and widows; and the several tables show the numbers of families under each head, classified by the age of the parent, the size of the family and the age of the youngest child. They show also the total children at each age with distinction of the occupations of the fathers and in some cases of geographical regions and countries. The number of families of married men dealt with is nearly $7\frac{1}{2}$ millions, of widowers, over 600,000 and of widows, over $1\frac{1}{2}$ millions. The average number of children per family is shown for parents at each year of age.

The orphanhood tables occupy 10 pages and show for each year of age up to 15 the number of children who have lost father, mother or both parents. This information is shown for the country as a whole and for certain large geographical areas, while similar information with less detail as to age is given for each county.

Tables relating to fertility, that is, the probability of a child being born within a year, occupy 12 pages and are set out for married men and married women separately in relation to the age of the parent and the size of the existing family, while less detailed information is given in respect to each county and to men in certain groups of occupation.

The volume also contains tables showing the numbers of married couples of various ages, while the nature of the census inquiry and certain considerations affecting the interpretation of the results are dealt with in a short preface.

From these tables emerges the interesting fact that in respect of the youngest husbands or wives it is nearly an even chance that a child will be born in any year but that this chance very rapidly diminishes as the parents get older. A somewhat curious feature exhibited by the tables is that the larger the family the greater is the chance that a further child will be added to it.

Of the $7\frac{1}{2}$ million families of married men and married women of all ages, about 43% or nearly $3\frac{1}{4}$ millions contained, according to the returns, no children at all under 16 years of age; in 23% there was one child only, in 15% there were two children, while families of 3 or more children under 16 comprised only 19% of all families. The average number of "dependent" children per married man or per married woman was 1.27 in the aggregate; the average varies, however, with the age of the parent, beginning at zero with the very youngest husband and rising steadily and progressively to a maximum of 2.18 children in the case of married men of 39-40. This age would appear to indicate the period of greatest strain in respect of dependents, for thereafter, through mortality or through the children passing out of the dependency period, the average number of dependent children decreases steadily with the ageing of the parents.

In regard to occupational distinction, miners are shown to have the largest families—about 43% above the average—followed by makers of coke, lime and cement; at the other extreme come the professional workers, whose families are 29% below average, clerical workers generally and those engaged in the textile trades.

Correspondence.

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

REGINALD DUDFIELD.

Dear Sir,—I think that the record of my respected friends' career in your last month's issue was incomplete in so far as no reference was made to one very great service he performed for the benefit of Medical Officers of Health in general and their Society in particular.

I believe it was in 1909 that a Special Committee of the Society's Council was formed to create a new set of "Articles of Association" for the Society's adoption. This Committee consisted of nine members and included myself and Dudfield, so I can readily testify to the time and labour he devoted to this important work, as chairman.

Just a personal note. A mental picture of "Reggie" must include a perfectly glossy top hat, a monocle and a pair of spats: without these, no picture of my departed friend could be recognised as genuine.

On one point I must confess we were never agreed for I have always been (as my old colleagues on the Council will remember) an earnest advocate of so-called "trade union" methods, where likely to improve the pay and prospects of the Public Health Service.

I am, yours faithfully,

SIDNEY C. LAWRENCE,
late M.O.H. and S.M.O. of
Edmonton, London.

May, 17th, 1925.

DISINFECTION.

Sir,—A debt of gratitude is due, I think, to Dr. Wheatley for his able exposition on disinfection in your last issue. I fully agree with its conclusions, and perhaps may be permitted to add the following summary:—

1.—Smallpox and open Tuberculosis are the two infectious diseases par excellence in which as complete disinfection as possible should be carried out of both fomites and premises.

2.—Typhus, Relapsing and Trench Fevers, being spread through the intermediary of lice require not merely disinfection, but de-lousing of patients and contacts and disinfestation of premises.

3.—In the Typho-dysenteric group, apart from the disinfection of excreta and fomites, and the taking of necessary precautions with regard more

particularly to certain articles of diet, disinfection of rooms, apart from general cleanliness, does not appear to be of much, if any, practical use.

4.—A fourth group includes the great majority of our common infectious diseases, such as Scarlet Fever, Chicken-pox, Cerebro-spinal Fever, etc., where the need for home disinfection lacks support mainly for the following reasons:—

These diseases are spread by carriers and their causative germs either do not so far as we know exist for any appreciable length of time apart from the human host, or can only do so under particular laboratory conditions, although infection may be temporarily retained by recently soiled fomites as in Scarlet Fever, and any disinfection would appear to be necessarily limited to these articles as Dr. Wheatley points out.

Into the relative advantages of chemical disinfection and domestic cleanliness I do not propose to enter.

I am, etc.,

Yours faithfully,

K. SIMPSON,
Medical Officer of Health.

Barking,
15th May, 1925.

HOW QUACKS FLOURISH.

Sir,—I shall be grateful if you will kindly publish the enclosed correspondence. The vital point is that the Minister of Health and the Law Officers of the Crown have now presented a New Charter to the quacks, enabling them to sell *expensive remedies* instead of *cheap disinfectants* for the prevention of venereal disease. The Ministry has for years been claiming that by curing disease it is preventing it; it can therefore have no logical objection to quacks claiming that they are preventing disease when they are really selling supposed *curatives*. Of course, the quacks are not in business for the good of their health, but rather to exploit other people's actual or feared lack of health; therefore, they will naturally prefer to sell pills and capsules "worth a guinea a box," in preference to disinfecting lotion at a penny a bottle, or v.d. preventive ointment at a few pence per tube. The only way to stop the quacks is to authorize the sale of standard prophylactic outfits with suitable directions, and prohibit the sale of unauthorised medications. May I suggest that, The V.D. Act, 1917, having proved defective, Public Health Officers should unite in advocating the following:—

- (1) The abolition of The V.D. Act, 1917;
- (2) The setting up of a Royal Commission to enquire into the whole management of V.D.;
- (3) The bringing down of fresh legislation in accordance with the findings of The Trevethin Committee, and of the Royal Commission.

Yours faithfully,

ETTIE A. ROUT.

London, March 20th, 1925.

Ministry of Health,
Whitehall, S.W.1.
16th March, 1925.

101288/22.B.

Madam,—I am directed by the Minister of Health to state that Captain Elliot has forwarded to this Department your letter of the 28th February, with reference to the interpretation of the Venereal Disease Act, 1917.

In reply I am to draw attention to Section 1 of that Act, which prohibits any person other than a duly qualified medical practitioner from treating any person for venereal disease, prescribing any remedy therefor, and giving any advice in connection with the treatment thereof.

I am, Madam,

Your obedient servant,
F. SLATOR.

Miss ETTIE A. ROUT.

From ETTIE A. ROUT,
4, Brendon House, 8, Gt. Woodstock St.,
Nottingham Place, London, W.1.
March 17th, 1925.

To the SECRETARY,

Ministry of Health,
Whitehall, S.W.1.

Re 101288/22.B. The Venereal Disease Act, 1917.

Sir,—I have your letter of 16th inst. What Mr. Neville Chamberlain has said is—

"I asked the Law Officers whether anything in the Act prevents a chemist from selling disinfectants for the prevention of venereal disease where no written or printed instructions are affixed to or delivered with the disinfectant. The answer was brief and categorical—it was 'No.' I asked them again whether the second Sub-section of Section 2 permits a chemist to give verbal recommendations of simple preparations intended to be used or applied for the prevention of venereal disease, and the answer was 'Yes, provided that no written or printed paper or label accompanies the verbal recommendation. . . . ' To-day the chemist may verbally recommend such preparations for such purposes. What he may not do is give written or printed instructions, although he may give verbally such instructions to the customer. . . . I tell you these things to-day, and I tell them to you with intention. There is no reason why you should not make them known."

Now what the chemists and quacks are doing is selling *santal wood oil, soluble gelatine capsules*, marked thus:

"Soluble Gelatine Capsules,
containing pure
English Santal Wood Oil (5 minims).
Dose 2 or 3, three times a day.
To be kept cool and dry."

for the prevention of venereal disease. Of course, they are not "treating any person for venereal disease, prescribing any remedy therefor or giving any advice in connection with the treatment thereof." Therefore, your reply is quite irrelevant.

Manufacturers tell me that the sale of these capsules, etc., is steadily increasing, now that shopkeepers have found the V.D. Act gives them greater powers than they formerly believed. Shopkeepers have told me that they have many men in every week, who say, e.g., "I have been with a girl; I don't know that I have venereal disease, but I am afraid. What can you do for me?"

The shopkeeper replies that he can sell a box of *santal wood oil capsules for the prevention of venereal disease*, say at 5s. or 10s. a box. There are no written directions given excepting: "Dose 2 or 3, three times a day."

Query (1): Is this sale an offence under the V.D. Act? Some chemists sell the capsules without even the printed words quoted above regarding dosage, but they give verbal instructions to the same effect for the prevention of V.D.

Query (2): Is this sale an offence under the V.D. Act?

Note.—The chemists claim they do not know, and the customer does not know that V.D. is present; generally the customer denies that he has sexual disease, but says he is afraid of it. Hence the chemist claims that the most recent interpretation allows him to sell such "simple preparations," as Santal Wood Oil Capsules, for the prevention of disease—sell them at any price he thinks suitable, or any price he thinks a panicky customer will pay. Chemists tell me they have no desire to treat V.D., the Free Clinics have cut out the profits on that side of the business but these chemists are developing the sale of medicines, pills, capsules, ointments, etc., nominally, of course, as "Preventives," to a most alarming extent.

Chemists also tell me that they consider Mr. Chamberlain's statement:

"I am quite determined in my own mind that the Ministry of Health shall have nothing whatever to do with prescribing the composition of any remedies that may be made up, or give the instructions. I am going to keep the Ministry of Health quite outside that."

releases them from the necessity of working in co-operation with the Ministry of Health or consulting them in any way whatever; and also confers upon them the right of choice in the matter of V.D. preventives.

Query (3): Have chemists at present freedom of choice in the matter of choosing preparations for the prevention of venereal disease, without coming in conflict with the V.D. Act?

I shall be grateful for an early reply to these three queries. I am giving a public lecture in the course of next week and would like to quote your reply.

Yours faithfully,

ETTIE A. ROUT.

Ministry of Health,
Whitehall, S.W.1.
25th April, 1925.

Venereal Disease Act, 1917.

Madam,—With further reference to your letter of the 17th March, I am directed by the Minister of Health to say that the questions (1) and (2) in that letter could only be decided in a court of law, and the information contained in your letter will be brought to the notice of the police.

As regards question (3), I am to state that the Minister is advised that if it could be shown that a chemist had sold as a preventive against venereal diseases a preparation which is commonly in use as a remedy for one of those diseases, but which the medical profession universally agree has no effect whatsoever as a preventive, it might be held that he had committed an offence against the Venereal Disease Act, 1917. This is a question, however, which could only be determined by the Courts, and the Minister is unable to express any opinion upon it.

I am, Madam,
Your obedient servant,
F. SLATOR.

Miss ETTIE A. ROUT,
4, Brendon House,
8, Great Woodstock Street,
Nottingham Place, W.1.

4, Brendon House,
8, Great Woodstock Street,
Nottingham Place, London, W.1.

26th April, 1925.

Sir,—Regarding your letter of 25th inst., I note that the Minister of Health wishes to rely now on the courts and the police, rather than on "the best fountain-head . . . the Law Officers of the Crown." I am prepared to lay the necessary information before the police, so that the matter can be determined by the Courts, but before stimulating this undesirable publicity exposing the dangerous loopholes in the Act, I think it would be better to take steps to bring the whole matter before Parliament. This I am now doing.

Regarding the sale of "remedies" (or alleged remedies) as "preventives," clearly no such distinction as you imply can be maintained by the Ministry of Health, or established in a court of law. An aqueous solution of pot. permang., e.g., is used for preventive purposes as well as for curative purposes in gonorrhoea, and there are no doctors in the universe who will deny the efficacy of this solution, within limitations, for both purposes.

I suggest that the way out of the most immediate difficulties is for the Ministry to bring down a short Bill removing the word "PREVENTION" from Section 2 Sub-section (2). It is, I suggest, this one word "PREVENTION" which has wrecked the Act, medically and legally, and opened the door to the abuses which I have detailed in my previous letters. May I have the opinion of the Law Officers of the Crown on this point? I quite understand the Minister's own inability to express any useful opinion upon it.

I am, Sir,
Yours faithfully,
ETTIE A. ROUT.

The SECRETARY,
Ministry of Health,
Whitehall, S.W.1.
(No Reply.)

THE salary of Dr. John Allen as medical officer of health for Taunton has been increased from £760 to £800, and is now in accordance with the approved scale.

At a recent meeting of the Chester Town Council Dr. F. D. Ross-Keyt, at present assistant school medical officer under the Durham County Council, was appointed assistant medical officer of health of Chester.

Society of Medical Officers of Health.

NOTICES.

The British Medical Association is asking the Ministry of Health and the Paddington Council to reconsider the salary which should be paid to the new Medical Officer of Health of that borough. An advertisement has been issued offering a commencing salary of £1,000 per annum. Seeing that the population of Paddington is over 145,000 the commencing salary, according to the scale, should be £1,200. With increments of £50 in alternate years, the salary now offered would not reach the scale figure until eight years hence. No member of the Society of Medical Officers of Health should apply for this appointment until the salary has been revised in accordance with the scale.

School Medical Group.—The Annual General Meeting of this Group will be held at the house of the Society on Saturday, 6th June, at 3 p.m. Dr. A. C. Williams, Div. M.O., L.C.C., will read a paper on "Combined Defect," and officers will be elected for the Session 1925-26.

Tuberculosis Group.—The Annual General Meeting of this Group will be held at the house of the Society, on Tuesday, 7th July, at 5.15 p.m. The Group Representative will give an account of his work on the Council, and officers will be elected for the Session 1925-26.

Naval, Military and R.A.F. Hygiene Group. A meeting of this Group will be held on Thursday, July 2nd, at the R.A.M. College, Millbank, when a lecture, illustrated by lantern slides on the production of milk from cow to consumer, will be given by Mr. P. B. Tustin, of the United Dairies, Limited, after which tea will be served in the Officers' Mess. On Friday, July 3rd, a visit will be paid to some model farms to see the practical side of milk production. This is also being kindly arranged by Mr. Tustin. Further particulars as to hour, etc., will be notified as soon as possible.

Non-County M.O.H. Group.—The Annual General Meeting of this Group, for the election of officers, etc., will be held at Edinburgh during the Congress of the Royal Sanitary Institute.

Maternity and Child Welfare Group.—The Annual General Meeting of this Group will take place on Tuesday, July 7th, at 5.30 p.m., at Carnegie House, 117, Piccadilly. The subject for discussion will be: "Contraception and Contraceptive Methods—Should teaching be given at Infant Welfare Centres?" Nominations for Honorary Officers and Executive Committee should reach the Hon. Secretary not later than Monday, June 22nd. It is hoped to arrange a Dinner for the Group at the Florence Restaurant, Rupert Street, Leicester Square, for July 7th, at 8 p.m.; tickets 5s. All members of the Group wishing to attend should notify the Hon. Secretary (Dr. Stocks, 324, High Street, West Bromwich) not later than June 22nd.

Public Health

THE JOURNAL OF

The Society of Medical Officers of Health.

No. 10.

JULY, 1925.

VOL. XXXVIII.

Subscription price, 31s. 6d. per annum, post free
in advance. Single copies, 2s. 6d., post free.

CONTENTS.

EDITORIAL—

	PAGE
Education in Health	289
Recognition for the Public Health Service	290
The Thermal Death Point of the Tubercle Bacillus in Milk	291
Electricity in Milk Production	291
Mentally Defective Children	292
Meat Regulations	293
Health Administration in London	293
Visit of Latin-American Health Officers	295
R.A.M.C. Supplementary Reserve	296
The Neech Prize	296

An Investigation into Pasteurisation as a Means of Destroying Tubercle Bacilli in Milk (By H. M. Cameron Macaulay, M.D., B.Sc., B.S. (Lond.), D.P.H., Assistant Medical Officer of Health, Dover	297
The Control of Infectious Disease	301

SOCIETY OF MEDICAL OFFICERS OF HEALTH—

Council Meeting	310
Ordinary Meeting	312
Northern Branch	313
Home Counties Branch	314
Yorkshire Branch	314
Malayan Branch	315
School Medical Group	315

REVIEWS—

"Surgical Treatment of Pulmonary and Pleural Tuberculosis"	316
"Pemphigus Neonatorum"	317
Lamarck-Darwinism and Dental Disease	318

CORRESPONDENCE—

The Control of Infectious Diseases	318
The Trevethin V.D. Committee	319

NOTES—

R.M.A. Annual Meeting	320
---------------------------------	-----

Editorial.

EDUCATION IN HEALTH.

Many milestones have been passed by the British Public Health Service: many are yet to come. The milestones of School Inspection, Maternity and Child Welfare, Anti-tuberculosis and Anti-venereal schemes have been seen in the distance, slowly approached and finally passed within the memory of comparatively junior members of our Society. We now approach another milestone; that which will not be passed until we have in every area an active movement in progress for the instruction of the people in essential lessons regarding their health. The movement started imperceptibly almost a generation ago when the first Health Visitors were appointed, but though individual instruction of the people in their homes or at centres is a most valuable form of health education, yet it is not sufficient, and mass instruction and the creation of a "Health Conscience" in a community are also necessary.

It is to the discredit of the legislators of this country that although the need for health education has been recognised by Local Health Authorities and their advisors for years, and an admirable brochure on the subject has been issued officially by the Chief Medical Officer of the Ministry of Health, yet there is specific mention of general health education in only one Act of Parliament—The National Health Insurance Act of 1911—and the power given under that Act was rendered nugatory a few years later because the source of the income which was to provide for health education was swept away. The bringing up to date of our Public Health legislation is long overdue.

The lack of statutory authority to educate their people in health has deterred many authorities, particularly those whose accounts are subject to

audit by the District Auditor, from undertaking this development of Public Health work.

It is surprising, under the circumstances, how much has been done. As has happened very often before, enthusiastic volunteers led the way: lectures on how to maintain health were arranged by a "Health Society" in Edinburgh 40 years ago. During recent years, Societies, Associations, Leagues and Councils for the dissemination of information on health have sprung up apparently whenever two or three have been gathered together: all have meant well and a few have done sterling pioneer work. There has, however, been unfortunately, a tendency to work in water-tight compartments and to regard, as perhaps we all do, our pet subject as the only one of real importance. Medical Officers of Health are grateful to these Societies and have often turned to them when in need of leaflets, films, lectures or other weapon of publicity: but while still being grateful to them all, we think it would be preferable if there could be one and only one central body to which we could turn for assistance in publicity work: a central body which would either replace all the existing organisations or which would be in a position to direct their activities and co-ordinate their work. Such a central body might well be appointed by the Minister of Health and should contain strong representation of our Society. Apart from the work of the voluntary societies many of the larger health authorities are now striking out on their own account in active publicity work.

The Leeds Corporation, a year ago, demonstrated, in ocular form by means of an Exhibition, how the City Departments could help the citizens to preserve their health and what part the citizens themselves must play in the maintenance of their health.

The County of Durham and the City of Glasgow issue a health bulletin: the latest addition to this branch of Health Publicity is "The Temps" which defines itself as a "Monthly Magazine dealing with the Health activities of the Administrative County of Northumberland"; it is published by the Wooley Settlement, a Colony for the tuberculous and a sanatorium for the ex-tuberculous, and except for its title, which is deplorable, it is an excellent publication to which all our members might, with advantage, subscribe: the annual subscription is 3s. and the net sales have already reached 3,000 a month.

Many forward movements in Public Health have been forced through hostile legislative and administrative bodies only with great difficulty.

Health Education has the saving grace of comparative cheapness: the need for it only requires expression and it is at once realised and agreed to.

A deputation from our Society was received recently by Mr. Neville Chamberlain, the Minister of Health: the deputation urged:—

1. That it be a statutory obligation on Local Authorities to carry out Health Education in their areas.
2. That the Ministry of Health should pay grants to Local Authorities in respect of approved Health Education work, equal to 50% of the sanctioned expenditure.
3. That the Ministry of Health should set up a Central Advisory Committee on Health Education, which would act as a distributing depot for information and would arrange for the production of Health films, would get together Health Exhibitions, draft standard leaflets, etc.

The Minister was cordial in his manner: we may rest assured that we have his sympathy in our endeavours, and that at least our first suggestion will be adopted and put into effect during the next, if not the present, session of Parliament.

RECOGNITION FOR THE PUBLIC HEALTH SERVICE.

The Public Health Service so rarely receives any recognition from those in high places that the knighthood conferred on Dr. John Robertson, of Birmingham, on the occasion of the King's Birthday, has given very exceptional pleasure to his colleagues. It is unnecessary to say here how worthily the honour has been bestowed for Sir John Robertson has long been recognised as a leader in the field of Preventive Medicine and Health Administration. The record of his work as Medical Officer of Health at St. Helens, at Sheffield, and for the last twenty-two years at Birmingham, would serve to illustrate the whole story of the progress of sanitary science since he secured his first chief appointment in 1890. As Professor of Public Health first in the University of Sheffield, and later in Birmingham, Sir John has also been able to inspire the rising generation with his own ideals. In 1916 his colleagues elected him President of the Society of Medical Officers of Health, the highest honour in their gift, and they will rejoice that his services have now been brought to the notice of the King. Another honour that has given real pleasure to the Public Health Service is the C.B.E. conferred

on Dr. G. Paddock Bate, for many years Medical Officer of Health for Bethnal Green. Dr. Bate was President of the Society of Medical Officers of Health as far back as 1896, and he is now decorated for his services in connection with Industrial Hygiene. He combined with his public health appointment the office of Factory Surgeon, and in this dual capacity he was able to render conspicuous service in a borough which constitutes one of the great industrial centres of London.

THE THERMAL DEATH POINT OF THE TUBERCLE BACILLUS IN MILK.

The first requisite of a pure milk supply is that it shall be free from the bacillus of tuberculosis. To the student of preventive medicine this connotes the production of milk from a tubercle-free herd. Political exigencies and the lack of breadth of vision on the part of the general body of milk producers have, however, prevented the adoption of a comprehensive scheme of extermination of tuberculosis from the dairy stock of the country. Until that comprehensive scheme is put into operation and until at the same time better methods of production and distribution of milk become general the public must be protected to some extent by processes foreign to good preventive practice. In other words, the contaminated milk must be treated by heat to lessen or destroy the potency of any disease-producing contents which should never have gained admission. In this regard particular interest has centred round that form of pasteurisation known as the "positive holder" which has received the recognition of the legislature by being defined in the Milk (Special Designations) Order, 1923, as "retained at a temperature of not less than 145° and not more than 150° Fahrenheit for at least half an hour and be immediately cooled to a temperature of not more than 55° F." Very insistent claims have been made that this process of treatment will destroy the tubercle bacillus in milk, but there is as yet no absolute proof. Many expressions of opinion, supported by experiments of a restricted character, have been put forward as to the thermal death point of the tubercle bacillus. Dr. Campbell Brown, recognising the variety of opinions, three years ago, set about a series of experiments to test the various statements. He experimented with many strains of the tubercle bacillus from various sources kept at the temperatures and for periods round about

those defined as pasteurisation in the Milk (Special Designations) Order and concluded that the treatment of milk at 145° Fahrenheit for half an hour gives an ample margin of safety. His experiments were very carefully conducted and merited full consideration but they had the inherent defect, as pointed out by Dr. Macaulay in his paper published in this issue, that the organisms used were obtained from laboratory cultures and were not in their un-cultivated state. Dr. Macaulay thereupon experimented with natural organisms found in human sputum and in animal tissues, and had them placed in special receptacles and suspended in milk in the actual process of positive pasteurisation. His results confirm those of Dr. Campbell Brown that 145° F. for 30 minutes causes the death of the tubercle bacillus.

Objection, however, may be taken to Dr. Macaulay's experiments, in the same way as to Dr. Campbell Brown's, that the organism was not that usually present in infected milk. Dr. Macaulay's experiments further have the disadvantage that in the process of testing by injection into guinea-pigs the sputum which he employed as the source of his organisms had to be treated by anti-formin, a procedure which calls for great care, on account of the bactericidal action of the medium, in securing controls exactly similar in every detail. The irrefutable proof that pasteurisation by the positive method destroys the pathogenic character of naturally tubercle-infected milk must be provided by testing infected milk coming from the diseased udder and it is to be hoped that Dr. Macaulay, with the experience he has gained in the valuable observations which he records, will be able to repeat the experiments in the way suggested and so definitively settle this question which is of such intense interest and importance.

ELECTRICITY IN MILK PRODUCTION.

It is not an unusual thing to hear milk producers say that they cannot comply with modern requirements on account of the expense. It is interesting to learn from the Welsh Housing and Development Year-book for 1925 that in Wales much success is being attained by the application of electricity to farming and dairying operations. There are more farmers taking a supply of electricity from the South Wales Power Company than is being done from any electricity supply company in England. It is a common idea that only farmers in a large way can profitably make

use of this power, but in Wales none of the farms in which it is used has an area of more than 100 acres. Nearly 200 practical applications of electric power are in actual employment on various farms among which are milking machines, separators, butter making, etc. The introduction of electric lighting in cow byres and stables practically eliminates the accidental spilling of milk which occurs in badly lighted cowsheds. The value of the milk thus saved more than pays for the cost of the electric lighting. By the use of electricity the small dairying farmer can produce milk of Grade A quality with a saving of expense in time and labour. It is claimed that horse power is about four times as expensive as electric power, while man power is seventeen times more expensive; moreover, the reduction of horse power, sets free an amount of land, ordinarily needed for growing food for horses, for more directly productive purposes.

The Year-book contains other useful information on the housing question, new methods of house construction at home and abroad, on Housing and its Bearing on Tuberculosis.

MENTALLY DEFECTIVE CHILDREN.

The Board of Education deserves the thanks of everybody who is interested in the subject of the mentally defective child for the help that is afforded in solving this most difficult question by their latest Circular (No. 1359), with its accompanying schedules. When reading this circular, which we briefly noticed last month, one is impressed with the conviction that the person who wrote it fully understood what he was talking about; that he had explored the subject in the light of the experience gained during the past twelve years; that he was perfectly clear in his own mind where abuses had arisen, and how they could be prevented in the future; and that he has made the subject equally clear to the readers of his pamphlet.

We cannot say that Government communications have always been either clear to the reader or convinced him that the writer had a complete grasp of his subject; and though in theory we have had to accept everything that comes from the Ministry in the nature of a command, we have not always admitted that these commands were either intelligent or reasonable. We are speaking of past history, so we can let out the truth that in the olden days the receipt of a communication from Whitehall generally exercised our wits and ingenuity to find out the most successful line of evasion. We are, however,

becoming convinced that the Government Departments are now seriously trying to help local authorities and their officers and not to irritate them. The Government is desirous of obtaining a good Public Health Service throughout the country, and recognises that officers who are able cannot be coerced, but must be persuaded. Consequently, the epistles issued from Whitehall steadily become more valuable, and we are inclined to look upon the present Circular as the best that has been issued.

The memorandum itself is so clear and so obviously true that it is not open to criticism; but some who are new to school work may not, perhaps, understand what lies behind the present requirements, and why an apparently more complicated form and method of procedure is required for dealing with cases of alleged mental defection. The new Form 306M. is certainly more elaborate than its predecessor, and is somewhat fuller than the original form introduced in 1913; yet all who are familiar with the two former casts of Form 306M. will welcome the newcomer. In the last form, issued in 1921, the information required was so scanty that when the medical officer had completed it, he had to start over again to obtain evidence upon which he could form an opinion whether the child was defective or not. With the new form his work is finished as soon as the form is completed, for not only will he be able to make up his own mind from the investigation he has had to make to fill up the form, but he will have a written account from which anyone familiar with mental defection can form an opinion even without seeing the child. We know that the abbreviated form at present used might conceivably lead to a child being certified as mentally defective upon grounds which are inconclusive. The Board say, truly, in this Circular that: "The examination of children for mental deficiency may have serious consequences, and with its future career in question the Board do not consider that it is just to the child that a decision should be taken on any less exhaustive examination. . . ." Can anyone question the justice of this remark? Can anyone complain that any labour is too severe before passing sentence on a child, which, in some respects, is a more serious social stigma than a sentence of penal servitude?

Even with this Circular, together with a full explanation of the Act and the detailed form which it is necessary to complete, the examination of a child for mental defection is a work requiring great skill, tact and experience, and is not such as could be entrusted to anyone who is

unfamiliar with the process. The majority of men and women who take up school medical inspection are not, and cannot be, sufficiently trained in this branch of work to be entrusted to decide points that are so difficult and so important. It is therefore necessary to teach them. And this can only be done by making them complete the schedule under the supervision of an expert, such schedule not to be officially used unless it has been scrutinised. This means a considerable addition to the work and anxiety of Chief School Medical Officers, whose duties are already sufficiently onerous and exacting. But we feel that the subject of mental deficiency has not in the past been tackled as it should have been, and we look upon this latest communication from the Board as a clear point from which to start afresh.

MEAT REGULATIONS.

The Ministry of Health issued on June 12th a Circular (No. 604), the purport of which is to advise Local Authorities on certain points of the Meat Order, concerning which there has been some diversity of opinion. It has been said that you can always drive a coach and four through any Act of Parliament, and as for the Regulations under notice—whether by accident or design, or the impossibility of drafting a set applicable to all circumstances—there will be no difficulty in finding the usual "gap." Those who recently attended the crowded gathering of Medical Officers of Health and Sanitary Inspectors at Leeds, convened to discuss the Meat Regulations, must have been impressed by the unanimity of experienced local administrators in picking out the "occasional slaughterer" as the nigger in the wood pile. It is therefore no surprise that the Ministry have issued Circular 604 in an endeavour to clear up this question.

During the late war the extension of allotments, and the keeping of pigs were encouraged for the national benefits, and quite a large business in the "occasional" slaughter of swine has sprung up. This is especially the case in the industrial and mining districts of the country. How large a business this has become it is difficult to say, but in connection with these districts a large and substantial trade is still done. The case of "occasional" slaughter, by the farmer, smallholder, or cottager stands on another footing. The sale is usually to a few neighbours of a little surplus meat; the custom is of long standing, and the transaction is small in amount, and the area in which it takes place rural and very circum-

scribed. For the time being this trade is more or less at a standstill, as there is a general belief that the Regulations are applicable to it, but the opinion of the Ministry of Health, as embodied in this Circular, that such trade is exempt, will, when it becomes better known, have the effect of revivifying it. The other matters referred to in the Circular are comparatively trivial as compared with the "occasional" slaughter question, as to what comes under the heading of "Meat" under the Regulations, and the still greater one on glass front windows to butchers' shops, ought not to cause much burning of the midnight oil by the local administrator, who is guided in his interpretation by sound common sense. At the Leeds Conference it seemed to be considered desirable that we should not magnify these defects in the Regulations, but rather accept them as a great step forward in giving increased powers for improving the conditions of the meat trade. The general view appeared to be that we should take them as they stand, apply instructed common sense in their interpretation, and work them as efficiently as circumstances permit, and in the meantime be content to abide patiently until a guiding legal decision be given to that puzzling term "occasional" slaughter.

HEALTH ADMINISTRATION IN LONDON.

The Minister of Health, the Rt. Hon. Neville Chamberlain, M.P., received on the 8th June a deputation from the London County Council, which submitted to him the Report of the Special Committee on Health Administration in London, which is associated with the name of Captain O. E. Warburg, the present Chairman of the Council. The report was adopted by the Council on the 24th March, and contains the following recommendations:—

- (a) That, in the opinion of the Council, the undermentioned matters in connection with London health services call for action by the Government—
 - (i.) The need for settlement of the arrangements for the future administration of Poor Law medical services.
 - (ii.) The consideration, in relation to (i.) above, of the question whether, in the event of the health functions, of the London Poor Law Authorities being transferred substantially on the lines indicated in the Maclean report, it would be desirable that hospitals or infirmaries drawing patients from local areas should be locally managed.
 - (iii.) The need for amendment, in matters of administrative detail, of Part I. (Infant Life Protection) of the Children Act, 1908.
 - (iv.) The need for amendment of the Cleansing of Persons Act, 1897.
 - (v.) The need for regulations, under which the Council should be the authority in the administrative

County of London, for objects similar to those of the Public Health (Influenza) Regulations, 1918.

(vi.) The need for comprehensive legislation dealing with the question of smoke abatement.

(vii.) The need for revision and consolidation of the Acts relating to health services in London.

(viii.) The need for investigation by the Ministry of Health of the question of the disposal of house and other refuse.

(ix.) The advisability of a comprehensive technical inquiry by the Ministry of Health into the problem of dealing as a whole with the drainage of London and adjacent areas, draining naturally into the Thames and its tributaries.

(x.) The desirability of instituting an inquiry as to the steps which should be taken to provide suitable employment for tuberculous members of urban populations.

(b) That the Council would welcome a successful termination of the negotiations with the metropolitan borough councils regarding a transfer of health powers.

(c) That a copy of the report, dated 10th February, 1925, of the Special Committee on Health Administration in London, and of the resolutions of the Council thereon, be sent to the Minister of Health, with a request that he will receive a deputation from the Council in support of the said resolutions.

(d) That a copy of the report, dated 10th February, 1925, of the Special Committee on Health Administration in London, and of the resolutions of the Council thereon, be sent to the City Corporation and to each metropolitan borough council.

Mr. Chamberlain, replying to the deputation, said that he welcomed the description of relation between the Ministry, the London County Council and the Metropolitan Borough Council as a partnership. He was satisfied that great value had been derived in the past from the surveys that had been jointly undertaken by the Council and by his Department. The latter he regarded in the light of a sort of general staff in dealing with health matters. The Ministry of Health, ever since its foundation, had always been hampered by the demands made on the attention of Ministers by the housing problem, but this was only temporary and partial, and was now, he hoped, well on its way to settlement. He had already publicly announced his intention of dealing with the reform of the poor law next year, provided always that he was successful in getting the Rating and Valuation Bill, which was an essential preliminary, through the House of Commons this year.

He agreed with the deputation that in dealing with advanced cases of tuberculosis it was highly undesirable to segregate them in special institutions, to be sent to which was regarded by the patients as equivalent to a sentence of death, but he was not yet satisfied that the existing poor law infirmaries were necessarily the best suited for that purpose. He agreed that in connection with

hospital provision, both for tuberculosis and other diseases, some central co-ordinating authority was necessary. This was a subject which would require further discussion.

With regard to smoke abatement, he had included a Bill in his programme for next year, but he was not clear that the view of the London County Council with regard to the advantages of central control in this matter represented the views of the majority, but he would give this point further consideration.

The consolidation of the Public Health Acts was in hand, though it would be necessary for him to pass a further amending Bill next year before consolidation could be carried through. A clause designed to give local authorities power to carry on public health propaganda would, he hoped, be included in Mr. Womersley's Public Health Bill, which was at present before the House of Commons, but if it was not, he would include it in his own Bill next year.

With regard to refuse disposal he was inclined to fall in with their suggestion of an expert enquiry with a view to the issue of an authoritative technical report, though he hoped they would bear in mind that more information on this subject was already available than was generally made use of. Further consultation with the interests concerned, such as the Metropolitan Borough Councils, would be necessary before he could set up the Committee, but he personally attached the greatest importance to this subject.

The drainage of London was rather a question for the London County Council themselves to consider. It was clear that they could not take much more sewage from outside districts without either enlarging their sewers or undertaking expensive works for the treatment of sewage, or possibly both. Either of these alternatives would be very expensive. If they agreed he would gladly associate a technical officer of this department with them in an inquiry, and he thought that there should also be representatives of other authorities. He would draw up suggestions for the handling of the question by a committee of experts and consulting them about it.

The after-care of tuberculous patients he regarded as an essential part of schemes for the treatment of the disease. If relapses of patients whose condition had been relieved were to be avoided, suitable occupation under medical supervision was absolutely essential. Papworth and Preston Hall were useful examples of what could be done along these lines, but he agreed with the Council in thinking that they did not provide the

solution of the problem so far as it affected the urban population. He had under consideration measures for increasing the after-care provision available.

VISIT OF LATIN-AMERICAN HEALTH OFFICERS.

By request of the Ministry of Health, the Society of Medical Officers of Health has again organised a course of instruction for a party of foreign medical officers visiting England under the auspices of the Health Section of the League of Nations. On this occasion the party is drawn from the States of South America, and as they have already visited the United States and Canada their stay in this country was limited to 17 days. In the unavoidable absence of the president (Dr. R. A. Lyster) the party was received at the house of the Society on 2nd June, by Dr. G. F. Buchanan (president-elect) and other members of the council, when they were also welcomed by Sir George S. Buchanan, C.B., vice-president of the Health Committee of the League of Nations. The following day the party divided into two groups for the study of health administration in provincial areas, as follows:—

GROUP A. EASTBOURNE AND WEST SUSSEX.

(Directors: Dr. W. G. Willoughby and Dr. R. D. Smedley.)

Brazil.—Dr. Emygdio Jose de Mattos, medical officer, National Department of Public Health, Brazil.

Costa Rica.—Dr. Solon Nunez, Under-Secretary of State, in charge of Secretariat of Hygiene and Public Health.

Paraguay.—Professor Andres Gubetich, professor of medicine in the University of Asuncion, director of Institute of Child Hygiene.

Peru.—Dr. Juan Francisco Valega, director of Tuberculosis Department in Ministry of Health.

Venezuela.—Dr. Leopoldo Garcia Maldonado, director anti-malaria campaign, National Department of Health, Venezuela.

GROUP B. EXETER AND DEVON.

(Directors: Dr. P. H. Stirk and Dr. George Adkins.)

Argentine.—Professor Alberto Zwanck, assistant professor of hygiene, University of Buenos Aires, medical officer, National Department of Health, Argentine Republic.

Cuba.—Dr. Rafael Alvarez, bacteriologist, National Laboratory, Republic of Cuba.

El Salvador.—Professor Carlos R. Larde-Arthes, professor in the University of Salvador.

Mexico.—Professor Pedro de Alba (Alvarez), professor in the Military Medical School, medical officer of the Department of Health, Mexico.

Uruguay.—Professor Rafael Schiaffino, professor in University of Montevideo, director of School Medical Service, Uruguay.

On 10th June the whole party reassembled in London, expressing themselves as delighted with the admirable arrangements made for their benefit by the group directors. On the following morning they attended at the Ministry of Health and heard addresses on central health administration in England by Sir George Buchanan, Col. S. P. James, and others. In the afternoon they inspected the housing schemes of the London County Council in Southwark and Roehampton, being personally conducted by Lt.-Col. W. Butler, Mr. Frank Hunt, and other members of the council's staff.

June 12th was profitably and most agreeably spent in inspecting the activities of the port sanitary committee of the Corporation of the City of London. Early in the morning the party, accompanied by several members of the Society of Medical Officers of Health embarked on the committee's launch and proceeded down river to the boarding station at Gravesend, where the routine work of inspection was described by Dr. W. M. Willoughby, M.O.H., and the shore hospital visited. The chairman of the committee, Mr. J. H. White, C.C., accompanied the party throughout the day, entertaining them at luncheon and tea in a manner worthy of the traditional hospitality of the City of London.

Another whole-day programme was provided on 13th June by the Metropolitan Asylums Board, when excellent arrangements for visits to typical institutions were kindly made by the clerk, Mr. G. A. Powell, C.B.E. The party were first conveyed to the Park fever hospital where they were conducted round by the medical superintendent, Dr. T. H. Woodfield. Thence they went on to Queen Mary's Hospital for Children at Carshalton, and enjoyed an inspection of the methods of orthopaedic treatment. Dr. W. T. Gordon Pugh himself acted as conductor, and during the visit the party were hospitably welcomed by members of the board and entertained at luncheon.

June 14th was spent in visiting the offices and works of the Metropolitan Water Board. The party were indebted to the clerk, Mr. G. F. Stringer, who arranged for their reception, and to Sir Alexander Houston, K.B.E., who gave them

an interesting address on the safeguarding of London water supplies. The visitors had expressed a special wish to see and hear Sir Alexander, as his work is very well known by those responsible for water supplies in South America. The chairman of the board attended to welcome the party, and after luncheon at the Mitre Hotel, Hampton, Sir A. Houston accompanied them to the Hampton and Staines waterworks to see the process of chlorination.

The last day of a visit that the party described as far too short, was spent at the British Empire Exhibition. Dr. S. H. Daukes, O.B.E., demonstrated the striking series of exhibits displayed by the Ministry of Health in the Government Pavilion, and afterwards members of the Society of Medical Officers of Health entertained their guests at dinner at the Garden Club.

R.A.M.C. SUPPLEMENTARY RESERVE.

We are requested by the War Office to announce that commissions in the Royal Army Medical Corps Supplementary Reserve of Officers, are open to members of the Medical profession engaged in civil practice. The object of this Reserve is to complete and maintain the various medical units of the Regular Army at war strength on mobilisation; and the officers are divided into two categories. Those in the first category (Category B) have to undergo a preliminary training at the Royal Army Medical Corps Depot, and an annual training of fourteen days with a selected formation or unit of the Regular Army. The preliminary training lasts normally for six weeks; but in the case of officers holding Certificate A or B medical, of the Officers, Training Corps, it is either dispensed with entirely or limited to three weeks. The other Category (Category C) is intended for medical men with previous service and those possessing special professional qualifications. Officers in this category are not required to do either preliminary or annual training. The present requirements include a number of specialists in surgery, medicine, mental diseases, X-rays, pathology, bacteriology and hygiene, who will as far as possible be employed in their special subjects on mobilisation.

All commissioned officers are paid an annual gratuity of £25 and those in Category B in addition, receive pay and allowances as for Regular Officers during all training. Normally an applicant's age should not exceed 32, but this limit may be dispensed with in special cases. The rank

on appointment is that of Lieutenant. Promotion, in Category B, will be to Captain after 3½ years' commissioned service; to Major if qualified after twelve years' commissioned service, after which period officers will be transferred to the Regular Army Reserve of Officers; in Category C promotion to Captain after 3½ years' commissioned service, and after ten years' service transferred to the Regular Army Reserve of Officers. A candidate for Category C who served as an officer in the Royal Army Medical Corps during the Great War will be allowed to count such service for rank on appointment, for promotion to Captain, and towards the 10 years period of service preceding transfer to the Regular Army Reserve of Officers.

Forms of application for appointment can be obtained, on written request to the Under-Secretary of State for War (A.M.D.I.), War Office, Whitehall, London, S.W.1.

THE NEECH PRIZE.

The prize founded by Dr. J. T. Neech for the best paper read at a Branch Meeting of the Society of Medical Officers of Health, has been awarded for the session 1923-24 to Dr. Joseph Edward Spence, Medical Officer of Health for the Borough of Eccles. The subject of Dr. Spence's paper read before the N.W. Branch on February 8th, 1924, was "The Need for Closer Co-operation between Medical Inspection and Public Health Work." The Assessors consider deserving of special mention the paper on "The Prime Factor in the Decline in Infant Mortality," read before the Northern Branch on February 22nd, 1924, by Dr. Cameron R. Gibson, Medical Officer of Health for the North Riding Combined Districts, which they record as *proxime accessit*.

The Assessors for the 1923-24 award were Dr. R. A. Lyster, Prof. H. R. Kenwood, Prof. H. Kerr and Dr. T. W. Naylor Barlow.

The University of Johannesburg has conferred the degree of LL.D. *honoris causa* on Dr. Charles Porter, Medical Officer of Health for the City of Johannesburg "in recognition of his professional and official standing as a representative of the modern science of Public Health and of his services to Johannesburg and the Transvaal during the past 23 years." It will be remembered that two years ago Dr. Porter was elected President of the South African Medical Congress, an honour previously reserved for the leading clinicians.

AN INVESTIGATION INTO PASTEURISATION AS A MEANS OF DESTROYING TUBERCLE BACILLI IN MILK.

BY

H. M. CAMERON MACAULAY, M.D., B.Sc., B.S. (Lond.), D.P.H., Assistant Medical Officer of Health, Dover.

The Extent of Bovine Tuberculosis in Man.

The Medical Research Council in its report for the year 1922-23, (1) makes the following important and authoritative statement:—

"From the Public Health point of view, the most important conclusion to be drawn . . . is that bovine tuberculosis is a grave source of danger to man, especially in childhood. This danger comes, of course, in the main, from infected milk. Bovine tubercle bacilli have been shown to play a part in the causation of all human varieties of tuberculosis in almost every organ and gland of the human body. In cases of human tuberculosis where the infection is definitely alimentary in origin, bovine tubercle bacilli are found far more frequently than human tubercle bacilli."

There can be no doubt that of all the diseases which are capable of being transmitted from the lower animals to man, tuberculosis is by far the most important. In a recent paper (2) Stanley Griffith summarises the results of a very complete and searching investigation in which 1,215 cases of tuberculosis in man were examined by bacteriological methods for the purpose of determining the proportion of cases which were due to the bovine type of the bacillus tuberculosis. In this series of cases, which included all types of pulmonary and non-pulmonary tuberculosis, the bovine bacillus was found to be the cause in no less than 23%, and when non-pulmonary ("surgical") cases alone were considered, the percentage was increased to the neighbourhood of 28. Among children under five years of age, of whom milk is the staple food, 41.5% of all tuberculous lesions investigated were found to be due to the bovine type of the tubercle bacillus.

It is difficult accurately to apply these figures to the total incidence and mortality of tuberculosis in England and Wales, but careful calculations have resulted in a conservative estimate of 3,000 human deaths a year, directly due to the bovine tubercle bacillus; in other words, 3,000 human lives are annually sacrificed to our tubercle-infected milk-supply. This calculation concerns only the deaths from bovine tuberculosis, and takes no account of the many thousands of cases which every year are infected but which recover

with a greater or smaller degree of permanent ill-health or crippling.

That the milk-supply of this country, particularly that of some of our great towns, is heavily infected with living tubercle bacilli, is a well established fact. Samples taken a few years ago in London showed the presence of tubercle bacilli, fatal to guinea-pigs on inoculation, in 9-10% of samples examined. In Edinburgh some 20% of samples were found to contain living tubercle bacilli, and it was in this city that Fraser and Mitchell (3) isolated bovine tubercle bacilli in no less than 61% of children suffering from tuberculosis of bones and joints. This would appear to be a clear instance of cause and effect.

This question, by no means new, concerning the extent of tuberculosis of bovine origin in man, has been briefly reviewed here, for the reason that not infrequently one meets the view, put forward as a considered opinion (i) that bovine tuberculosis in man is negligible; (ii) that the consumption of tubercle-infected milk is actually beneficial in that it induces immunity to the disease. With regard to (i) the mass of evidence summarised above, endorsed as it is by the findings of the Royal Commission on Tuberculosis and by the Medical Research Council, must carry irresistible weight; while as to (ii) the yearly sacrifice of the lives and health of many thousands of our population, in order to convey a doubtful degree of immunity to the remainder, must surely be the most unjustifiable and extravagant form of vaccination which has ever been conceived.

A Consideration of the Remedies.

Having established the extent of bovine tuberculosis in man, and the resulting damage to the lives and health of our young population, we have next to consider the appropriate measures of control. The ultimate remedy is the eradication of tuberculosis from our cattle and this will, no doubt, eventually be adopted. But it must be remembered that we have it on excellent authority (4) that to-day between 30 and 40 per cent. of the bovine population of these islands (to say nothing of pigs) is infected with tuberculosis; and it would be a bold man who, at this present juncture, could advocate wholesale slaughter of all positive reactors to the tuberculin test.

Much will doubtless be done in the next few years, under the aegis of the Ministry of Agriculture to reduce this colossal figure, by the introduction of more hygienic methods and preventive measures among the breeders of farm live-stock; and then the problem of the eradication of tuberculosis may be brought down from the realms of Utopian idealism to those of practicability.

Meanwhile, what of the pressing needs of the moment? There remains pasteurisation. Pasteurisation received official recognition in the Milk (Special Designations) Order, 1923, which lays down very precise conditions under which milk must be treated, in order that a license may be obtained to sell it as "pasteurised." To sell milk as "pasteurised milk," except under license, is a legal offence, and several milk-dealers have already been prosecuted for so offending. The definition of the process of pasteurisation, as expressed in this Order, is that the milk shall be "retained at a temperature of not less than 145° and not more than 150° Fahrenheit for at least half an hour, and be immediately cooled to a temperature of not more than 55° Fahrenheit." Furthermore the milk must not be heated more than once.

In the light of this definition, the old "flash" process and other unsatisfactory methods are rendered obsolete, and as such call for no further comment here. Throughout this paper, by the term "pasteurisation" is meant the process as above defined.

Milk treated in this way is absolutely unaltered as regards taste and appearance, and the cream-line either remains unchanged or is increased. Changes in the chemical composition and vitamin content are absent or negligible, while the milk is freed from all non-sporing pathogenic bacteria—the thermal death-point of which is in the neighbourhood of 60° C. (140° F.) for ten minutes. The tubercle bacillus, however, occupying as it does, a position morphologically intermediate between the bacteria and the streptothrices, is very definitely more resistant to heat than are other non-sporing pathogenic bacilli, and a considerable controversy has arisen as to whether the conditions of time and temperature as above laid down, are sufficient to ensure the death of the tubercle bacillus; and his view appears to be held accumulated around the subject of the thermal death point of the tubercle bacillus in milk, is contradictory, and somewhat divergent statements have been made.

Thus Savage in his book, "Milk and the Public Health" (5), states that a temperature of 60° C. (140° F.) for 20 minutes is sufficient to kill the tubercle bacillus, and his view appears to be held by Lane-Clayton (6) ". . . it may be reasonable to suppose that a temperature of 60° C. for 20 minutes may be sufficient." On the other hand, Conn (7), writing of the "Positive Holder" process, working at a temperature of 145° F. (62.8° C.) for 30 minutes says, "Some experiments have seemed to indicate that milk thus

treated may contain living tubercle bacilli." In his report on the Pasteurisation of Milk (8) Hamill makes this statement in reference to pasteurisation carried out under conditions of time and temperature laid down in the Milk (Special Designations) Order, 1923—"It is possible under certain conditions that a small proportion of tubercle bacilli may escape actual destruction, but their virulence appears to be so impaired as to make them harmless."

Beattie (9) considers that pasteurisation properly carried out at a temperature in the neighbourhood of 70° C. (158° F.) will bring about destruction of the bacillus tuberculosis.

It will be observed that many of these opinions and statements expressed are very guarded and the reader of them is left in considerable doubt as to the efficacy of the process of pasteurisation under the conditions specified by the Ministry of Health.

The matter of temperature is very important, for the entire object of pasteurisation is to produce a milk, which while free from pathogenic organisms, shall be unaltered as regards taste, appearance and nutritional value. Milk is a highly complex colloidal fluid, and 150° F. may be regarded in the light of a critical temperature for milk. Below this temperature any physico-chemical changes which occur are hardly appreciable, but if this temperature be exceeded, even by one or two degrees, changes in the colloidal constitution are rapidly induced, resulting in partial precipitation of albumen and of calcium phosphate, and these changes may seriously impair the nutritional value of the milk. Furthermore, above the temperature of 150° F., the cream line is reduced or lost, and this is regarded commercially as an important consideration, as the public judges the quality of its milk by the depth of the layer of cream at the top of the bottle. It is therefore obvious that in the process of pasteurisation, milk should be heated to the lowest temperature consistent with certainty of destruction of pathogenic organisms.

Campbell Brown (10) has carried out a very thorough investigation which definitely establishes the fact that tubercle bacilli in culture suspension in milk are killed by exposure to a temperature of 60° C. (140° F.) for 20 minutes. This observer also shows that there is no appreciable difference in resistance to heat between different strains of tubercle bacilli, both human and bovine. From the standpoint of practical pasteurisation in the dairy, however, the work of Campbell Brown is open to the possible criticism that the heat-resistance of cultivated tubercle

bacilli might be different from that of bacilli in the natural state. It will be remembered that Houston (11) showed such difference of resistance to unfavourable environment to exist in the case of "tame" and "wild" typhoid bacilli.

It must also be borne in mind that milk derived from a tuberculous cow, or contaminated by the sputum of a phthisical milk-man, is not a uniform emulsion of tubercle bacilli in milk. The bacilli occur in clumps, surrounded and protected from external influences by a mass of mucus, pus, caseous debris, and other organic material. For this reason, in addition to the reason stated above, cultivated bacilli were not used in the experiments about to be described.

Practical Considerations.

The question resolves itself into whether or not tubercle bacilli, as ordinarily occurring in milk, remain alive after the milk has been held at a temperature of 145–150° F. for 30 minutes. It seemed to the author that the most direct and the most obvious way of obtaining an answer to this question would be to introduce living tubercle bacilli into a modern pasteurising plant under actual working conditions, and to determine whether they survived; the test of survival being the ability to produce tuberculous lesions upon inoculation into a guinea-pig. This research was carried out by the author during the whole of 1924, and the results have been eminently satisfactory: in no single instance did tubercle bacilli survive the process of pasteurisation.

The work has been carried out in Dover on a pasteurising plant which deals with 150 gallons per hour, the property of a large firm of local retailers. My visits to the depot were invariably surprise ones, and the tests were carried out during the normal working of the apparatus, during the time it was pasteurising the ordinary daily supply.

The plant is one of the "Positive Holder" type, the principle of the working of which briefly is as follows: The raw milk passes into a centrifugal cleaner, where the grosser fragments of solid foreign matter are removed, thence it passes in a steam through a steam-jacketed heater, where in the space of 40 seconds its temperature is raised to about 150° F. The milk then flows into the "holder," a double-walled tank of 50 gallons capacity. When this tank is full the incoming milk is diverted to another holder while the milk in the first holder is retained for 30 minutes. The insulation of these tanks is so good that the temperature of the milk does not fall more than 1°–2° F. during this time. At the end of the 30 minutes a valve at the bottom

of the holder opens and the milk flows out to a cooler, where it is rapidly cooled to 45° F.

A cycle of four holders is used, so that while one is filling, a second is emptying, while the other two are "holding." The process is automatic and a continuous flow is maintained.

Method of Investigation.

The writer has attempted in this investigation to imitate as closely as possible the actual conditions which prevail when milk, heavily contaminated with tuberculous material is passed through a modern pasteurising plant.

Fresh milk was mixed and shaken with about one-tenth its volume of sputum, obtained from a patient in an advanced stage of pulmonary tuberculosis. In the different tests made, the sputum used was obtained from different patients in case there might be any variations in resistance to heat among different strains of the tubercle bacillus; although such a contingency seems very unlikely in view of the work of Campbell Brown to which reference has already been made. The bovine material used was similarly prepared, portions of tuberculous glands and organs, obtained from condemned carcasses in the slaughter-house being pounded up into a paste and mixed with milk. Whatever the source of the tuberculous material used, in every case films were prepared, stained and examined to ascertain that numerous tubercle bacilli were indeed present.

Thus prepared, about 10 c.c. of the infected milk were placed in a thin-walled brass cylindrical box, measuring 3-in. by 1-in. This box was fitted with a rubber washer and brass screw cap, which when screwed down, made a perfectly airtight joint.

The outside of the closed cylinder, containing the infected milk was sterilized by passing rapidly through a Bunsen flame, and it was then lowered on a string into a holder of the pasteuriser at the moment when this had just filled. It was immersed about two inches below the surface of the milk of the holder and allowed to remain therein until the time when the valve at the bottom of the holder opened and the milk began to flow out. The cylinder was then withdrawn, and rapidly cooled by holding it in a stream of cold water.

Let us digress for a moment and consider the normal working of a pasteuriser in actual practice, and let us assume that the last drop of milk to enter the holder carries with it a particle of organic debris containing living tubercle bacilli. Let us also assume that such particle falls to the bottom of the holder, so that when the valve opens at the end of the holding process, this

particle is the first to leave, *i.e.*, that it is subjected to the temperature of the holder for the minimum period (30 minutes). An attempt was made in my experiments to reproduce this state of affairs by immersing the cylinder containing the infected milk at the moment when the holder was just full, and withdrawing it when the holder commenced to empty. In point of fact the experimental conditions were more stringent than those obtaining in actual practice, in as much as the infected milk in the cylinder did not undergo an initial heating in the "heater." It entered the holder cold, and some minutes would necessarily elapse before the temperature of the contents of the cylinder approximated to that of the surrounding medium.

The cylinder, after removal from the holder and cooling, was transferred to the Kent County Laboratory at Maidstone. Here the contents were treated with antiformin to dissolve mucus, etc., and were then centrifugalised. 1 c.c. of the deposit was then inoculated into the hind leg of a guinea-pig. In nearly every case a control was carried out by inoculating a second guinea-pig with a second portion of the same infected milk which had not been subjected to the pasteurising process.

At the end of 8 weeks (in a few cases at the end of 6 weeks) the guinea-pigs were killed and a post-mortem examination was made.

This work of inoculation and post-mortem examination was carried out by Dr. Constant Ponder, the County Bacteriologist for Kent, to whom my thanks are due, and to whom I am indebted for the post-mortem reports.

From the table below it will be seen that guinea-pigs inoculated with raw tuberculous milk invariably showed signs of tuberculosis some 6—9 weeks later, at the post-mortem examination. these signs were:—enlargement of the inguinal lymphatic glands, draining the site of inoculation, with tubercle formation proceeding to caseation. In most cases there were also signs of generalised infection as shown by the presence of tubercles in liver and spleen. On the other hand, similar guinea-pigs, inoculated at the same time as their respective controls, with the same infected milk, pasteurised under conditions shown in the table, when killed 6—9 weeks later showed, without exception, no signs of tuberculosis whatever.

Experiment No. 8 requires some explanation. The "holder" of the pasteuriser used to be filled from the top, in consequence of which a good deal of splashing and frothing took place; so that when the holder was full, a layer of froth, some three inches in depth, rested on the surface of the milk. This constituted an obvious danger, in that the temperature of the froth was some 20° F. below that of the main bulk of the milk

RESULTS OF EXPERIMENTS.

Experiment No.	Strain. (Human.)	Period of Immersion in holder. (Minutes.)	Mean Temperature of holder. (° F.)	Time elapsing between inoculation and death of guinea-pig. (Days.)	Post-mortem findings.	Post-mortem findings in control animal.
1	K	35	142	46	No T.B.	T.B. inguinal glands, spleen, and liver
2	K	27	142	42	No T.B.	T.B. inguinal glands
3	C	25	148	56	No T.B.	Inguinal glands caseous
4	P	27	145.5	61	No T.B.	Heavy tuberculous infection
5	P	29	149	61	No T.B.	Generalised tuberculosis
6	S	28	151	49	No T.B.	T.B. infection, glands, liver, spleen, and lungs
7	S	27	152	49	No T.B.	T.B. infection, glands, liver, spleen, and lungs
8	C	25	125 (froth)	63	T.B. inguinal glands and spleen	Inguinal glands caseous
9	(Bovine.) D	30	148	53	No T.B.	No control
10	L	27	149	62	No T.B.	Marked infection, glands, liver, spleen and lungs
11	L	30	147	50	No T.B.	Marked infection, glands, liver, spleen and lungs.

in the holder. In experiment 8 the tube was immersed in this froth only, at a temperature of 125° F. As will be seen, this did not suffice to kill the tubercle bacilli present; whereas those immersed in the bulk of the milk on the same occasion, for the same period, at a temperature of 148° F. were unable to set up tuberculosis in a guinea-pig. The result of experiment 8 should be read in conjunction with experiment 3, which was performed simultaneously.

As a result of this particular experiment, the construction of the holder has been slightly altered, so that milk now flows in from below with very little frothing. This point of practical construction of the holder is one to which attention has been drawn by other writers, and its importance is here emphasised.

Conclusions.

It is submitted that the experiments here described afford direct evidence that tubercle bacilli in milk are destroyed by the process of pasteurisation under the conditions specified in the Milk (Special Designations) Order, 1923; and that, therefore, pasteurised milk, produced under license may safely be regarded as tubercle-free.

Summary.

1. The present unsatisfactory state of the milk supply of this country is directly responsible for a vast amount of tuberculosis among our young population.
2. Until the universal establishment of tubercle-free herds has been adopted, pasteurisation is the best remedy we possess for this condition of affairs.
3. The writer in a series of experiments introduced living tubercle bacilli into the "holder" of a modern pasteurising plant, during the normal daily working of the apparatus, and found in every case that such bacilli were destroyed—the test of destruction being the inability to produce tuberculous lesions in a guinea-pig.
4. In the opinion of the writer, both the human and the bovine variety of tubercle bacilli in milk are destroyed by pasteurisation for 30 minutes at a temperature of 145—150° F.
5. As a practical point, it is important that licensing authorities under the Milk (Special Designations) Order, 1923, should satisfy themselves that there is a minimum of frothing in the "holder" of the pasteurising apparatus.

References.

1. Report of Medical Research Council, 1922-23. (H.M. Stationery Office.)
2. A. Stanley Griffith "Bovine Tuberculosis in Relation to Man." (Proc. Natl. Milk Conference, 1922.)

3. Fraser and Mitchell. (Brit. Med. Jl. 1913, i, 760.)
4. M'Fadyean, "Preventible Diseases in Farm Live-Stock," 1925.
5. Savage, "Milk, and the Public Health." (Macmillan, 1912.)
6. Lane-Clayton, "Milk, and Its Hygienic Relations." (Longmans, 1916.)
7. Conn and Conn, "Bacteriology," 1923.
8. Hamill, "Reports on Public Health and Medical Subjects, No. 17. Ministry of Health, 1923.
9. Beattie, "Proc. Natl. Milk Conference on Pasteurisation, 1923," p. 48.
10. Campbell Brown, "Lancet," 1923. ii, 317.
11. Houston, "Rivers as Sources of Water Supply," Ch. II.

THE CONTROL OF INFECTIOUS DISEASE.

At the meeting of the Society, held on Friday, March 20th, 1925, a discussion took place on "The Control of Infectious Disease, and the Place of Isolation Therein."

Dr. Frederic Thomson, Medical Supt., N.E. Fever Hospital, M.A.B., as opener, said:

After some thought I decided to comment upon the main uses of the isolation hospital, as I consider them, intermingled with some aspects of infection. I do not suppose any one will dispute the value of the isolation hospital from the points of view of convenience to the public and the proper treatment of the patient. There are, I know, hotheads who would sweep away these hospitals, but such are always with us and to some extent do us good, inasmuch as they help to keep us on the alert for criticism.

The other main uses appear to be as follows:

- (a) To lessen the incidence of infection amongst the public.
- (b) To render, as far as possible, the patient in good health before discharge.
- (c) For teaching the graduate and undergraduate.
- (d) For the study of the infectious diseases by the clinician and research worker both singly and in association.

Isolation hospitals have been subjected to both fair and illogical criticism, but most of us consider that the isolation of the patient in hospital does lessen the incidence of the disease on the public. It is only reasonable to suppose so, and in the case of scarlet fever this was demonstrated by Dr. M. B. Arnold, in an excellent paper read before the Epidemiological Section of the Royal Society of Medicine in 1912. There have been those who hoped hospital isolation would stamp out infectious diseases, though I am unaware of

L15 m 56. M88
M88.38

the prophesy having been made by any acknowledged authority. Yet I would ask these sanguine spirits not to be utterly cast down, for were these hospitals put to proper use something nearer perfection might gradually be attained.

Perhaps the most serious charge made against the isolation hospital was that it gave rise to the aerial transmission of smallpox to the surrounding population. There is no need for me to discuss this question now, for it is realised that the channels of contact infection were not always considered with sufficient care. But, as a matter of interest, I might recall in connection with the aerial conveyance of this disease from the Eastern Hospital that evidence was given of how, in two streets adjoining the hospital, there were no cases of smallpox during the ten years prior to the existence of the hospital, but that in the ten years after the hospital was occupied there were a number of cases in them. The flaw in the argument was that in the decennium before the use of the hospital these two streets were not in existence. While some will doubtless still maintain that there is a danger of aerial conveyance of smallpox from a hospital to the surrounding population, I do not suppose anyone will consider this a danger in other infectious diseases.

The main difficulties in the control of infection are that the patients are not sent to hospital early enough in the disease, and that in certain diseases we cannot tell when a given patient is free from infection.

Ideally, the patient should be sent to the hospital immediately before he becomes a danger to others, but in the present state of our knowledge that is impossible. We ought, however, to send the patient to hospital in as early a stage as our knowledge permits, and in this we are not very successful. It is of importance that we should aim at a greater measure of success, for at all events in the majority of the infectious diseases infection is most potent in the earliest stages.

Some Medical Officers of Health are in the habit of posting notices in places of public resort calling attention to the importance of consulting a doctor in such conditions as sore throat, etc. This is an excellent custom, but it seems to me that more propaganda work is necessary to educate both the practitioner and the public. I feel sure that were you to evolve some scheme for general use that good would result. Unfortunately we are unable to tell in certain diseases that any given patient is free from infection. If in diphtheria or scarlet fever we observe the mucous membrane of the throat or nose to be abnormal, we are disposed to regard that as

presumptive evidence of remaining infectivity since circumstantial evidence has shown that those suffering from such conditions are more prone to give rise to infection in others. Following upon the discovery of the diphtheria bacillus it was hoped that we would be able by cultural means to say when the patient was free from infection, but so far the hope has been illusory. So much was this so that some hospitals gave up culturing the throat and nose, because this bacteriological test of freedom from infection appeared ineffectual, inasmuch as the return case rate was little if at all affected. I was not one of those who gave the method up, and some thirteen years ago I was faced with the fact that a noted carrier would go for considerable periods of time, on one occasion for a month, without one being able to culture the bacillus. At the end of these periods virulent bacilli again appeared in the culture tubes in large numbers. At my hospital work was commenced some fifteen months since, in order if possible to add to our knowledge of the carrier and his treatment, and owing to the far-sighted policy of the Metropolitan Asylums Board I was given the help of an expert bacteriologist and throat and nose surgeon some seven months since. I commenced taking one culture each week from the throat and nose for the first three weeks, and after that time two cultures each week from the throat and nose until six consecutive negative cultures were obtained from both sites. Since the beginning of last August 379 cases have been under observation with the following results:—

Negative Results were Given by Patients as follows:

35	from the 1st week and onwards.
29	" " 2nd " " "
29	" " 2nd " " "
125	" " 3rd " " "
51	" " 4th " " "
32	" " 5th " " "
11	" " 6th " " "
20	" " 7th " " "
15	" " 8th " " "
8	" " 9th " " "
10	" " 10th " " "
2	" " 11th " " "

Thus 41 out of the 379 remained virulent carriers after 12 weeks. One of these was discharged at the urgent request of a Medical Officer of Health. Of the rest 20 apparently recovered either after operation or naturally, but with an average residence of 178 days.

To show how fallacious the apparent disappearance of the bacilli from the throat and nose can

be 14 of these 41 carriers gave considerable intervals during which bacilli could not be recovered, but in all they reappeared.

Period during which Bacilli were not found:

3	gave an interval of 3 weeks.
5	" " " " 4 "
4	" " " " 5 "
2	" " " " 6 "

In one case bacilli were regularly recovered from the nose, but for a considerable period could not be found in the throat. This case had unhealthy looking tonsils, so we decided to enucleate them. The tonsils were carefully examined afterwards, and deep in the crypts diphtheria bacilli were found, though before operation cultures had been taken from the crypts with negative results. Apparently in some cases it is very difficult to tell when infection ceases, and evidently it is a good deal more difficult to earmark the diphtheria carrier in such places as schools than some seem to consider.

As to the other uses for isolation hospitals which I have mentioned patients are supposed to be sent home when free from infection irrespective of their general condition of health. I doubt if this is a wise policy and I believe it would tend to economy were an attempt made to restore the weakly ones to good health in order that they might be better able to battle with home conditions. I need not remark on the value of teaching since that is obvious if we are to attempt to control infectious diseases. With regard to research work and the close association of the worker with the clinician in the hospital I believe firmly that we have wasted vast opportunities in the past and I hope all of us will do what we can to further work in this direction. The Metropolitan Asylums Board has now accepted this as the proper procedure and I am convinced that it is the line on which the best results are to be obtained in the prevention diagnosis and treatment of the infectious diseases.

Dr. A. H. G. Burton, M.O.H. (Ilford), said:

I think the weapons upon which we depend for the control of infectious disease fall under five headings—

1st. Immunisation, that is, the production of an acquired immunity by suitable means, such as in smallpox by vaccination, in enteric fever by inoculation with a vaccine, and in diphtheria by the injection of a toxin-anti-toxin mixture.

2nd. Early diagnosis and treatment.

3rd. Isolation and disinfection.

4th. The detection and treatment of carriers.

5th. Such general sanitary measures as the prevention of overcrowding, the development of pure milk, water and other food supplies, etc.

I propose to comment on some of these questions very briefly. As regards 1, the question of immunisation, the method is a strictly scientific one, but it has certain grave disadvantages. First, in the immunisation of the population as a whole, the method must be compulsory. Second, the immunisation must be repeated. In the case of smallpox we know that the immunity acquired only lasts, in most cases, for a period of from 7 to 10 years. In anti-typhoid inoculation, probably for a period of not more than two years, while in the case of diphtheria we are not quite sure of the length of the immunisation produced. Personally, I think a mistake has been made by the advocates of diphtheria immunisation in promising life-immunisation, when possibly further research will show that in many cases immunisation for a period of some years is all that is obtained. In the third place, immunisation has certain risks, which I will not detail, but I am convinced that legislation in the future will not tend towards the compulsory immunisation and re-immunisation of individuals, which would be necessary for the adequate control of infectious disease.

A limited application of immunisation can very usefully be made by the immunisation of, e.g., contacts of cases of smallpox, nurses in attendance upon cases of enteric fever and diphtheria, children in institutions, men in the Forces, and so on. Here we have a very valuable and strictly scientific method of preventing the spread of a few infectious diseases, but to be effective, compulsion is necessary. At present we have not even power to compulsorily vaccinate contacts of cases of smallpox.

Second, the early diagnosis of infectious disease. I think there is no need for me to stress the importance of this. The best example is in dealing with a case of smallpox, in which the early diagnosis of the disease is a matter of vital importance in the control of its spread. We all know that medical students are crammed with various facts, for which they will have no use in practice, and yet when they are qualified many start practice still unable to diagnose a rash of measles or a well-marked clinical case of diphtheria. The teaching and examination of the knowledge of infectious diseases requires a complete overhaul.

Even in the new regulations for the Diploma of Public Health, while such subjects as Parasitology and Medical Entomology have been introduced into the syllabus (subjects which have very little practical bearing on the daily work of a Medical Officer of Health), and candidates for the examination have failed because they do not know the life history of, shall we say, distomia hepaticum, yet no candidate for the Diploma of Public Health is required to satisfy the examiners that he has a sound clinical knowledge of the diagnosis of infectious diseases, and that he is really qualified to act as an advisor, as he may have to do if he becomes a Medical Officer of Health, to the general practitioner of his area. One other point I would mention, and that is, that while I think that Dr. Thomson has done a service in pointing out that as far as the treatment of diphtheria is concerned, the clinical diagnosis of the disease is the all important factor, and not the bacteriological, yet as Medical Officers of Health we must not forget that there are many cases of mild diphtheria which can not be diagnosed clinically, and for the diagnosis of which we are entirely dependent upon bacteriological examination. The point that needs making clear to the general practitioner is that a case which is clinically one of diphtheria requires immediate treatment without delay for a bacteriological examination, but this must not deter him from taking swabs in other cases of sore throat; otherwise, we may expect that many mild cases of diphtheria will be missed, and out control of the disease will be very much weakened.

3rd. *Isolation and Disinfection.*—The value of isolation in the control of infectious disease is readily settled with reference to such a disease as measles. In view of the fact that a case of measles is in its most infectious state before the rash appears, and therefore usually before it is diagnosed, it is quite certain that even if it were possible to isolate cases of measles, such isolation would be futile, because the cases would be isolated after the mischief is done. The number of persons who contract disease from a patient suffering from some other infectious disease, as, e.g., Encephalitis Lethargica, is very small. That does not prove, however, that the number of persons who become carriers from being in contact with an acute case of the disease, and subsequently infect others, is not considerable.

The question of isolation is therefore bound up with the question of the detection and treatment of carriers. We are still in ignorance of the factors which cause an increased susceptibility of the population, or a hyperinfectiveness of the

micro-organisms of a disease which cause it to become epidemic. The idea that if a patient suffering from scarlet fever is taken from his house, dumped into a ward with a number of cases of scarlet fever of various grades of severity will under such conditions cease to carry the organisms within his nose and throat is, to my mind, an impossible proposition. It is equally impossible for me to suppose that you will render the infective organisms innocuous if you swab a child's throat every hour for twenty-four hours with a 10 per cent. solution of carbolic-oil, and subsequently inunct him with eucalyptus-oil. The multitudinous methods which were tried in the Army in the endeavour to free the nose and throat from the meningococcus in the cerebro-spinal carrier *à priori* dooms the Milne treatment to failure. I am equally convinced that the attempt to nurse cases of scarlet fever in overcrowded dwellings, workmen's dwellings, and, as a placebo to the parent, to inunct the child with eucalyptus-oil is a departure from scientific methods which should not be countenanced, much less encouraged, by any Medical Officer of Health.

The Milne treatment has been thoroughly tried out in the Dr. Barnardo's Homes, at Ilford. I remember some two or three years ago the Medical Officer, Dr. Gushue-Taylor, calling to see me and asking me if I could give any reason to account for the incidence of scarlet fever in the Institution. I said "Certainly, the Milne treatment." Dr. Gushue-Taylor was rather aghast at such a slur on the method proposed and carried out by his predecessor, but he proceeded to make a detailed investigation into the results of the method, and found that the return cases in his Institution gave a rate of 26 to 46 per cent. in certain years. In the years 1921-2 the return case rate in the Dr. Barnardo's Homes at Ilford was 28 per cent., whereas in the Ilford Isolation Hospital it was between 3 and 4 per cent. Dr. Gushue-Taylor instituted isolation, and immediately his return case rate dropped from 28 to 3.7 per cent. in 1923, practically the same figure as that of the Ilford Isolation Hospital, which was 3.4 per cent. I would point out that the return case rate is really not an infallible guide as to the infectiousness of patients discharged from hospital. For it to be of any real value one would be compelled to have an accurate knowledge of the immunity of the persons in the surroundings to which the patients are discharged, as tested by the Dick re-action. It is not too much to say that over 90 per cent. of the cases of scarlet fever in this country in ordinary times are directly or

indirectly return cases. The child returns from isolation, either in his own home or in the Isolation Hospital; he may not infect any other children in the house because they may be immune, but he goes to school or to Sunday school, or otherwise comes in contact with susceptible children, infects them, and so the cycle of incidence of the disease goes on.

I would summarise my opinions as to the isolation of scarlet fever as follows:—

Many more cases of scarlet fever could be isolated at home than are at the present time, but this isolation at home should be limited to cases which can receive adequate medical and nursing attention. In such cases the amount of infection spread to surrounding persons is negligible. I find, for instance, in Ilford in 1919, 38 cases were nursed at home, and there were no direct return cases. There are many points in the construction and administration of Isolation Hospitals in this country which require serious attention. In my opinion the Isolation Hospital should be under the control of the local authority; the existence of such bodies as Joint Hospital Boards and the Metropolitan Asylums Board does not conduce to efficiency. The treatment of infectious diseases should not be divorced from their prevention. The provision of cubicle and isolation wards in Isolation Hospitals generally is woefully inadequate. It is the exception, rather than the rule, to find sufficient cubicle and separation wards, where doubtful and septic cases of scarlet fever can be treated. In many hospitals there are no facilities for separating acute cases from convalescent ones, and no adequate recreation grounds for convalescent patients. I am a firm believer in the open-air treatment of scarlet fever. I do not know that the Ministry of Health, when a scarlet fever ward is being constructed, has yet expressed the view that it should be constructed on an open-air principle. This brings me to another point, that there is no systematic inspection of Isolation Hospitals in the country, neither is the Medical Superintendent of any Isolation Hospital required to present an annual report to the Ministry of Health on his Institution. In my opinion, some of the medical officers of the Ministry might well be engaged in systematically inspecting the cubic space allotted to patients, the general administration of the hospital, and in recommending any necessary improvements to the sanitary authority.

In very few Isolation Hospitals is any serious attempt made to deal with the carrier problem. Even so far as diphtheria is concerned, and even under such an authority as the Metropolitan

Asylums Board, there have been Medical Superintendents who have discharged children from hospital without even the rough test of a bacteriological examination of a swab. The very fallacious argument is (as I have already pointed out) that because the return case rate is not much lower in hospitals where swabs are examined, therefore the examination of a swab is not of value. I have known of two cases in my own district where children, discharged from an Eastern district institution without the examination of a swab, instead of returning to their own homes, came to Ilford and infected other persons with diphtheria, and were found to be harbouring virulent K.L.B. in their throats. I believe that the discharge of both scarlet fever and diphtheria patients should be largely in the hands of a nose, throat and ear surgeon, who should be attached to each Isolation Hospital. I am aware that there is one attached to certain of the Metropolitan Asylums Board Hospitals, but as his duty is only to visit three of the latter institutions once a week, and other times when necessary, and his remuneration is £350 per year, one can readily understand his advice is really only available for complications. It should be the duty of the nose, throat and ear surgeon to examine the nose and throat of a patient before discharge, and if there is any unhealthy condition to attempt to remedy it. I am fully aware that this means a large additional cost, but I am convinced that unless a serious attempt is made to deal with the carrier problem, we shall get no further with the control of these endemic diseases, unless, of course, a widespread immunisation is possible. It is true that there are carriers whom it appears impossible to free from the infecting organisms, but in other patients the difficulty is not insuperable; and should at least be attempted. The question, to my mind, is not whether too much money is being expended on Isolation Hospitals, but rather whether it is not a question that too little is being expended. Unfortunately, we see a similar policy being adopted in our maternity schemes. If Maternity Homes are being carried on in adapted houses, unsuitable for the purpose, sometimes under-staffed, with no specialist advice, some of us must not be surprised when we find in the annual report of the Ministry an expression that the result of such homes is not altogether satisfactory, and that 48 cases of puerperal fever occurred in 118 Maternity Homes. If Isolation Hospitals, and if Maternity Homes are to be conducted with efficiency and to bring the results which are reasonably expected from them, then the Medical Officer of Health must not adopt or

recommend any economy stunts. If the work is worth doing at all, then time, money, and the best intelligence must be expended on it.

The Ministry of Health conducts enquiries and issues reports on certain Isolation Hospitals after return cases, and cross infections have been so prevalent as to cause a public outcry, but if it makes no attempt at preventive insurance, by seeing that all Isolation Hospitals are systematically inspected and are being conducted on modern lines, we have not got the system which is going to bring the best results in the control of infectious diseases.

Dr. R. R. K. Paton, Div. M.O.H., Northern Division of Glasgow, said: The original function of the Isolation Hospital is to prevent the spread of infectious diseases, and to a great extent it has failed in its purpose. The commoner diseases isolated in this country are scarlet fever and diphtheria, and isolation has been of no value in reducing the case rate from either of these diseases. With diphtheria there has been, however, since the beginning of the century a gradual but steady change in the age incidence of the disease from pre-school to school age. I cannot say if this change is due to isolation of cases, but it would be a reasonable supposition. This change has taken place in both urban and rural districts in Scotland and also in England. The rarer diseases—typhus, enteric and relapsing fevers have almost entirely disappeared, and again the isolation hospital qua isolation has not been the cause. Improved sanitation and housing, and to some extent the better feeding of the people, have done much more to clear away typhus fever than any provision of isolation. I remember looking over an old fever map of the Northern division of Glasgow, dated about 1860, where the typhus cases were spotted red on the map. These red spots were almost as numerous as are the red spots for scarlet fever on the modern maps of that city. Within the next 20 years the great advances of modern sanitation were made, slums were cleared, re-housing started, and in the 70's, I think, foreign meat was being imported and the poor people were being more cheaply and probably better fed. Typhus almost disappeared before my time, and the epidemics we did have were small in number and limited in distribution. Take the most important of all infectious diseases, malaria. Has not improved sanitation made the West Coast of Africa reasonably healthy, when isolation would have proved impracticable and utterly impossible. Isolation is only one function, however, of the fever hospital (and I think fever hospital a much

more satisfactory name). The other functions of a large fever hospital such as I have been associated with are (1) the care of the patient; (2) the training of nurses; and (3) research. As to (1), in the majority of houses, especially in a large city, serious fever cases cannot get the nursing they require. Skilled nursing is certainly required in enteric fever and diphtheria, and must be available for these people. This brings me to (2), the training of nurses. Having spent varying periods in general, mental and fever hospitals, I should like here to say that if in any serious malady I had the choice of a nurse only well trained in fevers or only well trained in general nursing, I should choose the fever nurse. If a nurse is skilled in nursing enteric fever cases, no better nurse can be had for any emergency. I regret very much that fever nursing does not rank with general trained nursing in the present scheme of registration. With regard to (3), again, in fever hospitals, there is a tremendous field for research, especially in the larger hospitals with well-equipped laboratories. A great deal of valuable research work is being carried on daily in the larger fever hospitals, not only in fevers but also in other diseases of children. With keen workers and better equipment we may hope that the casual organisms of scarlet fever, smallpox and measles may be discovered, and that these diseases may be attacked from a position founded on definite knowledge, and not hypothesis. From these three subsidiary heads alone I think that the isolation hospital, or rather fever hospital, justifies its existence.

Dr. T. S. McIntosh, M.O.H. (Hendon), said: The common conception of infectious diseases seems to be that you have on the one hand the infection, and on the other susceptible individuals, and that if the two encounter each other you get cases of the disease. That makes it a very simple problem—I do not mean easy to tackle, but simple to understand. According to this conception the access of the infection to the human subject is the determining factor, and all our preventive measures seem to me to be based on this, as I believe, erroneous conception. We regard each case of infectious disease as a focus sending out rays of infection, and we endeavour to cut these rays. No doubt every case is a focus, and yet it must be admitted that our efforts based on this idea are not conspicuously successful. I suppose we could all quote instances where there has been an outbreak among children attending a certain school, where we have visited the school and found a child desquamating or with a nasal discharge containing diphtheria bacilli, and where

the removal of that child has been followed by a termination of the outbreak. That, of course, is all to the good, but can we claim to be able to do anything really substantial towards preventing the spread of infectious diseases? What is the reason for our failure? I believe it is that the infecting agent of the common infectious diseases is so widespread that the cutting of a few rays spreading out from the known cases has very little effect in the total. I think we have accepted the view that infection is always passed directly from person to person without sufficient evidence. It is a theory which it is almost impossible to disprove if you postulate the presence of healthy carriers, but is its truth really established? It may be that the infecting agent lurks somewhere outside the human body, waiting its chance to attack when conditions are favourable. Again, may it not be that it is a more or less normal inhabitant of the healthy human body? It may be perfectly true that the known infecting agents cannot as a rule be discovered in the healthy human body, but it does not seem to me that that is a complete answer to the question. Is it not possible that it is present in the healthy human body in an unrecognised form? The statement that bacteria are specific and remain true to type leaves me comparatively unmoved. It may be perfectly true that bacteriologists cannot demonstrate one known bacillus changing into another known bacillus, but, to take an example, is it not perfectly possible that the typhoid bacillus is normally present in the human intestine in a hitherto unrecognised form, and that, under certain conditions, it takes on new characters which on the one hand enable us to recognise it, and on the other enable it to produce typhoid fever? I do not wish to open up a controversy about the typhoid bacillus; I merely use it as an illustration. One thing is certain, and that is that every year we are discovering fresh instances of the truth that more can take place in the human body than is dreamt of in our philosophy. These suggestions are not necessary to my argument, because all I assert is that the infections of the common infectious diseases are so widespread that it is almost hopeless to attack them directly. Now this is a view that you may hold without straying from the fold of the strictest orthodoxy if you invoke the aid of the healthy carrier. It may very well be that we are all healthy carriers from time to time, perhaps only for very short periods. A period of an hour or two would be sufficient to enable us to pass on the infection to others. At any rate, whatever may be the explanation, I cannot help suspecting that the

infection of the common infectious diseases is always available, and that, *given the favouring conditions*, you will always get cases of the disease. If the factors to be considered were only two, *viz.*, the infection and the presence of susceptible individuals surely our experience would be different from what it is. 1. We have all, I suppose, been struck by the following experience: A case of scarlet fever or diphtheria occurs in a large family living in two or three rooms. It is hardly conceivable that every member of the family has not been exposed to the infection, yet the other members of the family do not contract the disease. In only about 5 to 10 per cent. of the invaded families do multiple cases occur. If the production of cases of the disease were dependent simply on the encounter of the infection and susceptible individuals surely multiple cases would be the rule and not the exception, as they are. I suppose no one will assert that all these children in infected families who escape are endowed with a natural and permanent insusceptibility. I imagine that there is no such thing as complete susceptibility or complete insusceptibility, but that it is merely a matter of degree. The degree of susceptibility certainly varies in different individuals, and no doubt in the same individuals at different times. 2. Again, everyone must have noticed how a district will be comparatively free from an infectious disease, then suddenly cases begin to crop up in various unrelated areas. It does not seem to be a case of spread from a focus, but of the simultaneous appearance of many foci. It suggests to my mind that some environmental cause (climatic or other) is the determining factor. 3. Again, why does an epidemic come to an end? Surely it is not because all the susceptible material has been used up: I can only suppose that it is because the conditions which favour the epidemic have ceased to be operative. These, and other considerations, suggest the theory that the occurrence of infectious disease is dependent on the interplay of at least three influences: (1) the infecting agent; (2) the individual's natural power of resisting the attack of the infecting agent; (3) some combination of environmental conditions which either assists the attacker or prejudices the defender, and so determines which shall win the day. In the case of some diseases we actually know this third factor. I think there is no real doubt that exposure to cold may determine an attack of pneumonia or of the common cold. In the case of most diseases we do not know what this third factor is, but there does seem good ground for believing in its existence. I daresay that practically everyone

would agree that the three factors I have mentioned do all play their part. Where we may differ is in assessing their relative importance. What I wish to suggest is that we have been almost obsessed by the infection factor, and have ignored the third unknown factor. We hear a great deal about the soil and the seed, but we hear very little about the rain and the sunshine which are necessary to the flourishing even of good seed in suitable soil. And so I suggest that our present methods can never be more than very partially successful, because they are founded almost entirely in the implication that the infection factor is the predominant and determining factor. This is not unreservedly true. Our sheet anchor in the case of certain diseases is the raising of the resisting power of individuals by inoculation. That is so in the case of smallpox, and there are indications that it may become so in diphtheria. As a matter of fact this method of attack has proved more successful than the direct attack on the infection. But, after all, I suppose there must be some limit to the number and variety of toxins and bacteria that we are going to inject into people, and I think these methods ought to be looked on as not wholly desirable, and are justifiable only for want of a better. I hope I shall not be misunderstood. My remarks are not intended as an indictment of present methods. I do not suggest that we should abandon these. They are the only methods we know at present, and they probably accomplish something. I believe, for example, that isolation hospitals have some preventive value. They have certainly not fulfilled the very natural expectations of those who instituted them, but when I admit a florid case of scarlet fever with a filthy septic throat, or case of diphtheria with extensive membrane and profuse nasal discharge, I cannot escape the feeling that some good has been done by removing that case from a crowded house. But what I do wish to emphasise is that we cannot hope by our present methods to gain really effective control of infectious diseases. Consider foot and mouth disease. The contacts are dealt with more drastically than the most enthusiastic among us can ever hope to deal with human contacts—and what is the result? The epidemic goes gaily on till it stops of its own accord. Accordingly I suggest that control of infectious diseases, if it ever is attained, will be attained not by a direct frontal attack on the infection, but by an indirect attack through the, at present, unknown favouring circumstances. And I think we should cudgel our brains for some means of discovering this unknown factor whose existence and import-

ance I have endeavoured to suggest. I regret to say that the cudgel applied to my own brains has not been fruitful, but I am more hopeful as regards those of my colleagues.

General Discussion.

Dr. E. H. R. Harries, Medical Supt., Birmingham City Hospital, expressed agreement with Dr. Thomson's views. With regard to diphtheria carriers they in Birmingham had experienced considerable trouble in that connection, and had had some 1,700 so-called cases of diphtheria to deal with. A large number of those people had been discharged from hospital without the taking of swabs, and so far there had been no return case. The views of other medical superintendents and medical officers of health on that point would be helpful.

Dr. E. W. Goodall, O.B.E., Medical Supt., N.W. Fever Hospital, M.A.B., congratulated Dr. McIntosh on his extremely able address, which had brought them back to first principles. It was well to take up the study of the history of infectious diseases in the past and to try to find out why epidemics arose. In times when there were no hospitals worth talking about plague died out in this country, though he had never really seen it explained why, and without much human interference epidemics had arisen and had disappeared. When the bacteria were discovered it was thought that the disease was to be done away with, but now it was being recognised that that was not the case, and that a vast number of factors had to be considered in the production of epidemics and their disappearance. He was glad to note that one of the subjects which was being particularly emphasised in the regulations of the General Medical Council was the more thorough study of epidemiology. With regard to immunisation, in Fagge's Medicine, which came out in 1885, allusion was made to the probability of there being only one way by which infectious diseases could be stamped out, and that was by rendering the population immune by some sort of vaccination, as in the case of smallpox. That might be a method by which it would be possible to control those diseases, an example of which was found in toxin anti-toxin immunisation in diphtheria. On the question of diagnosis, there was no more difficult disease to diagnose at the present time than scarlet fever, and a lot of cases were sent to the hospital which turned out to be not scarlet fever. As to swabbing, Dr. Goodall said he was against all the swabbing that went on in diphtheria cases, though he did it for his own protection. He was beginning to be a

believer in what was called the "epidemic constitution." He strongly recommended the reading of Dr. Crookshank's book on "Influenza," which gave an excellent general idea of infectious disease, how it spread, and so on. He could assure Dr. Burton that in infectious hospitals every possible care was taken to send the patients out immune. With regard to nursing, the number of cases of enteric fever was almost negligible in London at the present day, and if dependence were to be placed upon such cases for teaching the nursing staff then they would have to depend upon very little. Having had to do with the teaching of nurses for many years, he totally disagreed that a fever hospital nurse could be as well trained as one who went first to a general hospital. Although the General Nursing Council had set up a supplemental register for fever nurses he personally tried to prevent it, preferring to see the nurse take first the general hospital training and go to a fever hospital afterwards; in fact, an arrangement similar to that of the D.P.H. with medical men. The Minister of Health at the time, however, would not hear of the additional qualification. Dr. Goodall repeated that the whole question under discussion was a very large one, involving very many factors, and added that he believed that with the researches of such men as Dr. Brownlee and Dr. Major Greenwood there would come a time when they would be able to anticipate epidemics, and take measures to prevent them.

Dr. W. Mair, Research Pathologist, M.A.B., stated that it seemed to him that to suggest the possibility of typhoid bacilli, diphtheria bacilli, and others arising *de novo* was to strike at the whole micro-biological theory of disease, and after all, what was an infectious disease—surely one that was transmissible from one person to another.

Dr. C. S. Thomson, M.O.H., Deptford, remarked that he did not know what they would do in London without their splendid M.A.B. medical service. Referring to disinfection, he understood that in certain districts, Wallasey, for example, they had given up disinfection altogether, and that there had been no greater increase of infectious disease. With regard to experience in the infectious diseases, no one, in his opinion, should be allowed to start practice until he had been a house man at a fever hospital. A doctor in his district had sent him 36 notifications in a month, and one-half of them had proved to be not diphtheria and not scarlet fever. He had recently made an enquiry as to what was done by medical officers of health in London in the matter of ex-

amination of diphtheria contact, and it appeared that in only two districts were such examinations carried out. Contacts in his own borough were brought to the Town Hall, and he managed to see about 80 per cent. of them, and it had been found that in about every 300 contacts one turned out to be a clinical case of diphtheria. Bacteriologists were very helpful, but they should not control the situation. By concentrating upon such things as scavenging, etc., they might hope that diphtheria would be brought down. Lastly, he emphasised the need for more public education in hygiene, infectious diseases, and kindred subjects.

Dr. E. H. T. Nash, M.O.H., Heston and Isleworth, referring to the measles epidemic of 1921, asked why it was that the child in the house of a rateable value of less than £26 was more doomed to die from the disease than the child living in property above that value. In the question of infectious diseases they were greatly concerned with the soil, not the seed, and very great improvement had been and would be secured by better methods of living, feeding and sanitation. With regard to swabbing, what were they to do? The position was a very difficult one, and he confessed to being at present a wholesale swabber, swabbing every single contact in a house where a case of diphtheria had been notified. He was still of opinion that it was worth the money. He desired to support Dr. Goodall in what he said in connection with nurses. They had fought hard to get the trained nurses up to a certain standard, and it was found impossible to train them on what they got in the smaller fever hospitals. Dr. Nash concludes with details of the Schick testing of a school of 500 children.

Prof. A. Bostock Hill said that a number of the infectious diseases were in the early days very different diseases from what they were at the present time. He could not help feeling that there was a most unduly pessimistic tone about the first two or three speakers, who had seemed to infer that there had been no advancement at all in the treatment of infectious disease. When he looked at what the death-rate from measles and scarlet fever had been he could not but come to the conclusion that they had done an enormous amount by the methods they had had in use in lowering not only the severity but the incidence of infectious disease. As to disinfection, he did not believe that disinfection as ordinarily carried out was of much value. He was of opinion that much of what had been done in the way of prevention of infectious disease had not been done by infectious hospitals by themselves, but was quite sure that there was a better power of control at the

present time. He congratulated the meeting on having had the advantage of hearing Dr. McIntosh and Dr. Goodall, who had put things in a way that made them look upon infectious diseases as a whole. He believed, with Dr. Goodall, that there was something in the "epidemic constitution," an idea that had in the past been rather laughed at. While he thought they owed a great deal to the work initiated by themselves as officers in the sanitary service, improvement due largely to the better economic condition of the people and their increased power of obtaining food of good quality had played a great part in enabling them to deal with infectious disease.

Dr. T. W. Naylor Barlow, O.B.E., M.O.H., Wallasey, mentioned the practice in commercial circles of taking stock to see how business was going. Medical Officers of Health too, he felt, ought periodically to take stock of the knowledge they had and the methods employed in relation to disease. Those of them who had been concerned in dealing with infectious disease had thought at one time that they knew quite a lot about the subject, but after being engaged upon the work for some years they found that there was much they did not know. They imagined they knew the cause of diphtheria to be the Klebs Löffler bacillus, but he thought there were four other bacilli which could give diphtheria. In Lancashire, it was interesting to note, the disease was not nearly so fatal as it was in London. On the question of return cases, Dr. Barlow said that in all his twenty-five years' experience he had not met a return case of diphtheria. Before they could hope to control infectious diseases there was a tremendous amount they had to find out, and he agreed that, possibly with the exception of small-pox, they had better cease calling them preventible diseases. In Wallasey they had ceased to disinfect houses after infectious disease. As to swabbing, it was being done simply for self-preservation.

Dr. Burton, referring to the report of a certain provincial hospital, said that it would doubtless be agreed that there were many of the smaller isolation hospitals in this country that absolutely demanded inspection by another authority. As regards swabbing, he agreed with the last speaker. Research, added Dr. Burton, was shifting from the carrier problem to immunisation, and he thought that was a regrettable thing.

Dr. McIntosh said he was quite prepared to accept Dr. Mair's view, and quite prepared also to admit that all he had said about bacteriology was absolutely wrong. That, however, did not

affect the main argument, viz., that the infection, although an important thing, was not itself a determining and predominant factor.

Dr. Frederic Thomson expressed the view that after an experience of 35 years there had been no improvement in the treatment of scarlet fever, though the nursing was a little better. With reference to swabbing, he desired to make it clear that he never failed to examine a case of diphtheria bacteriologically. Another speaker had suggested that the ear, throat and nose surgeon should examine the patients before discharge. He must protest against that; medical superintendents in hospitals of any size had more experience in that connection than the ear, throat and nose man. The nursing of diphtheria cases at home Dr. Thomson looked upon as a dangerous practice, as the nursing of such cases was a very special thing, and it was only exceptionally that nurses with the necessary training and experience could be found to deal with them.

Society of Medical Officers of Health.

COUNCIL MEETING.

A meeting of the Council was held at the house of the Society on Friday, 22nd May, 1925. The President (Dr. R. A. Lyster) was in the chair, and there were present: Professors A. Bostock Hill and H. Kerr, Lt.-Col. F. E. Fremantle, M.P., Drs. Garstang, J. T. C. Nash, Cates, Pedley, Jolly, Ridley Bailey, Stirk, Sanders, Snell, Evans, Howard Jones, G. F. Buchan, Wilshaw, Naylor Barlow, Porter, Eustace Hill, Stocks, Banks, Clements and Beard.

The minutes of the last meeting having been approved and signed, messages of apology for absence were received from Lord Dawson, Dr. Wheatley, Lt.-Col. Herbert Jones, Prof. F. E. Wynne, Dr. Fenton, Dr. Flemming and Dr. Greenwood.

Correspondence.—(1) From Dr. G. F. Buchan drawing attention to paragraphs 127 and 128 of the annual report of Council, B.M.A., in reference to the establishment of a Factory Medical Service. It was agreed that the Society should co-operate in this matter, and that the B.M.A. be asked to arrange for a joint deputation to place the corporate views of the profession before the Minister of Health and the Home Secretary, and that the suggestion should be made that representatives of the County Councils Association and the Association of Municipal Corporations be included in the

deputation. (2) From Dr. C. W. Hutt, in reference to the second reading of Factory Bill, suggesting that the Society should draw attention to the invidious manner with which a workshop becomes a factory under existing legislation. It was agreed to refer Dr. Hutt's letter to the Society's representative on the appropriate Committee of the B.M.A. (3) From the London School of Hygiene, stating that in the absence of any appointment by the Society under article five of the Charter of Incorporation of the School, the Minister of Health has appointed Lieut.-Col. F. E. Fremantle, O.B.E., F.R.C.S., M.P., to be a member of the Court of Governors. (4) From the London School of Hygiene in reference to the report of the Special Committee of the Council which has been dealing with the steps to be taken under rule of the D.P.H. regulations. (See "Public Health," May, 1925, p. 248.) The report was considered at a recent Meeting of the Education Committee of the school, who thought that the suggested alternative methods of carrying out the course of practical work in association with Medical Officers of Health should be examined in the light of experience before the Board took any decision in the matter. These alternative methods the Committee understood to be: (1) A course spread over the whole period of six months contemplated by the rule; (2) An intensive course of three months. The letter continued: "It appeared to the Education Committee not improbable that the General Medical Council would be prepared on representation to allow intensive courses of three months to be carried out experimentally within the scope of the present rule, and if particular cases are put forward with this view the Board of Management would be pleased to make the necessary representations to the General Medical Council in the matter." The letter was referred to the Special Committee for their observations. (5) From a Medical Officer of Health in connection with enquiries and investigations undertaken on behalf of Government departments. Agreed that Prof. A. Bostock Hill, Dr. Lyster, Dr. G. F. Buchan and Dr. J. M. Clements be appointed a Special Committee (with power to co-opt) to consider and report on the part of the Public Health Service in Research Work. (6) From the College of Nursing asking if the Society would give definite support to their proposal before the Royal Commission on National Health Insurance for the provision of a statutory nursing benefit. Agreed that the college be referred to the statement in this connection contained in Para. 10, the Memorandum of Evidence to be submitted by

the representatives of the Society before the Royal Commission (see "Public Health," March, 1925, p. 176). (7) From Dr. R. Veitch Clark suggesting an age limit for candidates seeking the certificate of the C.M.B. Referred to Special Committee on Midwives' Acts. (8) From the Midwives' Institute submitting resolutions in reference to Maternal Mortality. Referred to Special Committee on Midwives' Acts. (9) From Dr. J. Howard-Jones in reference to a C.M.B. circular to Local Supervising Authorities. Referred to Special Committee on Midwives' Acts.

Election of Officers.—Dr. T. Ridley Bailey and Dr. G. F. Buchan were nominated by the Branches for election as President for the session 1925-26. The Council decided by ballot to recommend Dr. G. F. Buchan for election by the members. The following officers were elected for the coming Session:—

Vice-Presidents.—Dr. R. A. Lyster, Dr. T. W. Naylor Barlow, Lt.-Col. Herbert Jones.

Hon. Treasurer.—Dr. J. Cates.

It was agreed to postpone the election of Editor pending a further report from the Special Journal and Finance Committee.

Overseas Branches.—The following report of the Committee of Officers of the Society was approved and adopted:—

(1) Your Committee have considered a communication from the Malayan Branch of the Society enquiring if in view of the extra expenses of Overseas Branches they might receive especial treatment in the matter of capitation fees. Your Committee recommend that any Overseas Branch should receive a capitation grant of 10s. 6d. for each subscription paid by Fellows, and 5s. for each subscription paid by Associates being members of that Branch.

(2) Your Committee have also considered a letter from the provisional committee of the proposed Madras Branch of the Society, enquiring if medical officers in the Presidency Service, who hold Indian medical degrees which fully qualify for local practice, but which are not registrable in Great Britain, are eligible for election as Fellows of the Society. Your Committee are of opinion that any medical man should be eligible for election to the Fellowship whose qualifications comply with the legal registration requirements of the part of the Empire in which he is practising. Your Committee recommend that they be authorised to send a reply to this effect to the Madras Branch.

Special Journal and Finance Committee.—A report from this Committee was approved and adopted as follows:

Your Committee have carefully considered the replies received from the Branches in reference to the recommendations published in "Public Health," February, 1924, page 154. Your Committee feel that the general purport of the replies would justify them in advising the Council to take action in accordance with the recommendations. They desire, however, to give further consideration to certain observations and reservations in the replies from the Branches, and they therefore ask to be allowed to defer

their report until the September meeting of the Council when they will submit proposals, which if adopted would become operative from October 1st, 1926.

The Sanitary Officers' Order, 1922.—Attention was drawn to the continued appointment of medical officers of health whose qualifications do not comply with the Sanitary Officers Order, 1922. It was agreed that compliance by Local Authorities with the requirements of the Order is essential in the interests of efficient health administration.

Representations from Branches and Groups.—The following resolutions from the West of England Branch were referred to the Branches for their consideration:

- (1) That the existing legal powers for ensuring a pure, clean milk supply are inadequate, even if fully enforced. Any further postponement of the Milk and Dairies (Consolidation) Act, 1915, which comes into force September next, will be prejudicial to the health of the country.
- (2) That the Tuberculosis Order of 1914 be amended and put into force, and worked by the Public Health Committee in each Area.

The following resolution from the Home Counties' Branch was also referred to the Branches:

"That in the opinion of this Branch all butchers should be required to provide glass fronts for their shop windows."

The following resolution from the Tuberculosis Group was directed to be sent to the Public Health members of the A.R.M., British Medical Association, leaving them to take such line of action as might seem advisable after the discussion at the A.R.M.

"That representatives of the Public Health Service should support the motion of the Derbyshire Division of the B.M.A., to rescind the resolution [158] of the 1924 A.R.M. advising that whole-time medical officers of local authorities should not accept fees for private consultations."

Health Propaganda.—The special committee on health propaganda reported that the Minister of Health received on the 23rd April, a deputation from the Society, introduced by Dr. John Wheatley.

The deputation represented that they in their capacity of men of scientific training in constant touch with the general public had found that there was an urgent need for further propaganda directed more than propaganda is at present to the general improvement of health rather than to the combating of special diseases. This is the surest preventive of disease. They thought that statutory provision should be made for Local Authorities to carry on health propaganda. As a next stage a central body should be set up to advise Local Authorities, who sought their help on the way in which propaganda should be carried out locally, and to assist them by the provision of lecturers, literature and other means of propaganda which could best be organised by some sort of central authority. The Society thought that in their special position they would be able to give valuable help to such a central body, and

that Medical Officers of Health should themselves be included in its membership.

The Minister, in reply, said that he fully agreed with the deputation as to the necessity for propaganda on health questions, and he gave his assurance that he proposed to take steps to have the necessary powers conferred on Local Authorities forthwith. He hoped that it might be possible to do so this year, or, at any rate, next year. He also agreed that some sort of central body could give valuable assistance; and when the necessary legislation, had been passed he would give careful consideration to the question of the proper constitution of such a body and the functions which should be assigned to it.

The report of the Committee was approved.

Representation of the Society.—The following were nominated to represent the Society:

National Association for the Prevention of Tuberculosis (Eleventh Annual Conference): Drs. Eustace Hill, G. F. Buchan and E. H. Snell.

Imperial Social Hygiene Congress (Wembley, October, 1925): Prof. A. Bostock Hill, Drs. Porter, Barlow and Sanders.

Royal Sanitary Institute (Edinburgh Congress): Dr. R. A. Lyster, Dr. G. F. Buchan, Prof. H. R. Kenwood.

International Congress on Child Hygiene (Geneva, August, 1925): Dr. W. J. Howarth, C.B.E., Dr. Stella Churchill, L.C.C.

The Scale of Salaries.—Dr. G. Buchan (Chairman, Salaries Committee), reported that the Scale as amended at the Ministry of Health Conferences, had been circulated to all Local Authorities by the British Medical Association with an explanatory memorandum. He also reported that as the Paddington Borough Council had refused to discuss the terms offered by them for the post of M.O.H., such terms not being in accordance with the spirit of the Scale, the B.M.A. and the Society were advising their members not to apply for the post. This decision was approved.

The Council then adjourned.

ORDINARY MEETING.

An Ordinary Meeting was held at the House of the Society on Friday, May 22nd, 1925, the President (Dr. R. A. Lyster) in the chair.

The minutes of the last meeting having been approved and signed, the following candidates were elected to the Society:—

As Fellows:

Atkinson, Frederick Richard Breeks, M.D., C.M. Edin.; Browne, William Walker, O.B.E., Lt.-Col., R.A.M.C., M.R.C.S., L.R.C.P., D.P.H.; Bruce, Oliver, M.R.C.S., L.R.C.P.; Dobson, Josiah Rowland, M.B., B.S. Lond., B.Sc. Wales, M.R.C.S., L.R.C.P.; Fry, Lewis Salisbury, M.B., B.Ch. Cantab., M.R.C.S., L.R.C.P., D.P.H.; MacLennan, Norman Macpherson, M.B., Ch. B. Aberd.,

D.P.H.; Wilson, (Mrs.) Florence Mann, M.B., Ch.B. Glasg.

As Associates:

Hodgson, Richard Escolme, B.D.S., Liv.; Ingram, Sidney W., L.D.S. Eng.; Senior, William Goodwin, L.D.S. Leeds.

Election of President.—Prof. A. Bostock Hill, as senior past-president in attendance, reported that the Council recommended the election of Dr. George Frederick Buchan as President of the Society for the Session 1925-26. There was general agreement that this would be a fitting recognition of Dr. Buchan's eminence in the Public Health Service and of his conspicuous services to the Society as member of Council, Hon. Treasurer and Chairman of the Special Committee on Salaries. In the latter capacity especially, Dr. Buchan had been the driving force in a movement by which every one of his colleagues must ultimately benefit. Two other past-presidents (Dr. Charles Sanders and Dr. T. W. Naylor Barlow) supported the nomination of Dr. Buchan which was approved by acclamation. Briefly acknowledging the honour that had been conferred upon him, Dr. Buchan expressed the hope that he would prove equal to the responsibilities of a chair that had been occupied by so many good men.

There followed a discussion on "The Administration of the Foods and Drugs Acts, and Dietary Control." [A report of the discussion will appear in an early issue of "Public Health."]

The meeting then adjourned.

NORTHERN BRANCH.

A Meeting of the Branch was held in the Medical Institute, 7, Windsor Terrace, Newcastle-upon-Tyne, on Friday, 5th June, 1925.

The President (Dr. W. H. Dickinson) was in the chair, and twenty-two members were in attendance.

The minutes of the meeting held on the 6th March, 1925, having appeared in "Public Health," were taken as read, and signed by the Chairman.

Correspondence.—Apologies for absence were received from Drs. T. Eustace Hill, J. A. Hislop and Isabel Lane.

The Honorary Secretary reported that he had received a letter from the Misses Carson, Alston, thanking the Branch for their message of sympathy in the death of Dr. Stewart Carson.

The following were elected members of the Branch:—Blanche A. M. Henderson, Asst. Welfare M.O. (M. and C.W.), Durham C.C.; Alice M. Stenhouse, Asst. S.M.O., Durham C.C.

Medical Officer of Health, South Shields. New Appointment.—The Honorary Secretary made a detailed statement with regard to the recent appointment of a Medical Officer of Health of South Shields. The post was "black listed," as the salary offered was £900, the Society's scale being £1,100. There were only two applications, one being from a member of the Northern Branch of the Society of Medical Officers of Health, in spite of personal warning.

After a long discussion it was agreed that the member in question should not attend meetings of the Branch pending consideration of the circumstances by the Council of the Society.

Resolution from the Council of the Society—Midwives' Act, 1918, Section 12:—

"That in view of the decision arrived at by the Special Committee, and confirmed by the Council of the Society, in August, 1923 ("Public Health, September, 1923, page 343), the repeal of Section 12 of the Act, 1918, should not be recommended, and that no useful purpose is likely to be served by re-opening the discussion."

The Honorary Secretary explained the position with regard to the above, and it was agreed unanimously to support the resolution.

The Branch decided to support the three following resolutions:—

(1) *Resolutions passed at Meeting of the West of England Branch—*

(A) That the existing legal powers for ensuring a pure, clean milk supply are inadequate, even if fully enforced. Any further postponements of the Milk and Dairies (Consolidation) Act, 1915, which come into force September next, will be prejudicial to the health of the country.

(B) That the Tuberculosis Order of 1914 be amended and put into force, and worked by the Public Health Committee in each area.

(2) *Resolution of Home Counties' Branch:—*

"That in the opinion of this Branch all butchers should be required to provide glass fronts for their shop windows."

Summer Meeting.—The Honorary Secretary stated that Dr. James W. Smith (Ex-Medical Officer of Health, Ryton-on-Tyne), had extended an invitation to the members of the Branch to hold its Summer Meeting at Ryton, at the house of the Tyneside Golf Club.

It was agreed to accept Dr. Smith's kind invitation, and the date was fixed for Friday, 26th June, 1925.

Dr. H. E. Gamlen, Honorary Radiologist, Royal Victoria Infirmary, Newcastle-upon-Tyne, late Medical Officer of Health, West Hartlepool, delivered an address on "Artificial Sunlight (Ultra-Violet Irradiation) in Public Health Work."

A short discussion followed, and the President, on behalf of the members, thanked Dr. Gamlen for his interesting address.

HOME COUNTIES BRANCH.

The Annual Meeting of this Branch was held at the House of the Society, on Friday, 5th June, 1925, at 3.30 p.m. In the absence of the President (Dr. Alfred Greenwood) who is attending a League of Nations course abroad, Dr. McMaster was elected Chairman of the meeting.

The Minutes of the last meeting were read and approved. Apologies for absence were received from Drs. A. Greenwood, G. F. Buchan, A. E. Porter, and S. J. C. Holden.

The Secretary reported the further arrangements which had been made by Dr. Howarth, Medical Officer of Health of the City of London, for the series of demonstrations on Meat Inspection. He also reported that a letter had been received from the Secretary of the Kent Branch of the B.M.A., asking that the Home Counties' Branch should again nominate two members to serve on the Kent Branch of the B.M.A. It was resolved that Dr. Alfred Greenwood and Dr. A. B. McMaster be re-elected.

The Secretary was instructed to put down on the agenda for the next meeting of the branch a letter from the Executive Secretary which had been submitted at the previous meeting with reference to the administration of the Midwives' Acts. The Secretary submitted a further letter from the Executive Secretary containing resolutions passed by the West of England Branch of the Society, in reference to the powers under the Milk and Dairies (Consolidation) Act, 1915, and the Tuberculosis Order of 1914. It was resolved that the consideration of these resolutions should be deferred for four months.

The Secretary submitted a further letter from the Executive Secretary asking for particulars to be forwarded following the election of the officers of the branch, and the branch representatives on the Council for the session 1925-26.

The meeting then proceeded to the election of the officers of the branch. For the office of President there were nominated Drs. T. Orr (Ealing), W. W. Jameson (Hornsey), and H. J. Milligan (Reading). As a result of the ballot it was declared that Dr. Jameson had been elected President for the ensuing term. Dr. A. E. Porter (Reigate) and Dr. H. J. Milligan (Reading) were re-elected Honorary Treasurer and Honorary Secretary, respectively.

The following were elected to the Executive Committee: Dr. W. W. Jameson (President), Dr. Alfred Greenwood (Past President), Drs. A. E. Porter (Hon. Treasurer), H. J. Milligan (Hon. Secretary), G. F. Buchan, Joseph Cates, F. T. C. Linton, and E. H. T. Nash.

The branch representatives on the Council were elected as follows: Dr. W. W. Jameson (President), Dr. H. J. Milligan (Hon. Secretary), and Dr. F. T. C. Linton.

Dr. T. S. McIntosh then opened a discussion on the Board of Education Memorandum on Closure of and Exclusion from School. Dr. McIntosh stated that in his opinion the memorandum was useful, but in the main simply recommended the practices that were being carried out in most up-to-date areas. He criticised certain details of the memorandum, especially that section dealing with the supervision of infectious cases and contacts, and the swabbing of diphtheria contacts. It appeared to him that few departments were equipped with sufficient nursing staffs to carry out the recommendations of the Board in any manner that would be really effective and useful. Similar criticism attached to the preparation and consulting of medical records of school children. These records were so numerous that clerical staffs were unable to fully record or to trace the complete medical history of the children. A discussion followed, to which Drs. Cates, McIntosh, Nash, and the Honorary Secretary contributed.

Owing to the lateness of the hour, consideration of the succeeding memoranda on the agenda was deferred until a subsequent meeting.

YORKSHIRE BRANCH.

A meeting of the Branch was held at the Royal Station Hotel, York, on Thursday, June 11th, 1925.

Present: The President (Dr. J. Mair), Drs. Buck, Belam, Castle, Galbraith, Hill, Jefferson, Kay, McNaught, Pearce, Pick, Williams and Banks.

Apologies for absence were received from Drs. Buchan, Daley, Dunn, Linton, and Moore.

The minutes were taken as read, having appeared in "Public Health." The Secretary announced receipt of letters from Dr. W. F. Castle, in acknowledgment of the vote of condolence sent after the death of Dr. R. F. Castle, and stated that the former had been proposed for membership.

Matters referred to the Branch from Headquarters were dealt with as follows:—

Repeal of Section 12 of the Midwives' Act, 1918. Resolved, that in the opinion of the Yorkshire Branch the power to inspect midwives should be delegated to those authorities who employ whole-time Medical Officers of Health.

Resolutions passed by the West of England Branch regarding Milk and Dairies (Consolidation) Act, 1915, and Tuberculosis Order, 1914, were supported.

Resolution of the Home Counties' Branch regarding the provision of windows in butchers' shops.—The Branch decided to offer no opinion.

The Secretary reported on the last meeting of the Central Council in London.

Officers of the Session 1925-6 were duly elected as follows:—

President: Dr. Thornley, East Riding County Council.

Vice-Presidents: Drs. Mair, Linton, Jefferson, Scatterty and Wear.

Council: Drs. J. J. Buchan, Belam, Buck, Gibson, Hill, Jervis, Kaye, Moore, Pearce, Pick, Mitchell, Wilson and Williams.

Secretary: Dr. Banks.

Representatives on Central Council: Drs. Pearce and Banks.

The members then adjourned to another room, to be the guests of the Yorkshire Coroners' Society.

[A report of the joint meeting will appear in the next issue of "Public Health."]

MALAYAN BRANCH.

The Annual Meeting of the Branch was held at the Institute of Medical Research, Kuala Lumpur, at noon on the 12th April, 1925. In the absence of the President, the Vice-President requested Dr. Wellington to take the Chair. The minutes of the previous meeting were read, passed and confirmed. The Secretary informed the meeting that no action had been taken to get the Society, registered in the Straits Settlements.

With regard to the amendments of the rules which were passed at the last meeting the Secretary stated that he had no copy in his possession and that nothing had been done in this matter. It was decided to take no further action in the matter until the rules of the parent Society had been received.

The Chairman stated that the Society had been accepted as a branch of the English Society and

that Professor Bostock Hill had been appointed representative on the home council.

The following were elected officers for the coming year:

President, Dr. Black; Vice-President, S.S., Dr. Dawson; Vice-President, F.M.S., Dr. Wellington; Member of Council, S.S., Dr. Hunter; Member of Council F.M.S., Sir Malcolm Watson; Secretary and Treasurer, Dr. Jackson.

The meeting then adjourned.

SCHOOL MEDICAL GROUP.

The Ninth Annual Meeting of the School Medical Group was held on Saturday, June 6th, at 3 p.m., 12 members were present, Dr. Fraser, President, in the chair. A letter from Dr. Clendinning, M.O.H., S.M.O., Cannock U.D.C., calling attention to the alteration in the age of the intermediate group in the now Code Regulations of the Board of Education was discussed. It was decided to make a protest to the Board against this change, at any rate, until the institution of four age-groups.

Officers for session 1925-26 were elected:

President and Representative on the Council, Dr. H. B. Kidner, Div. M.O., L.C.C.; Treasurer, Dr. Hutton-Ashkenny; Secretary, Dr. W. J. M. Slowan.

A very interesting and valuable address was given by Dr. A. C. Williams, Div. M.O., L.C.C., on "Combined Defect," in which he dealt successively with Blindness, Deafness, Speech-failure and Paralysis, in relation to one another and to mental deficiency.

The meeting closed with votes of thanks to the retiring President, and to Dr. Williams.

As a result of the recent voting by Public Health Service Members of the British Medical Association for the Election of four Representatives and four Deputy-Representatives on the Representative Body of the Association, 1925-26, Drs. T. W. Naylor Barlow, T. Eustace Hill, Prof. Harold Kerr and Dr. D. Morley Mathieson have been elected as Representatives; Dr. R. Woolsey Stocks as Deputy-Representative for Dr. Barlow, Dr. P. H. Stirk as Deputy for Dr. Hill, Dr. H. Gibbons Ward as Deputy for Prof. Kerr and Dr. R. H. Wilshaw as Deputy for Dr. Mathieson.

Reviews.

"SURGICAL TREATMENT OF PULMONARY AND PLEURAL TUBERCULOSIS." By J. GRAVESEN, M.D. (Copenhagen), with a foreword by S. VERE PEARSON, M.D., M.R.C.P. Eighty-seven illustrations (three in colour). Price, 10s. 6d. net. (John Bale, Sons and Daniels-son.)

Most methods of treatment for pulmonary tuberculosis have their brief vogue and then pass, but it may be affirmed with confidence that no sanatorium physician gives up the collapse treatment after he has once adopted it. It may be affirmed with equal confidence that everyone experienced in artificial pneumothorax has felt the need, in certain cases, for more extensive and ambitious surgical measures, such as division of pleural adhesions, phrenicotomy, and the various forms of thoracoplasty. Such a need, felt by that great pioneer, Prof. Saugman, led him, when over fifty years of age, and after many years of purely medical practice, to master the technique and personally undertake major thoracic operations. His example, and the surgical work carried on at Vejle fjord Sanatorium by him and by his successor Dr. Gravesen, the author of this volume, have been an inspiration to many in this country. All who have had the privilege of seeing the fine work done at Vejle fjord, or are familiar with it through the published papers, will especially welcome this small book on the surgery of phthisis. Dr. Gravesen's object has been to give a working plan of treatment as it has been found practical at his institution, and the volume is therefore not distended with historical matter, discussion of alternative methods, or quotation of authorities. The methods used and the results obtained are here set forth with admirable clarity. The chapters on suction, drainage, and washing out the pleura call for special mention, as being probably new to many readers. It will give an idea of the extent of the Vejle fjord experience than no less than 675 cases of artificial pneumothorax, and 131 of thoracoplasty are reviewed in the chapter on "Statistics." Among the thoracoplasties there was an operation mortality of 7.6%; of cases operated on more than one year ago 43.1% were alive, and able to work after one to seven years, 13.8% alive but unfit for work, and 40.4% dead of tuberculosis (including the operation deaths). Among such very unpromising material these must be accounted remarkable results.

In this country it is surprising how many practitioners even yet are unacquainted with the possibilities of pneumothorax treatment, or are afraid of it. Probably some hundreds of consumptives who die each year of the disease might have been saved for several years' useful life, and some cured, by pneumothorax timely undertaken. It is still more noticeable how shy practitioners are of any surgical procedures in phthisis, even in cases where they realise that expectant treatment can lead but one way. It remains for tuberculosis officers, and others who are dealing with the disease on the clinical side to familiarise themselves with these new methods, that they may bring them to the notice of the general practitioner, and this book will greatly assist.

In an appendix, Dr. Gravesen refers to other forms of treatment, such as light and chemotherapy, used in combination with surgical measures. As to sanocrysin, he admits that it is too early to dogmatise, but he is finding that this drug and surgical measures are mutually helpful in certain cases; research is going on to determine whether collapse treatment or sanocrysin should be started first, and "how the two methods can best be carried out according to individual peculiarities." A case is recorded by means of a series of nine radiograms, which well illustrates the brilliant success which may attend a policy of active treatment against apparently hopeless odds, and we commend it to the notice of those who are too inclined to fold their hands and do nothing when faced with such a case. A man with high irregular fever, toxic general condition, positive sputum and extensive disease in the left lung was treated by pneumothorax in 1919. The collapse of a large cavity was hindered by an adhesion; this was therefore divided by the galvano-cautery under thoracoscopic guidance. The patient returned to his work as a farmer for four years, but in 1924 fresh disease appeared in the other lung, and this has been treated by sanocrysin, apparently with conspicuous success. All these stages are shown in the X-ray pictures.

Dr. Gravesen, in an appendix, also touches on the new outlook in sanatorium work which these modern methods entail. While the sanatorium must retain all its traditional functions, in equipment and personnel it must develop more on hospital lines, if the best is to be done for patients. There is a lesson here for public health authorities who, for good or ill, have undertaken the institutional treatment of the great majority of our tuberculous population. If this work be

worth doing at all, it is worth doing as well as possible. Open-air buildings and good feeding are still needed, but do not of themselves make a modern sanatorium. Nor can the best results be obtained by appointing as sanatorium physicians junior men, whose main aim in life is to secure a post as medical officer of health, who are content in the meantime on small salaries to "specialise" in half-a-dozen subjects, the better to achieve their end. There must be a real career in clinical public health work, otherwise it had much better be left to voluntary agencies.

The fact that his book is published in English, and is no mere translation, is a tribute to the author's linguistic ability, and deserves our gratitude. He acknowledges assistance from Dr. Mary Nannetti in the language, but in the Preface he takes responsibility for any expressions that may sound strange to the reader. These are remarkably few in number. "Penduling" (p. 5), and "gracility" (p. 96) are perhaps examples, but their meaning is quite plain from the context. In the sentence (p. 42) "when an effusion is present the metallic zone may change considerably in height when a patient is moved from a vertical to a horizontal position," the meaning of the word "height" is not quite clear; presumably *pitch* is intended.

This book will be of real use to all clinical tuberculosis workers. We have nothing but praise for the manner in which the publishers have issued it. The diagrams are admirably clear, and the X-ray photographs are very well reproduced and, an excellent plan, are explained by brief notes beneath each as well as in the text.

"PEMPHIGUS NEONATORUM." [Ministry of Health Memorandum.]

By means of a most exhaustive pamphlet the Ministry of Health have drawn the attention of the profession and midwives to the above disease. The pamphlet has been issued to local authorities and many maternity hospitals, and it rests with the local authorities to take such steps as may be desirable to bring it to the notice of medical practitioners and midwives. Very usefully the whole pamphlet has been reproduced in a number of medical and nursing journals.

The disease in its graver forms is exceedingly rare; in its milder forms, however, it is somewhat more common: sufficiently so to justify the issue of the pamphlet which thereby promotes

this disease to the ever lengthening list of infective diseases, more particularly at the present time when much attention is being given to the ways and means of lessening maternal morbidity.

The disease is contagious and we ourselves have seen examples of spread amongst new-born babies and on two occasions have had to deal with small outbreaks of puerperal fever where a vicious cycle existed, viz., subcutaneous whitlows on the midwife's fingers, puerperal fever in the mother, pemphigus neonatorum in the babies. Doubtless similar circles of infection elsewhere have been found by investigators of the Ministry and our attention is drawn to the disease that precautions may be taken against infection of puerperal mothers by persons in attendance on them who are also attending babies with the disease. We agree that the midwife is often the original source and agent of spread, having known cases to arise where a midwife suffered from pyorrhoea and ozæna, and in another instance, otitis media. We regard these cases as of impetiginous origin and associate them with surgical uncleanness. Cases investigated bacteriologically resulted as follows:—

- 4 cases streptococci only.
- 3 cases streptococci and staphylococci.
- 1 case contaminated.
- 1 case streptococci and an anaerobe (not further differentiated).
- 1 case streptococci and bacilli coli.
- 6 cases syphilitic.

We are of opinion therefore that two types exist—(1) Streptococcal, (2) syphilitic, the latter probably being very rare and requiring great care to differentiate from congenital syphilitic manifestations. We have usually seen the blebs appear on the second day and we have also observed not infrequently a stomatitis and gingivitis present in the baby or other young children in the house.

For both conditions potassium permanganate seemed the best remedy.

The Ministry state that the first requirement is early diagnosis and an immediate report to the local supervising authority; and doubtless, the pamphlet will be followed up with some form of notification, or an order making it obligatory on the midwife to report cases where she suspects the disease is present, however slight, and to present herself for medical inspection where there is a likelihood of her being the causation. We know maternity hospitals where the fingers, ears, and mouths of the midwives are inspected daily; and where, before employment, rigorous medical

inspection for evidence of chronic discharges is invariably performed.

In no instance should a midwife be permitted to attend puerperal women when such a discharge is present; and the midwife might well be compelled to notify such disability at its commencement to the local supervising authority who should satisfy themselves that suitable treatment is being obtained and that adequate precautions are being taken to prevent undue risks amongst her patients, remembering that of all the causes of maternal deaths during the puerperium, sepsis claims the largest percentage and it is the most easily eliminated cause.

Practice has shown that the preventive measures indicated by the Ministry can only satisfactorily follow compulsory notification and this appears to be the natural corollary to the issue of the pamphlet.

LAMARCK-DARWINISM AND DENTAL DISEASE. By Oran Starr, D.D.S., L.D.S. pp. 319, 8vo. Routledge. 21s.

The purpose of this work is to show that dental disease is the direct result of the action of man in neglect of evolutionary law; and, further, that the lamentable condition of the teeth in modern civilised man might have been definitely predicted by any one acquainted with certain laws of evolution which govern the development of teeth as well as other structures.

The author in fact tells us that "the thought through this book from first to last is that every physiological action, every anatomical structure, and every characteristic of living substance is, or will be, explicable by Lamarck-Darwinism with obvious advantages to hygiene and health."

The work falls naturally into two parts, of which the first is concerned exclusively with evolution and evolutionary laws. We soon find that the writer has a strong Lamarckian bias and is an upholder of the debatable theory of the hereditary transmission of acquired characteristics. The second part deals with dental disease, the influence of food, and prevention.

There is nothing particularly new in the idea set forth that the dental disease which afflicts mankind is due to the absence from dietary of such hard, tough, or fibrous substances as will effect a natural cleansing of teeth and gums during the necessary masticatory efforts to dispose of them, or that such masticatory efforts benefit in young subjects the growth of the jaws. The view that, to put it concisely, modern dental disease "has

its origin in the cooking pot" is one now generally adopted, though only of late years. Good service, however, is undoubtedly done by directing attention to these points, as well as to the special selection of such foods as have probably served the human race during its evolution into beings eupeptic and sound-toothed, if savage. We note, incidentally, that the separate entity of the vitamins is denied, and that "ancestro-pabules," as the author proposes to call them, are "relationships between the cellular tissue of a living organism and the energy-charged vital compounds contained in the food."

For the chapter on Prevention the author reveals himself as an out-and-out Food Reformer, a position requiring some optimism in a civilised society of fixed gastronomic habits, in which the repairs and substitutes of the dentist tend to obscure views of essential causes, and to which the claims of posterity to a dentition at all may make small appeal.

The book is written with obvious sincerity and conviction; minor blemishes are the irritating recurrence of the verb "to sense," and here and there inelegant and even revolting phraseology adopted apparently for emphasis.

The book is well got up, and we can recommend it to all interested in this branch of health work.

Correspondence.

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

THE CONTROL OF INFECTIOUS DISEASES.

To the Editor of "Public Health."

Sir,—Possibly others than myself were disappointed with the discussion on the above subject held at the house of the Society of Medical Officers of Health, on March 20th. There is nothing that is new which emerges from the discussion. The furbishing up of an old idea in new clothing does not constitute an advance, however effective the disguise of words may be. Except for the more recent work that has been done in America on diphtheria and scarlet fever our information in regard to the aetiology of the infectious diseases has been at a standstill for many years—I had almost said from the time of Sydenham. Chicken pox and measles are still

like unto malaria in the days when this was attributed to a miasma.

Many of our clinicians too have been slow to seize on any of the newer knowledge. For instance, the bulk of them are still content to diagnose diphtheria bacilli from the microscopic examination of smears taken from culture tubes. If they resorted to the Schick test in guinea-pigs they would find that only a percentage of their so-called positives were really pathogenic. On anatomical grounds the virulent and the avirulent bacillus are alike, but there is really a world of difference between them—the sort of difference that existed during the war between an innocent collier and a Q ship.

To me it is very significant that after the practice of isolation for a lifetime the clinicians should be now asking themselves the question, "What is the good of an isolation hospital?" It reminds one of Fisher's question, "What is the good of a battleship?" In regard to isolation hospitals, as in regard to battleships, there are naturally two answers. The middies (and I am one of them) say "No damn use at all." Our Lords at the Admiralty say they are indispensable. You will see from this how stubbornly the matter is going to be argued. Most of the clinicians will go with our Lords because the treatment of fevers in isolation hospitals is their living.

It is time that we all recognise why isolation hospitals are ineffective. It may be taken as certain that the bulk of grown-ups are immune to diphtheria and scarlet. Yet few give an actual history of having suffered from these diseases as we clinically understand them at present. To become immune they must have been infected and if that is so then they must have passed through a form of the disease which is not recognisable clinically. It follows therefore that the bulk of cases of infection by diphtheria or scarlet fever are not likely to be isolated because they are not recognised. Why then isolate the minority? This outlook is one which becomes to clinicians as the writing on the wall, and most of them will contest it stubbornly because it will rob them of their occupation.

We are all I think agreed that the best thing to remove the reproach in regard to our ignorance is first-class research work. This does not mean an expensive laboratory in the matter of equipment but it certainly does mean a laboratory with brains. Given the will and the ability to progress in the investigation of infectious

diseases the laboratory staff must have free access to clinical material. This would appear to be easy but it is not easy because of human frailties. When the clinician finds that he is naturally going to occupy a secondary place in the investigation and that his function is little more than to provide material he immediately shuts down facilities.

What I have said, I have said, but the opinions I have expressed will not make me popular. Being a believer in 'Safety First' I must prefer to conceal my identity and sign myself

I am, Sir,
Yours faithfully,

X. Y. Z.

THE TREVETHIN V.D. COMMITTEE.

To the Editor of "Public Health."

SIR,—In response to the invitation from the Royal Institute of Public Health to take part in the discussion on the "Control of Venereal Diseases by the Public Health Services and by Individual Effort," I attended their Brighton congress on 29th May, as the representative of the Society for the Prevention of Venereal Disease, with the intention of reading a paper on the "Individual Effort" section of the discussion.

At two former congresses I read papers on the same subject and submitted evidence which was at that time available in support of my views. My present paper was an endeavour to bring that evidence up to date, and it contained extracts of the evidence of 24 witnesses who appeared before Lord Trevethin's committee, whose evidence had not been previously published.

I had hardly begun my address when Colonel Harrison, of the Ministry of Health, who had given the opening address at the congress, rose in the body of the hall and protested to the chairman, Sir Arthur Newsholme, that my quotations from statements made before the Trevethin committee could not be permitted as such evidence was confidential. On replying to a question from the chairman he said he was not absolutely certain that it had been laid down that all evidence submitted by witnesses should be confidential, but he believed that to be the case. I replied that when some time ago I spoke on the telephone to the secretary of the Trevethin committee, Mr. Montmorency, asking him for a complete copy of

the evidence before the committee, he said he was unable to supply me with one as for *reasons of expense* the evidence was not printed, but that I would be able to obtain a copy from either of the two members of my society who were members of the committee. Mr. Montmorency did not suggest that the evidence was confidential, the only reason for non-publication which he gave being that of expense. When I attended as a witness myself before the committee I have no recollection of being informed that any evidence I might give would be treated as confidential. Sir Frederick Mott and Dr. J. H. Sequeira, who were both members of the committee in question, have since informed me that they also are of the opinion that the question of expense was the only reason for non-publication of the evidence, and that no undertaking was given not to publish this evidence.

Perusal of the evidence of witnesses in regard to the prevention of venereal disease by disinfection makes it abundantly clear that practically all those who had personal experience of this method of prevention were strongly in its favour, while criticism of the method was confined to those who had no personal experience.

Can Colonel Harrison's opposition to my quoting such evidence possibly be due to the fact that the permanent officials of the Ministry of Health are opposed to disinfection for other than medical reasons and recognise that the weight of the evidence of the Trevethin committee is against them and, therefore, desire to prevent the publication of this evidence?

In view of Colonel Harrison's objection, supported by Mrs. Neville-Rolfe, the General Secretary of the National Council for Combating Venereal Diseases (now renamed the British Social Hygiene Council), who stated the Ministry of Health had refused her organisation permission to publish extracts from evidence laid before the Trevethin committee, the chairman ruled my paper out of order so that this evidence still remains hidden in the pigeon holes of the Ministry of Health.

Yours faithfully,

H. WANSEY BAYLY,

Hon. Sec., S.P.V.D.

143, Harley Street, W.1.

2nd June, 1925.

DR. J. ELVINS MCCARTNEY, lecturer in bacteriology in the University of Edinburgh, has been appointed director of pathological services to the Metropolitan Asylums Board, London.

B.M.A. ANNUAL MEETING.

At the Annual Meeting of the British Medical Association, to be held at Bath, July 20th-24th, there will be an unusual number of papers and discussions of immediate interest to the Public Health Service. We especially commend to the notice of our readers the following items in the official programme:—

PUBLIC MEDICINE SECTION.

Wednesday, July 22nd.—Joint discussion with the Section of Diseases of Children: Rheumatic Infection in Childhood—Early Diagnosis and Preventive Treatment. To be opened by Dr. F. J. Poynton (Children's Section), and Dr. R. A. Askins, School Medical Officer and Deputy M.O.H., Bristol (Public Medicine Section).

Thursday, July 23rd.—Discussions: (1) Food Manipulation in Relation to Health. To be opened by Dr. W. G. Savage, M.O.H., Somersetshire. Dr. C. E. Goddard will speak with special reference to Accidental Contamination. (2) Influence of Sunlight and Artificial Lights on Health. To be opened by Dr. Leonard Hill, F.R.S., followed by Dr. G. B. Dixon (Yardley Road Sanatorium, Birmingham), who will speak particularly on the Influence of Light on Tuberculosis, and Dr. Dora C. Colebrook (North Islington Infant Welfare Centre).

MEDICAL SOCIOLOGY SECTION.

Friday, July 24th.—Morning.—Discussion: What should be the Standard of Purity of Milk? To be opened by Dr. R. Stenhouse Williams (Reading), from the point of view of the bacteriologist; Dr. W. G. Savage (M.O.H., Somersetshire) from the point of view of the medical officer of health; and Dr. Eric Pritchard (London), from the point of view of the dietist. Afternoon.—Discussion: By What Means can Pure Milk be Obtained, and at What Cost? To be opened by Mr. Wilfred Buckley (National Clean Milk Society), as a producer; Mr. G. P. Male (Reading), as a Veterinary Surgeon; and Mr. J. H. Maggs (chairman, United Dairies), as a distributor. Two films will be shown with the following titles: "Production of certified milk on an English farm," and "Handling and distribution of milk in New York City."

At 3.45 p.m. motors will leave the Abbey for Great Chalfield Manor, where, by invitation of Major Robert Fuller, tea will be provided, and guests will be shewn the production of Grade A certified milk.

H.R.H. THE DUKE OF YORK has consented to accept the honorary presidentship of the Thirty-sixth Congress of the Royal Sanitary Institute to be held at Edinburgh from 20th July to 25th July, at which the Right Hon. Sir John Gilmour, Bart., D.S.O., M.P., Secretary for Scotland, will preside, and deliver the inaugural address.

THE health committee of Glasgow corporation have reported the resignation of Dr. A. K. Chalmers, M.O.H., who has been connected with public health administration in the city for about 33 years. The committee recommended that Dr. A. S. Macgregor, senior divisional medical officer, be appointed interim medical officer for the city.

Public Health

THE JOURNAL OF

The Society of Medical Officers of Health.

No. 11.

AUGUST, 1925.

VOL. XXXVIII.

Subscription price, 31s. 6d. per annum, post free in advance. Single copies, 2s. 6d., post free.

Editorial.

THE NATIONAL HEALTH.

CONTENTS.

EDITORIAL—

	PAGE
The National Health	321
Sanitary Training at Singapore	324
Chadwick	325
Tuberculin Tests in Cattle	326
The Problem of Birth Control	327
A Census of Workplaces	328

Policy and Progress in Relation to Environmental Hygiene. (By Charles Porter, M.D., B.Sc., M.R.C.P. (Ed.), Medical Officer of Health, Metropolitan Borough of St. Marylebone)	329
Health Propaganda—Difficulties and Suggestions. (By S. T. Beggs, M.D., B.S., D.P.H., M.O.H., Middleton)	333
Public Health on the Continent	337

SOCIETY OF MEDICAL OFFICERS OF HEALTH—

Yorkshire Branch	348
Midland Branch	350
Northern Branch	350
North-Western Branch	351

REVIEWS—

Treatment of Gonococcal Infection by Diathermy	352
The Anatomy of the Root-Canals of the Teeth	352

CORRESPONDENCE—

The Control of Infectious Disease	352
-----------------------------------	-----

The report of Sir George Newman for 1924 is the 67th of a series presented in succession to the Privy Council, the Local Government Board, and now the Ministry of Health. It follows the precedent and character of preceding reports, but with a difference. The out-look is much wider, the territory surveyed is more extensive, and subjects are dealt with which to his predecessors were unknown. Sir George's reports remind one of those of his illustrious predecessor, Sir John Simon, whose views of Preventive Medicine were singularly comprehensive, and characterised by much foresight.

It is well to reiterate what the object is in presenting annual reports to the Ministry and to Local Authorities. It is to offer information and professional advice. We presume those at the head of the Ministry of Health will study this report and the advice it contains, but how many members of Local Authorities or even of their Health Committee will do so? We would go a step further, and ask whether all medical officers of health read these reports?

Sir George has to complain, as his predecessors have done, that in many districts care of the public health is neglected or mis-directed. Our standard is continually rising, and we fear there will always be those who lag behind because of lack of interest, or who, worse still, knowing the truth are unwilling to put it into practice. Before effective action can be taken by local authorities the people in the neighbourhood must have been convinced, and it is one of the duties of the medical officer of health to educate the people. We believe the public conscience is more awake than it has been. The lay Press and numerous societies are doing much to achieve this end, but it is the medical officer who should direct and guide. There are in England and Wales 1,920 local sanitary authorities—many of these very small. Some of these combine in appointing a

medical officer of health, so that there are 1,455 such officers, but only 350 of these are whole-time appointments, the rest are private practitioners who are able to give only a portion (often but a small fraction) of their time to public health work. Such officers are considerably handicapped. The public health service is demanding more and more from them, and it is obvious that whole-time officers must eventually be the rule. Will this come voluntarily by combination, or will it be compulsory?

Every medical officer of health ought to have a copy of this report, and it would be well if every local authority had one sent them. If the Ministry can not afford this, they should at least send a report of Sir George Newman's "Conclusions," with a request that it should be read at a meeting of the authority, not merely handed to some officer to put on his file. To do anything like justice to this report, several articles might well be written dealing with the various subjects contained in the twelve sections into which it is divided, covering, as they do, almost the whole range of public health activity. We hope in the future, when a greater degree of central unification has been achieved, the Annual Report will include occupational disease, factory and school hygiene. We can only refer in this notice to a few of the topics dealt with.

So far as the number of deaths affords a means of gauging the health of the nation, the year 1924 has a good record, although not so good as 1923. Influenza, bronchitis, pneumonia, diseases of the heart, and cancer, showed an increased mortality, so that the percentage of deaths at ages over 60 was slightly greater than in the preceding year. We are not, however, convinced that the general health is quite so good as the death-rate indicates. The depressing trade conditions of the last few years leading to under-feeding, coupled with overcrowding, and the absence of sunshine last year must have lowered the resisting power of many. The increase in pulmonary tuberculosis in 1924 may reasonably be taken as evidence of this.

It is highly probable that the crude mortality rate is now at or near its lowest point, and will hereafter increase, due to the change in the distribution of the age groups of the population. The effect of the declining birth-rate will be felt, as there is now a greater percentage of persons living at the higher ages.

A special section is devoted to Maternal and Child Welfare, and the factors which have led to the decline in infant mortality are fully discussed. It is contended that it is due to families being

smaller, others that it resulted from the establishment of welfare work. Comparison is made of the experience of other countries, and it is shown that the infantile death-rate began to decline about the beginning of the present century, irrespective of any change in the birth-rate. Such comparisons, showing the different epochs at which the decline set in in nations on the same level of civilisation and the peculiar seasonal incidence of decline in infant mortality during the last decennium, are warnings that the problem is one of some complexity, but in the result it emerges that the predominate factor is to be found in better mothering, proper food, and improved domestic conditions immediately concerned with child welfare.

The mortality among women in child-birth remains unsatisfactory, but there are indications that some improvement may be hoped for. The medical profession is taking a more active interest in the subject; more provision of maternity wards is being made, and post-natal clinics are being extended. Attention is drawn to the value of ante-natal clinics, of which a few have been started.

Under the heading of Epidemiology special attention is directed to smallpox and to the group of infectious diseases affecting the central nervous system, which have shown an increase in recent years. Sir George is strongly of opinion that sufficient steps are not being taken to control smallpox, and that we are in danger of allowing it to become endemic. He is satisfied that, even in districts in which the disease has obtained a fairly firm footing, it can be brought under control and eradicated by continuous and systematic administrative activity. This has been achieved in many large towns, in the County of Cumberland, and in the Rural District of Rotherham. He urges that strenuous efforts should be made in the summer months, when the number of cases tends naturally to diminish. He objects to the fancy names which are sought to be applied to alleged sub-varieties or modifications of the disease. It is no new thing to have outbreaks of exceptional mildness; the literature of the subject contains many references to such outbreaks. Jenner, writing in 1789, describes such a one which "was of so mild a nature that a fatal instance was scarcely ever heard of, and consequently was so little dreaded by the lower orders of the community that they scrupled not to hold the same intercourse with each other as if no infectious disease had been present among them." However trivial in character, its existence is extremely costly, as the ratepayers in affected districts will find out; besides which it interferes with business.

In connection with diphtheria, the desirability of more extended use of the Schick Test is advocated with a view to children and others found to require protection being immunised. New York is quoted as an instance in which preventive measures on these lines has been carried out systematically for more than eight years, and shows the most striking and steady fall in its diphtheria mortality of all the great American cities. Reference is made to the schemes inaugurated in Edinburgh and Birmingham, and suggestions are made as to some of the points to which the Medical Officer of Health may usefully direct attention when advising his authority in relation to this new method.

Six years' experience of Encephalitis Lethargica calls for a brief review of its epidemiology. The number of notified cases in 1924 was 5039, five times as many as those notified in 1923, and it is certain that many mild and abortive cases escape recognition. Large cities and industrial areas have been particularly affected, and it has been noted that particular areas of towns show a greater incidence than others, apparently associated with the greater density of population in such areas, and increased opportunities for case-to-case infection. All ages are liable to be attacked, but those approaching adult life seem to be more susceptible. The sexes are equally affected, and social position appears to exert no influence except that those who spend the greater part of the day indoors in pursuit of their avocations form a majority of the sufferers. Dr. MacNalty has embodied in his Milroy Lectures of this year the results of his special study of this disease, and he holds that, like cerebro-spinal fever and poliomyelitis, it is conveyed by mild and ambulant cases and by carriers. The Ministry have already issued a Memorandum on the subject, in which they called attention to the value of local enquiries and the need for hunting out these mild cases.

Occasionally one hears of a case of leprosy, but it comes as a little surprise to learn that there are two small Homes in this country for sufferers from this disease. It calls to mind that one of Sir George Newman's earliest published papers was a study of the past history of leprosy in this country.

Tuberculosis, of course, demands a section to itself. Complaint is made that Medical Officers of Health in many small urban and rural areas have taken the view that they need not interest themselves particularly in tuberculosis, since the responsibility for carrying out the official scheme

of treatment is vested in the County Council and not in the Local Authority. In fact, in some areas, the tuberculosis notification was either non-existent or had never been revised. For these sins of omission all medical officers have now to pay the penalty of having to prepare a detailed quarterly return. The need for closer co-operation is urged. We are not sure that we agree with the conclusion that 8,434 cases which came to the knowledge of medical officers otherwise than through formal notification always implies neglect to notify. It is quite possible that a proportion of such cases have been notified in some district or other. Consumptives may move temporarily to the country or the sea-side and many die there; some go to London or other large centre in the hope of more skilled treatment, or merely on a visit. Again we have the ambulant class, who frequent casual wards and common lodging-houses. Many medical officers have had notifications of such, they disappear, many never return, but some do at varying intervals, sometimes after several years. Meanwhile, from how many institutions have they been notified? Are these reckoned as new cases in each district? It may be that a medical officer gets a notice from the medical superintendent of an institution in another district that a patient is being discharged to an address in his district, or from a colleague that a notified person has left and moved into another district. Into which of the two Tables does the recipient of such notices place them? We believe that some include them in Table 2 as not being formal notifications, others in Table 1.

With non-pulmonary cases the reasons for failure to notify are different. Diagnosis is not always easy, and may become definite only when the result of a post-mortem examination is known.

The need for more accommodation for advanced cases is emphasised, and it is suggested that small sized units might be provided. These could be most economically provided in connection with some other institution, such as an Isolation Hospital. The great point in connection with such places is that they should be within easy distance of the homes of the patients, so that relatives may readily visit them. In such circumstances patients will often go voluntarily, and so relieve their families of the strain of nursing, and at the same time materially reduce risk of infection. To obviate the risk of such places being regarded merely as homes for the dying it is desirable that they should be utilised also for the short period residences for patients in early stages, e.g., for

observation to decide whether a patient is likely to respond to sanatorium treatment, or while awaiting a bed in a sanatorium.

It is a matter of serious moment that the administration of some Sanatoria leaves much to be desired. After reading the paragraph on this subject, we gather that those responsible are either slack in their work or temperamentally unsuitable. For the former there may be hope of reform, but in the latter case the sooner they recognise their defect the better, and seek work in some other direction for which they are more suited. It must be recognised that special attributes as well as expert knowledge are required for such appointments. In another place Sir George Newman makes a similar observation with regard to the selection of medical officers of health. He says: "It is not the first attractive or popular medical practitioner who presents himself who will necessarily make the most efficient public health officer."

Under the heading of Venereal Diseases we learn that Syphilis has shown a definite decline during the last four years, so that last year the number attending at treatment centres is little more than half what it was in 1920. The reduction is even greater than the figures indicate, as a considerable proportion of the new cases were not recent infections. In the case of Gonorrhœa, males are making increased use of the centres, but the position with regard to females continues unsatisfactory.

The chapter on Control of the Milk Supply deserves special study by medical officers of counties and rural districts. The progress reported towards a cleaner milk supply is very encouraging. Eight years ago the methods required for producing clean milk were, with one or two exceptions, unpractised in this country, now those carrying them out are reckoned by hundreds. The institution of "Clean Milk Competitions," first in Essex in 1920, and now held in many other counties, has had considerable influence towards this end. Farmers are learning that it is not so much the provision of costly buildings that is required, as in the adoption of certain simple methods. Once the farm worker can be got to understand, to appreciate, and to carry out the necessary technique, the secret of success is secured.

In many of the great milk-producing areas the powers and duties of the Local Authority are not being effectually administered, partly due to the lack of apprehension of the problem to be solved, partly to fear of interfering with the farmers'

interests, and partly to the lack of sufficient staff. Dr. Savage, in the April number of "PUBLIC HEALTH" gave instances of this inadequacy. Often, too, the sanitary inspector has other duties to perform, such as road surveyor, etc., which largely occupies his time. Many inspectors are out of touch with the more modern views, and are thus unable to advise milk producers on the right lines. Where the County Medical Officer has taken an active interest, a stimulating effect has been produced, and with active County Inspectors good progress has been made.

The commercial value of milk with low bacterial content is meeting with practical recognition in the milk trade itself. One large distributor in the Midlands has introduced a graduated bonus system, and finds that the saving effected in loss of milk from premature souring has well repaid the extra cost involved in working the scheme. There is keen competition among the farmers to earn the extra price paid.

Other subjects dealt with in the Report include food poisoning, preservatives in food, water supplies, smoke abatement, isolation hospitals, cancer, rheumatism, port sanitary control, international health work, the insurance medical service and the poor-law medical service.

SANITARY TRAINING AT SINGAPORE.

In opening the fifth annual session for the training of Sanitary Inspectors under the auspices of the Royal Sanitary Institute at Singapore, the Principal Civil Medical Officer, the Hon. Dr. A. L. Hoops, gave an interesting address. He referred to the old adage that prevention is better than cure, but explained that it had only been seriously applied to the Far East within the last generation. Dealing with plague, he emphasised the importance of rat-proof houses as the real remedy, though destruction of rats by all available means must not be neglected. He referred to tuberculosis, and insisted on the importance of good ventilation and floor space in houses, and inveighed strongly against the "inner cubicle." He also dealt with the provision of pure food, and stressed the importance of using simple foods rather than those which were devitalised in the process of preparation. An excellent piece of advice was given to the inspectors and candidates present, viz.: "Practice what you preach. Let your personal habits and the hygiene of your home prove your belief in your own precepts." Dr. Hoops also stressed the importance of the proverb

"Honesty is the best policy," advising the inspectors always to avoid taking the first step, which would lead eventually to loss of employment and reputation. Those who have had experience of work in the Far East will appreciate the importance of this advice.

At the conclusion of his address Dr. Hoops congratulated Dr. Gilbert Brooke on the progress made since the school was started in 1921, and in this connection we recall that Professor Bostock Hill, after visiting Malaya last year, testified that the opportunities for work in the school compare favourably with those for training in institutions in this country. It is gratifying, therefore, to find that no less than 46 candidates have entered for the course for the certificate of the Royal Sanitary Institute, compared with 26 in the previous year. This significant increase, and the recent formation of a strong Branch of the Society of Medical Officers of Health in Malaya, indicate the keen spirit which animates those responsible for public health administration in this Far-Eastern dependency.

CHADWICK.

Each generation as it succeeds another is apt to consider the conditions of life of its day to be the same as existed in the time of its predecessors. How many of us realise what these conditions were a hundred years ago, and know how, from the chaos existing after the conclusion of the Napoleonic wars, we have achieved our present social status. At the moment, when a new Factory Bill is being considered, it is desirable that we should know the history of factory legislation—how it arose, and how it came to be administered by the Home Office instead of by the Ministry of Health. There are numerous works which may be consulted, such as *The Health of Nations*, by Sir Benjamin Ward Richardson; *The History of Factory Legislation*, by Hutchins and Harrison; *The Life of Lord Shaftesbury*, by J. L. and B. Hammond; but these are bulky volumes for the busy medical officer to tackle. The information may be readily gained from a small work recently issued in the Roadmaker series (price 4s. 6d.), entitled *Sir Edwin Chadwick*, by Maurice Marston. Up to a hundred years ago we had been a rural community, largely occupied in agricultural pursuits. Industries were carried on in the homes of the people in scattered villages. On the advent of machinery, especially when harnessed to steam power, the whole aspect was changed. Mills and factories were rapidly erected; there was a mad

rush for production. Men and women poured northwards from the south of England in thousands to serve the new machines; even children were sent by Boards of Guardians to work in the new factories (the dreadful conditions under which they had to slave are described in the report of the first Factory Commission, in 1833). The housing of all these people was an acute problem, and we are still tackling the legacy left us. New towns sprang into existence, with no idea of town-planning; the houses were crowded together back to back, with no thought of hygiene or sanitation. No provision was made for refuse disposal until someone discovered he could make money out of it; streams and wells from which drinking-water was obtained became polluted with sewage.

Was it to be wondered that under such conditions profound discontent was engendered? The newly-arisen manufacturing classes had no representatives in the House of Commons—Birmingham, Manchester, Leeds, Bradford returned no members to Parliament. It was at such a time that Edwin Chadwick, a Poor-Law Commissioner, had sufficient vision to see where all this was tending, and the energy and determination to get reforms carried out. It was through him that an enquiry was made into the way work was being carried out in the factories, and as a result the Factory Act of 1833 followed, and with it the appointment of Factory Inspectors. He then evolved his sanitary idea, and in its evolution he depended largely on the skilled advice of Dr. Southwood Smith. It was Chadwick's argument that it was useless waiting until disease had got a hold on the individual and then making efforts to rescue him. The advent of cholera gave him his opportunity, and Chadwick was able to get Commissioners appointed to enquire into the state of affairs. Chadwick was the leading spirit in such enquiries, and his reports were most exhaustive. The Poor-Law Commissioner's report (one of 457 pages) gives a vivid description of the conditions of our towns in the first half of the 19th century. Local authorities still wallowed in the customs, methods and traditions of the middle ages. It was not until 1847, however, that the first Public Health Act was passed, and a General Board of Health established. This Board had a difficult task to fight against ignorance, prejudice and vested interests. In its six years of existence it achieved a certain amount of success. It might have done more had Chadwick adopted more conciliatory methods, but he had raised so many enemies that at the end of its term Parliament refused to continue it. To all outward

appearances it looked as if the great fight which Chadwick waged between the years 1838-48 for the better sanitation of the country had proved a failure. Lord Shaftesbury wrote in his diary at the time: "Such is public service! Some years hence justice may be done to us, but not in our lifetime." Chadwick, however, lived to see it, and to have the testimony that his idea had resulted in solid achievement. It is given to few of us not to have disappointments and discouragements in our official life, but a perusal of Chadwick's struggles leads one to the conclusion that if our work is sound it will bear fruit in time, although we may not get the credit for it. Some sow but others may reap.

TUBERCULIN TESTS IN CATTLE.

The Medical Research Council have published a very useful and timely report dealing with several problems associated with the tuberculin test in cattle and its accuracy. These are:—

1. A positive reaction to the subcutaneous test being regarded as proof of infection with tuberculosis, in certain cases of undoubted tuberculosis the reaction is either negative or doubtful. Are such discrepancies so numerous as to vitiate the general application of the test for practical purposes?
2. What are the comparative values of the different tuberculin tests, whether subcutaneous, intradermal, or ophthalmic?
3. What varieties of tuberculin are most efficient in the tests?
4. Can the present methods of standardizing tuberculin be improved?

The first part of the investigation by the Committee included a study of the various tuberculin tests—subcutaneous, intradermal, and ophthalmic—on eight herds, some of them tubercle-free, and others heavily infected, and involving a record of thousands of temperatures and figures of measurement.

These indicated that the intradermal test was the one most easily employed, and gave the most consistent results regarding the presence or absence of tuberculosis in cattle. Results were confirmed pathologically in 114 animals slaughtered at the Metropolitan Cattle Market, with only three anomalous findings. One significant point was that the temperature of the animal often rose one or two degrees above the normal average without apparent cause.

With regard to the different brands of veterinary tuberculin now on the market and in current use, the results of enquiry show the importance of using only tuberculin the potency of which has been carefully investigated in the testing of cattle.

The conclusions of the Committee are as follows:—

1. The subcutaneous tuberculin test is perfectly satisfactory when carried out under laboratory conditions, but is not satisfactory under ordinary farm conditions owing to the numerous discrepancies which vitiate the general application of the test.
2. Of the different tuberculin tests, the intradermal appears to be superior to the subcutaneous, while the ophthalmic test is to be regarded only as a subsidiary test.
3. The intradermal test is accurate for the presence of tuberculosis in cattle, the percentage of error being extremely small. In support of this statement it may be mentioned that in the Committee's experience animals diagnosed as tuberculous by the intradermal test which have not shown tuberculosis on naked eye examination post-mortem, have been proved to be tuberculous by microscopic examination and inoculation of guinea-pigs.
4. The intradermal test has these further advantages over the subcutaneous tuberculin test:—
 - (a) No temperature observations are required.
 - (b) The animal need not be kept at rest before and during the conduct of the test.
 - (c) Interference with the ordinary farm routine is not required.
 - (d) Only three observations are usually necessary.
 - (e) A smaller quantity of tuberculin is needed for the test.
 - (f) The technique, although at first slightly more difficult than that of subcutaneous injection, is easily acquired.
5. The variety of tuberculin employed is "Old Tuberculin." It appears to be immaterial whether a bovine or human strain is used in its manufacture.
6. The tuberculin used must be of proved high potency; it is administered undiluted both for the intradermal and ophthalmic test.
7. In reading the ophthalmic test when combined with the intradermal test, it appears necessary to make frequent examinations of the animal's eyes, as in every case when the reaction has been positive it has been apparent 24 hours after the second instillation.
8. Concerning the accurate standardization of tuberculin, Dr. O'Brien and Professor Dreyer and Mr. Vollum describe methods by which this can be done. It may afterwards be found that extremely accurate standardization is not necessary, but no tuberculin should be employed in the examination of cattle that has not been tested by some method to show that it is of high potency.

Special attention is drawn to the result of the intradermal test on young animals, in which five animals, all of which were reactors, gave typical, and for the most part, easy recognisable reactions with extensive œdema.

This is of considerable importance, as the stock owner, by the use of the intradermal test, will be enabled to avoid trouble and expense by early testing and disposal of reacting animals before they reach maturity, instead of waiting as hitherto for a positive reaction in the adult animal before disposing of it, owing to the unreliable

results obtained by the subcutaneous test in young animals under field conditions.

Further experiments are required to ascertain the affect of "doping doses" of tuberculin in relation to the test. Perhaps the most important point is to ascertain how soon after the administration of a subcutaneous injection an intradermal test will give a true indication of the presence or absence of tuberculosis in an animal. It will probably be found that in exceptional cases the administration of large doses of tuberculin subcutaneously will interfere with the reaction for a considerable period of time, but the experiments already made indicate that the number of animals showing this phenomenon will be small.

THE PROBLEM OF BIRTH CONTROL.

The special committee appointed by the National Council of Public Morals to investigate the problem of birth control have published a report dealing with the religious, medical and economic aspects of the subject. The Bishop of Winchester presided over the committee, which was thoroughly representative of denominational and social welfare bodies. The public health significance of the problem was recognised by the inclusion on the committee of Sir Arthur Newsholme, Dr. A. K. Chalmers (M.O.H., Glasgow) and Dr. Letitia Fairfield (Div. M.O., London C.C.). Sir James Marchant, K.B.E., who served in the same capacity for the National Birth-Rate Commission, was secretary of the committee.

Below are set out the committee's conclusions:—

1. The comparatively modern practice of conception control, and in particular the artificial methods used, call for a much fuller investigation than it has hitherto received from the medical, economic, and religious standpoints.

2. The use of contraceptives is a symptom of the artificial character of our civilisation, whereby for large numbers of people a simple, healthy, normal married life is difficult, and in some cases all but impossible.

3. There are numerous cases in which control of conception, considered in itself and apart from the question of the methods employed, is medically necessary and economically advisable, but in every such case all the circumstances should be weighed in the light of the best available scientific and ethical counsel.

4. The ideal method of birth control is self-control. Such self-control must be agreed upon

by husband and wife and be carried out in a spirit of service and sacrifice.

Therefore, so far from giving any general approval to the use of contraceptives, the line of real advance lies in a deeper reverence, a return to greater simplicity of life, and, not least, a drastic reformation of our social and economic conditions.

5. In married life intercourse fulfils other functions besides procreation, but, while there are persons approaching the matter from the highest motives in whose judgment the use of contraceptives is justifiable, the deliberate disconnection by mechanical means of sexual satisfaction and its natural result opens the door to grave social perils, and a serious responsibility therefore lies upon the conscience of married people who adopt this practice.

6. Our knowledge is not such as to justify either the advocacy or the condemnation of these means on the ground of alleged dangers of overpopulation; but, on the contrary, within the British Empire the time is ripe for a campaign of Empire settlement and redistribution of population on a scheme carefully thought out, and on an adequate scale in view of the disparity of population in the different countries concerned.

7. The weightiest argument for birth-control is found in the economic circumstances (wages, grossly inadequate housing, and the like) of many persons. While in many instances birth control by contraceptives may be the lesser of two evils, the ultimate remedy lies in the amelioration of those conditions.

8. The capacities for self-control, especially in young people, are often underrated, and their training in this respect, as also in the ideals of married life, is a primary duty of all who are responsible for their education and upbringing.

There are three notes of reservation to the report. Canon Lyttleton, Dr. Fairfield, Canon Simpson, and Mrs. Clay, while in cordial agreement with the greater part, express the belief "that the use of contraceptives is a frustration of God's design in nature," and cannot be justified in any circumstances. Dr. Bond would have welcomed some fuller consideration of the effect of birth control on racial welfare; he thinks that the wider use of contraceptive measures by the more educated and prosperous classes may be exercising a dysgenic effect on the population, though he inclines to the opinion that, in the future, conditions may necessitate control of the "output of human life." Sir Hermann Gollancz signs the

report, but notes that there are points in it to which, as a member of the Jewish community, he cannot subscribe.

A CENSUS OF WORKPLACES.

His Majesty's Stationery Office have published (price 16s.) a Census Volume entitled "Workplaces."

The volume marks the first occasion, either in this country, or, so far as can be ascertained, in any country in the world, on which statistics of *workplace* have been obtained and presented. This new enquiry was instituted at the 1921 Census for the purpose, as then announced, of furnishing assistance in connection with the problems of improving the transport facilities ('bus, tram and train) for the working public, housing, and continuation schools.

The analysis of the daily tides of population movement between one area and another also provides valuable inferences in regard to the day populations and the limits within which individual populations regularly expand and contract, information which should be of especial service to local authorities, tradesmen, and those who have to supply the needs of these pulsating populations, and whose statistical equipment has hitherto been limited to an inadequate knowledge of the sleeping or resident population. The desirability of adopting "workplace" as a basis of a real classification alternative to that of place of enumeration or residence has already been acknowledged and put into effect in the Census Volume relating to Industries published a short time ago.

The present volume consists of three tables, the first showing for each urban and each rural area of England and Wales its total population and the number of occupied persons over 12 enumerated in the district, the number of those who work outside the district, and the number of persons travelling to work into the district; the second table carries the analysis further, and shows for the more important movements, the districts to and from which the latter persons travel; while the third table shows for the principal towns (towns over 20,000 population) the aggregate of the inward and outward movement, the net balance of the two movements, and a comparison of the night and day populations of the several towns.

As would be expected, the largest total movements are towards the centre of London; the

night population of the City of London being raised from 13,709 by a net inward movement of 423,006 persons to no less than 436,715 during the day; while the City of Westminster receives a net inward movement of 244,406 persons; the Borough of Finsbury of 65,334; Holborn of 58,513 and St. Marylebone of 51,500. Most of the Boroughs on the outer boundary show a net outward movement, and the same is true of all the larger towns of Middlesex (except Acton) and of the portion of the other Home Counties that are nearest London. The effect of these heavy movements results in the City of London having a day population nearly 32 times its night population, while the corresponding ratios for Westminster and Holborn Metropolitan Boroughs are 2 $\frac{1}{2}$ and 2 $\frac{1}{2}$ respectively.

Amongst towns with more than 20,000 inhabitants (outside London) the following shew large daily changes, the increases being associated generally with industrial and mining centres, and the decreases mainly with areas of a residential character.

INCREASES DURING THE DAY.		DECREASES DURING THE DAY.	
	Per cent.		Per cent.
Wallsend	24	Leyton	25
Stretford	22	Hornsey	25
Rugby	17	East Ham	24
Eston	17	Hanwell	23
Hebburn	17	Walthamstow ...	22
Bedwelty	16	Sutton-in-Ashfield	21
Chelmsford	14	Edmonton	20
Chadderton	13	Southgate	20
Manchester	10	Newcastle-under-	
Newcastle-upon-		Lyme	20
Tyne	8	Castleford	19
Luton	7	Mansfield	15
Derby	6	Eccles	14
Coventry	5	Salford	12

There are even greater percentage variations in smaller towns, though on account of their size the numbers involved are of less significance.

The undermentioned have been awarded the Diploma in Public Health:—*Durham University*: Siegfried Annecke, Harold C. Simpson. *Liverpool University*: J. G. L. Jones, Dorothy G. E. Potter, Frances Weightman, and D. A. Woodeson. *Bristol University*: Frederic P. Mackie, Norah A. M. Rodger.

POLICY AND PROGRESS IN RELATION TO ENVIRONMENTAL HYGIENE.*

BY

CHARLES PORTER, M.D., B.Sc., M.R.C.P. (Ed.),
Medical Officer of Health, Metropolitan
Borough of St. Marylebone.

One of the advantages the individual who has the honour of Presidency conferred upon him obtains is, that under the guise of a Presidential Address, he can talk for an hour or more or less on any subject he chooses, without let or hindrance or criticism. Of the advantage thus obtained I propose to make full use, offering observations on a variety of matters, including Presidential Addresses.

There has been a considerable change in the character of such addresses during recent years. Formerly they were what members of to-day would, I fear, regard as rather milk and watery stuff. Very platitudinous, rather sentimental, and without any open digs at anybody, but more particularly the central health authorities and their staff.

Speaking generally, in his address, the President of to-day may follow one of three lines, and deal either with Policy, or with Progress, or with Practice. If he chooses the first of the three, Policy, as his theme, he may discuss the whole Policy of all the authorities in relation to Public Health and Preventive Medicine, showing exactly where all of them have failed, accounting for the failures, offering trenchant criticism and suggestions as to how matters should be righted. Or he may limit himself to the Policy of the Branch which has honoured him or of the Society as a whole. If the latter is his choice he will discuss mainly the question of salaries, and may offer suggestions to the Council and its Salaries Committee as to the conduct of the campaign.

If the second in the list, Progress, is chosen as the subject of our President's discourse, there is grave risk of the delivery of an address on the old-time lines—the kind that was entitled "A Retrospect," or "Looking Backward,"—that began: "When I was appointed medical officer of health of Blankington in 1874," and finished up with a few paragraphs opening with the words: "And now what of the future?" Despite these risks, Progress is really a most tempting line, and I cannot help feeling that it is a pity that the modern President has given up the practice of making the occasion of his taking his seat in the Chair one for directing attention to achievements and the making of prophecies as to the future.

* Presidential Address delivered at the meeting of the Metropolitan Branch, held on the 28th November, 1924.

The President who draws upon his experiences and gives a description of things he has seen and done that have presented difficult or curious features, finding his subject in his own or the general Practice of Public Health, inevitably lays down a line that his hearers follow with the greatest interest. Three of my predecessors in this Chair, Dr. Thomson, Sir William Hamer, and Dr. Willoughby, have done this, and remembering how entrancing were their several addresses, I wish I could find in the round of the many days I have spent in the service, something that I could think likely to have such an appeal, or prove so stimulating as theirs. Unfortunately for me, there is nothing I have seen or done that all of of you have not seen and done, and I am driven back on the other lines, and to make a talk for you as best I can out of Policy and Progress, discussing the Policy or what I conceive to be, or to have been the Policy underlying the health organization and public health administration of this country, and discovering if the Progress that has been made has justified the Policy.

My reason for desiring to discuss this question arises out of a conversation I had recently with a health officer from overseas, who told me that he had just finished a course in public health in one of the great American Universities; that while there he had been impressed by the general lack of knowledge on the part of teachers and practitioners of public health in the States of the health organization and work in this country, and by the tendency there exhibited to dismiss English public health with the remark, somewhat contemptuously uttered, that "in England they pay too much attention to environmental hygiene." This observation of my visitor reminded me that while I was over there I also had heard such a remark, and had endeavoured to explain on many occasions why, if it was true, that we did give much time and energy to environmental work, it came about we did so, and to show that, if we were in fact active in that connection; it was because we must be, but that we still had a great deal of energy and time left for other branches of hygiene.

It occurred to me, further, that perhaps it would be worth while getting down in black and white something with regard to our position in this matter, and combating an impression, unhappily produced by the utterances of some of our fellows in the service, that the medical officer of health here did nothing but administer the nuisance sections of the Public Health Act, and carry out duties which, in the phrase of Dr. Chapin, of Providence, Long Island—whose pronouncements have always a tremendous importance attached to them by many people on this side and some on the other side of the Atlantic! "were more suitable for a police officer."

This remark I should like to underline, in order to make it a warning. Indeed, if I may take advantage of my position, and digress a little, I should like to make the warning not special, but general, and to remind my colleagues in the service as a whole, that words travel far, and are judged by themselves and not by the object behind them. As illustration, let me quote the case of milk. For years all of us in our annual reports and elsewhere have been condemning the milk supply of this country; have competed one with the other—I am not myself guiltless—in coining phrases expressive of our displeasure with certain classes of milk and milk producers. The effect aimed at, of course, was the rousing of the public and the stimulation of the trade to make improvements. That effect to a very great, even a wonderful, extent, has been produced. But it has not been the only effect. Its indirect effect has been that outside these islands and in America particularly, our milk supply is written down as "rotten," and the possibility of obtaining a milk fit to drink is considered so very remote that no American should touch it.

I do not propose to enlarge further upon this, or to make reference to any of the many self-depreciatory statements we have uttered in relation to our work, and that have led to loss of prestige and caused others and some of ourselves to overlook the fact that, after all, there is no country in which the measure of the public health field and the needs of the public in relation to health is more accurately taken, and where a more methodical attempt is made to cover the field and meet the needs.

The practice of scouting and belittling the value of the work in our departments in relation to environmental hygiene commenced about the time when the service began to think that school medical and infant welfare work should become part of the activities of a public health department.

Since that time statements derogatory of this work have been repeated over and over again, and with particular frequency recently, on account of the necessity, fairly generally felt, of driving home to the mind of the individual member of the public, the view that it is one of his personal responsibilities to practise healthy living and that he must not look to the authorities to do everything for him.

It is impossible to tell the number of times that I myself have made use of the cliché, "Public Health in this country began at the wrong end, with the surroundings of the individual instead of with the individual himself." That I ever once thought of this as anything but a bright remark that might induce some body or other to take up work on behalf of some section of the public—infants, or

school children, or the tuberculous—I do not believe. That I ever tried to prove the accuracy of the statement or desired to suggest that we should go all out and exclusively on work directly affecting the individual is certain. What I failed to do, in fact, is what I want to do now, if I can; to examine the statement from the point of view of the Policy behind it, and to test the Policy by searching for evidences of Progress as a result of its operation.

Probably it is unnecessary to claim here that largely it must have been policy that dictated that most, if not all, the earlier Public Health legislation should have reference to environment, and that the efforts of the authorities and officers created by that legislation should be directed to obtaining improvements in this connection.

That the conditions under which the bulk of the people lived, prior to the passing of the first Public Health Act, were such as to compel the legislature and the authorities generally to adopt such a policy your reading has no doubt convinced you.

Of the reasons that induced them at 1875, and even later periods, to continue the policy of regarding improvement of environment and sanitation as an all-important element in the scheme of public health you are also aware.

Progress there no doubt had been and great improvements had taken place by the time the public health system was felt to be ripe for re-organization in 1875; nevertheless there were many defective conditions in the surroundings of people of all classes remaining to be dealt with and many difficulties to be overcome before they could in fact be improved.

Is it too much to claim that there still remains much to be done; so much that when the time comes to re-organize again, the Act that replaces existing Public Health Acts will still have to give a considerable amount of prominence to provisions relating to environmental hygiene? There are still slums: few of us have far to go in our own districts before reaching areas that might be so described; and besides, has there not been a departmental committee on slums and is not the London County Council continually trying to discover methods of getting rid of them? Also, there are still tenement houses with tenants who will or must overcrowd, and will or must be neglectful and uncleanly. In a word, there is still a housing problem that involves not only the housing that exists, but also the housing that is in the air. Apart from housing, to be included in what is regarded as environmental hygiene there is water supply and there is food supply. In respect of the former the progress made has been so great that it may be held to be solved or at least so far

solved that the services of the health officer are only occasionally now necessary in regard to it. Not so, however, in the case of food supply. Much has been done and much progress has been made, no doubt, and for this the medical officer of health can claim credit, just as he can claim credit, as the health adviser of the largest food importing country in the world, for the tremendous advances that have been made in respect of food hygiene in every food exporting country, not excepting the United States. In spite of this, however, there is still much to be done here, and in it there is a large part to be played by the medical officer of health; that no one but he can properly play.

In regard to all of the aspects of environmental hygiene, not excepting such things as vermin repression and smoke nuisance prevention, indeed, there is a part that cannot properly be played by anyone but the medical officer of health, and reasons forbidding the making the basis of this side of health work other than medical.

Some of these reasons I take to be those that induced the legislature in the early days, after failing to obtain definite improvement with officers other than medical in charge, to transfer the responsibility from these to the medical officer of health. That Parliament did commence with the idea that all a medical officer of health was required for was medical matters—at that time infectious diseases particularly—is shown in the earliest Public Health Act in which, while great prominence is given to the matter of the appointment and duties of the nuisance inspector, those relating to the medical officer of health have the appearance of having been introduced as an after-thought. In the later Acts, having found no doubt that medical knowledge and the influence of a medically qualified officer were essential, the case is completely altered, and the most prominent requirement, so far as the appointment of officers is concerned, is in respect of the medical officer of health.

Possibly it is because I am so definitely of opinion that the knowledge and influence are still necessary on behalf of the people in relation to environment that I feel sure that the authorities would prefer, and the legislature would provide that his duties should include matters relating to environmental hygiene.

I believe that the progress that has been made, as measured by the improvements that have taken place in environment, for bad as they may still be counted they are infinitely better than they were when the medical officer of health first shouldered responsibility, justify continued adherence to the policy of making him responsible. To the social betterment that has taken place and the improve-

ment in the health of the people, the prolongation of life and the reduction in the general death-rate and from particular diseases, the work done in relation to environmental hygiene must also have contributed, and this must be regarded as further justification for deciding to make no change.

Questions that might have to be considered, if it were ever seriously suggested that the medical officer of health and his department should abandon environmental work, are as to whether or not it would be beneficial that he should do so, and if it would pay or result in a saving.

So far as benefit is concerned, I think it is clear from what I have already said, that I do not believe it would be to the advantage of the people if the health officer ceased to have close concern with environmental hygiene. In any case, even if we could convince ourselves that it would be to the advantage of the people if we abandoned this work, it would be impossible to convince the people who, holding the medical profession in peculiar esteem, would prefer to be looked after in this and similar connections by a member of that profession. Would it benefit the health officer or his work if we were relieved of duties involving supervision of the surroundings of the people? That it would be pleasanter for him to have to deal with the individual exclusively leaving others to shoulder the responsibility of looking after everything outside him there is no doubt. It would be delightful, indeed, to be relieved of so much labour and responsibility and from the strain of fighting for improvement in the life and living conditions of a very large section of the population.

In the opinion of Dr. Chapin, to whom I have already referred, one of the advantages that would accrue to the health officer, if he were relieved of such duties, would be that he would be able to concentrate more fully on disease prevention. This sounds very well, and might be regarded as a benefit overwhelming all others and affecting not only the health officer, but his work and those for whom he is working. The difficulty I have in respect of it is that it appears to limit too much the space within which the efforts of the health officer to prevent disease shall be made. The field of disease prevention takes in more than the health officer's chair and desk, a lecture platform and an assortment of clinics and laboratories. It must, surely, having regard to the part played by the extraneous in relation to disease production, take in the places where the people are living and working and getting their diseases. It is possible that, as suggested by Dr. Chapin and accepted by certain of his colleagues in public health work in the United States, the police force might be as effective in detecting and obtaining remedies for defects in

relation to environment, and might even be as effective as an educative force, and in bringing about social improvements which are not without influence in relation to disease prevention. It is not my desire to criticize public health organization and administration in the United States or any other country, and still less to offer suggestions as to the distribution of duties. Frankly, however, I was not greatly impressed by the conditions so far as regards environment in the poorer quarters of the American cities I visited, and it did occur to me once or twice to wonder if American public health was not too much inclined to the more picturesque and oratorical aspects of hygiene; too ready to believe that environmental and social conditions had nothing whatever to do with health preservation and disease prevention, and to leave them to nobody or to anybody willing to undertake duties so very un-spectacular in character and results, and promising so little in the shape of kudos to those who performed them.

As a body the police might be, in the States, as appropriate as the official curators of that class of work as any. Having regard to the fact that there appears to be no objection to the employment of force in obtaining remedies and the American police may, one gathers, be empowered to use unlimited force, perhaps they would be more appropriate than any other.

In this country, where the use of force, in this connection, by the police or anybody else is forbidden, it would be foolish to suggest that the police should add health duties to their other work, and the heads of the police organization would certainly object. If they did not the people would, and objecting would certainly not derive any benefit from the transfer.

From the hygienic and social aspects alone I believe I am justified in concluding that any change that involved the dropping of concern in environmental hygiene by the medical officer of health would not be beneficial.

Equally, I think I may safely conclude that it would not help, and might conceivably hinder, the officer in his preventive work if environment ceased entirely to be a matter with which he had concern. Dropping it would not, I consider, add very much to the time at his disposal for other duties since, after all, it is only very occasionally that he is called upon to act or appear in person.

If it would not save time, would it pay and result in a financial saving, if less attention to environment were given by the health officer and the organization to which he belongs? That it would pay and would release more money for other health activities is the

chief reason for Dr. Chapin's recommendation in favour of transfer to the police. In this country our financial methods are very different from those in the States, where a fixed amount is allotted to the Board of Health annually, and this body is expected to make do on that amount. Also, in general, there is no system of grants from ministries or county councils towards the carrying out of certain works. Dr. Chapin, I imagine, has at the back of his mind the possibility of receiving from his authority, when he is freed from the expense of carrying on environmental work, a sum not less than that formerly granted. All of this he would expend on other classes of work and any little time he saved from supervision of the inspecting staff he would devote to other branches. Here, of course, there would be no chance of obtaining extra money in this way, and we should still have to estimate with care the amount required for the works actually to be performed. Any plea that the department was spending less because it no longer had to deal with environmental hygiene would not alone be regarded as justification for allotting more to other works. Possibly if it could be shown that over all, because of the change, there was a saving, the local authority might be inclined to make an allowance to assist in extending the activities of some particular branch of work. Much more likely, however, would it be for the authority to regard the diminution in the work and responsibility as a reason for reducing the salary of the health officer and that, of course, would not pay him.

That it would pay the authority to interfere with the existing organization and to set up a separate environmental hygiene department, *prima facie* appears unlikely. The nucleus of the new department, no doubt, would be the existing inspectorial staff, and one of the first needs would be an efficient head. This would mean additional expenditure; which the provision of quarters would also mean.

Deprived of the assistance of the inspectors in connection with enquiries into infectious disease, for example, the medical officer of health would require extra assistance, and this also would mean additional expense. In other directions also, no doubt, need for further expenditure would appear, and by the time the change was completed the authority and the ratepayers would find that for any saving of the health officer's time and for the relief provided for him from the responsibility of supervision of environmental conditions, they were called upon to pay quite a considerable amount.

Finding this, they might begin to wonder if they were not giving too much attention to the subject and were not really deserving of the American criticism that, in the English system of public health, environmental hygiene bulks too largely.

As matters now stand, and with this class of work occupying the position our system of health organization has given it, in the department and under the supervision of the medical officer of health, the criticism is not, I consider, deserved. The results obtained are the justification of the policy that put it there; and justify also the belief, that most of us share, that in our department is where it belongs. Under us, environment in its widest sense has improved, the living conditions have improved, and the health of the people has improved. More; the people have been uplifted by the efforts put forth; socially uplifted in a way they would never have been had the work been given a basis and an orientation less definitely medical and excluded from the wide health and welfare scheme which the nation has adopted and medical officers are engaged in carrying out.

HEALTH PROPAGANDA—DIFFICULTIES AND SUGGESTIONS.*

By S. T. BEGGS, M.D., B.S., D.P.H., M.O.H.,
Middleton.

The importance of this subject will I think be conceded. It is not my purpose to give a detailed account of, nor to enter into a comprehensive resumé on propaganda work but rather to suggest to you material upon which a full discussion might profitably take place to determine what action, if any, should be proposed by this Branch. I shall base my remarks upon what has been done in my own area and make suggestions from the practical experience gained.

The following methods have been adopted in this area for Health Propaganda. So far nothing has been provided in the estimates for this work:—

1st. *The Press.*

By arrangement with the local press I have been enabled to publish each week a short article or Health Subjects occupying about one column of the newspaper. Up to the present between 200 and 300 of these articles have appeared. The subjects dealt with are selected from observation as related to the district, e.g.—

Protection from Tuberculosis.

Smoke Abatement—A guide from America.

Influenza Epidemic: Precautions to avoid after-effects.

Clean Milk—The Cleansing of Milk Utensils.

The Effects of Bad Lighting on Health.

*Read at a Meeting of the N.W. Branch, held in Manchester, 13th March, 1925.

The Epidemic of Measles and its Danger.
The Importance of Vegetables and Fruits in Diet.
The Cause and Prevention of Heart Disease in Children.
The Cause of Defective Sight in Children.
Colds, Coughs and Bronchitis in Children.
Food Borne Diseases.
The Health of the School Child.
The Social Problem of Alcoholic Abuse.
Sanitation—The Responsibility of the Occupier.
Common Winter Ailments.
The importance of Proper Food in regard to Health.
The Necessity for Vaccination.
Overcrowding, Ventilation and Personal Cleanliness.
Clothing.
The Destruction of Flies and Vermin.
The People's part in Health Matters.
Climate and Health.
Carriers of Disease.
Decay of the Teeth and Physical Degeneration.
Exercise and Fatigue.
The Importance of the Control of Household Refuse.
The Dangers of Dust and Dirt.
The Use and Abuse of Tea.
The Healthy Dwelling.
How to Avoid Disease.
Mothercraft.
Facts about Cancer.
The Importance of Keeping the Skin Clean.
The Danger of the House-Fly to Health.
The Feeding of Toddlers and Young Children.
The Prevention of Indigestion and Dyspepsia.
Signs of Ill-health in Children.
Rest and Sleep in School Children.
Common Ailments in School Children.
The Economic Value of Health Services.
The Prevention of Pneumonia.
Occupation in relation to Health.
The Spread of Epidemics by Insects.

The following is an example of one of these Articles:—

COLDS, COUGHS AND BRONCHITIS IN CHILDREN.

"At this Season of the year children run great dangers from these complaints.

To understand the nature of Catarrh it is necessary to consider the structure of the parts of the body which are affected and the cause of these becoming affected.

The respiratory tract consists of the nose, throat, wind pipe, bronchial tubes and air cells of the lungs, this tract is lined with a delicate membrane which secretes mucus and which, if

irritated by foreign matter such as dust, smoke fumes, foul air or germs, becomes congested and sets up a catarrh or inflammation. The purpose of the nose is to filter and warm the air which is breathed into the lungs. Where nose breathing is not carried out from any cause, such as obstruction or disease in the nose, Nasal Catarrh, Adenoids, Enlarged Tonsils—mouth breathing takes its place with the result that the raw, cold, polluted air is drawn direct into the throat, wind pipe and bronchial tubes.

The atmospheric conditions in winter time are such as to make the air breathed trying to the respiratory passages especially when the air is not filtered and warmed through the nose.

Catarrhs of the respiratory tract are to a large extent due to germ infection.

Living rooms and bed rooms and class rooms in school become more heavily laden with germs in cold weather, and with the lesser amount of sunshine and light penetrating these rooms together with the artificial heating of them, germ growth is encouraged.

As long as the body resistance is good, respiratory catarrhs are avoided, but once the health resistance of a child is lowered from any cause, such as exposure to cold, fatigue, wetting, fogs, dust, germ infection, etc., then a catarrh is set up starting in the nose and spreading to the throat, wind pipe, bronchial tubes and perhaps ending in the air cells of the lungs, thus setting up Bronchial Pneumonia.

In addition, it is known that an external germ infection is not always necessary to set up catarrh as numbers of these germs are already present in the nose and throat of healthy persons.

The catarrh starts when, from any cause the natural resistance of the body to germs is overcome, aided by any of the depressing influences above mentioned, such as Measles and Whooping Cough.

Pure cold air in itself does not cause colds and catarrhs, provided the breathing is properly performed through the nose and the body temperature maintained by warm and loose clothing evenly distributed over the body.

Pure cold air is healthy to breathe and invigorating to the system.

A Catarrhal Cold starting in a child is always a matter for anxious concern. Germ infection in the respiratory tract is always liable to extend. It may begin in the nose and throat, extend to the wind pipe, bronchial tubes and end in the smaller tubes and air cells of the lungs, thus resulting in Pneumonia.

The younger the child the more serious it becomes. Any unhealthy condition of the nose and throat is always a danger in infectious colds. Normally the healthy nose and throat have the power to destroy germs. They are the outposts to resist infection; first there is the filtering and warming process of the air in the nose, then the glandular tissue at the back of the nose and tonsils act as scavengers on germs, which are arrested and destroyed before they gain a passage to the lungs.

Evidently then, to prevent infection and the setting up of colds, catarrhs and bronchitis, there must be a healthy respiratory passage of the nose and throat. Any condition of the nose obstructing free breathing through it, such as adenoid growth or enlarged tonsils favours the induction of infectious catarrhs.

It is of paramount importance that the child should be taught to breathe properly through the nose from the earliest date. A good habit formed early will persevere.

Any disease in the nose and throat should be remedied.

Every care should be given to keep the body resistance high—observance of the rules of health will do this. There should be no bad teeth in the mouth, they are a source of infection and lower the resistance of the system. Good food is poisoned by bad teeth and nutrition undermined. Bad teeth lead to blood infection, and poisoning of the alimentary canal and thus body resistance to disease is lowered.

If there are enlarged tonsils and adenoids they should be treated. They are not only a danger in inducing catarrhal conditions but they harbour tubercular bacilli which, once a catarrhal condition is set up in the respiratory tract, may lead to consumption.

Many a case of Tuberculosis begins in a simple catarrhal cold by the super invasion of the tubercle bacilli.

At times when infectious colds are prevalent, a child should not be exposed to infection by (a) being taken into crowded public places, such as meetings, cinemas, etc., where the air is laden with germs. (b) Any person who has an infectious cold should not cough nor sneeze without covering the nose and mouth. The spray produced by coughing and sneezing contains the infectious germs. These are thrown into the air and when breathed by a child will set up infection of the nose and throat. (c) Overcrowded and heated rooms induce catarrhal colds for the reason that the air in such rooms is teeming with germs which, when breathed in large numbers, overcome

the body resistance. In the same way dark rooms and dusty rooms favour infection because germs grow more readily in them than in rooms exposed to light and sunshine.

Fresh air, Ventilation, Sunshine and Light, Warm and Loose Clothing, Good Footgear and Good Nutrition all contribute to safeguard against colds. For a child to get a wetting and sit in school with damp clothes, shoes and stockings is a prevalent means of starting a catarrhal cold. Hence in school there should be means of drying coats and shoes. Younger children should be provided with school slippers to allow of the shoes to be dried.

Where the natural resistance against catarrhal colds is deficient this can be increased by means of Vaccines.

Vaccines are substances which are produced from germs and sterilized, and, when injected into the body, immunise the person against catarrhs.

The same effect is produced in the case of certain infectious diseases—when one attack prevents a second.

The body is made immune by the formation in the blood of substances which render the person incapable of contracting the disease a second time.

In the case of catarrhal cold the immunity produced by means of Vaccines, however, lasts only for a limited time and in order to keep up the immunity repeated treatment by Vaccines is required. A Vaccine can be prepared from growth of the germs from the patient which is the most satisfactory treatment, or the vaccine may be a "stock" preparation made from the germs which are usually found to cause such catarrhs; in the case of catarrhs these vaccines as a rule do well. Always consider a catarrhal cold starting suddenly in a child as a source of infection, keep the child in bed and if there are any feverish symptoms obtain Medical Advice. One of the objects of the medical inspection of school children is to point out to the parents the several conditions in a child's constitution which favour the induction of colds and catarrhs and parents would be well advised to give particular attention at all times to the advice given."

I may say that I have evidence from the people themselves, the Health Authority and Doctors, that these articles do good and that some of the seed sown takes root and grows.

The press in Middleton always publishes the Health and Education minutes in extenso. This is all to the good. From the number of letters I receive it must be said that greater interest is

now being taken in health matters, by the people themselves, as a result of propaganda than formerly.

2nd. *Health Week*.—During the past 3 years a successful Health Week has been held. As an addition to the effort, propaganda in the form of a booklet was issued last year, a copy of which I produce. 7,000 copies of these were printed and one presented to every householder in the Borough.

The cost was covered by the advertisements appearing on the left hand pages. On the right side are given the Programme for the week and the following articles:

Appeal by the Chairman of the Health Committee. Health Week.

Health facts about Middleton.

What you get for your Rates in Health Services. Saving the Babies.

What the School Medical Service is doing for your child.

Food and Diet Bulletins.

The Cause of Infection.

The most Urgent and Prevalent Disease of the day.

How to keep the Rates down and prevent disease. Wise Sayings.

School Child's Rhyme on Health.

To judge from the enthusiasm shown at the meetings during the week an issue like this fully repays itself, and a receptive atmosphere is created.

3rd. *The Schools*.—Several issues on health matters have been made through the Schools both for the benefit of the schools and parents. The teachers are encouraged to take an active part in propaganda work. During Health Week I have their whole-hearted support and in it the children take a large share. Last year over 800 Essays were written by them, numerous exhibits were shown by the scholars in which the Manual and Cookery Classes took a prominent place.

This booklet "Simple Suggestions as a means to Health, Economy and Efficiency" was issued to each scholar in the schools in 1923.

4th. *The School Clinic and Welfare Centres*.—At these every effort is made to push propaganda. The walls of the clinic are covered with posters. These are obtained from various sources but many of them are original and are prepared in the Office on stiff card-board with a sign marker. Even Cross Word health puzzles have been made use of.

A notice is periodically put up offering prizes for the best essay on some particular poster by the School Children.

Numerous pamphlets are in use. An appropriate pamphlet is given to back up the advice to the parent. In my experience I may say it is unsafe to leave to parents the carrying out of advice in detail given verbally. Again where parents do not attend it is necessary to get at the parents at once and until the School Nurse or Health Visitor calls at the home the advice pamphlet serves the purpose.

5th. *The Health Visitors* are instructed to make full use of the pamphlets in home visiting. They are instructed to explain the directions and advice given in the pamphlet. By thus following the pamphlets it is ensured that the right advice is being given and a much fuller propaganda put into action than if left to the personal factor of each Health Visitor.

As conditions arise new pamphlets are prepared. In that way emphasis is given to any particular cause of sickness and its prevention.

I quote one of these pamphlets, "Advice on the Nursing of Infectious Diseases at Home."

Borough of Middleton.

Infectious Disease.—NOTICE.—To be hung up outside infected room.

This room is infected and no person must enter it except the mother or other person looking after the patient.

By Order Medical Officer of Health.

Advice on the Nursing of Infectious Diseases at Home.

"1. The patient must be at once separated from all other members of the household, and, if possible be nursed in a room at the top of the house.

2. All bed-curtains and other hangings, carpets, and all articles of dress and the like in wardrobes and cupboards, and all unnecessary articles should be removed from the room at once.

3. The room should be well-ventilated, windows should be kept partly open (the patient being protected from draughts or a chill) the chimney free and open. The floor should be sprinkled with disinfectant fluid and cleansed daily. Dust with a damp cloth (not dry).

4. The door of the room must be kept closed, and a sheet, kept wet with disinfectant fluid, hung outside it so as to cover every crevice.

5. Everything that passes from the patient (spit, vomit, urine, motions) must be received in vessels containing a disinfectant; and an additional quantity of the disinfectant should be added

to the vessel before removing it from the room and emptying it into the closet. All superabundant food and all scraps and refuse should be burnt, and under no circumstances should food be left nor eaten by other persons.

6. Pieces of rag used for wiping discharges from the nose or mouth should be burnt immediately after use.

7. All cups, glasses, spoons or such like articles used in the sick room, should be placed in disinfectant solution before leaving it, and subsequently washed in hot water.

8. All bed and body linen after use should at once, and before leaving the room, be put into disinfectant solution.

9. The patient's person and bed should be kept scrupulously clean, and when, during the progress of the disease, scales form upon the skin, the surface of the body from head to foot should be smeared with Eucalyptus Oil.

10. When in the room the attendant on the patient should wear a washable dress (a nightdress overall will do). Wash the hands in disinfectant solution each time after working with the patient, avoid breathing the patient's breath, and under no circumstances mix with other people, and gargle after leaving the room.

11. Visitors must not be allowed in the house or sick room.

12. The house should be well ventilated and kept very clean; all sinks, water closets, traps, and gullies, should be in good order and have disinfectant solution poured into them daily; dust bins should be regularly emptied, and all accumulations removed. Burn all the refuse you can.

13. All members of the house should gargle with Condy's Fluid daily, and not mix with other people or go to public meetings or visit neighbours' houses."

I have given here a short idea of what can be done in everyday work in propaganda without any special expenditure being applied for. I do not suggest what I have said is either complete or sufficient nor perhaps the best means of obtaining the desired result. The weakness to my mind of propaganda work is (1) that it is not officially recognised as a part of the Public Health Service. It is more or less an individual effort, (2) that there is no co-ordination between Local Authorities, (3) that no lead nor scheme for propaganda has been suggested by the Ministry of Health and (4) that no grant is obtainable for this purpose.

I submit the following proposals and after, as I hope, a full discussion. I suggest that a resolution be drawn up and forwarded to the Council of the Society of Medical Officers of Health and

that their decision be placed before the Ministry of Health.

1st. That Health propaganda be officially recognised as part of the duties of the Public Health Service.

2nd. That a scheme be drawn up by the Ministry of Health, one of the provisions of which will be to entitle Local Authorities to apply for a grant in carrying out the scheme.

3rd. That co-ordination be established between Local Authorities thereby making the scheme uniform and economical.

4th. That instruction in the use of propaganda be made part of the training of Health Visitors and Sanitary Inspectors.

I think if such action is taken propaganda can be made a very powerful factor in public health. More and better health films are required and a greater use made of the Cinemas. A small lantern should be part of the equipment of clinics. Health propaganda should be given a recognized place in the School Curriculum and each Health Committee should have its Propaganda Sub-Committee.

Broadcasting of health propaganda has already made a start and I feel this is the psychological moment for the Society to push the matter home.

PUBLIC HEALTH ON THE CONTINENT.

At the meeting of the Society of Medical Officers of Health, held on Friday, April 24th, 1925, a discussion took place on "Public Health on the Continent." The President (Dr. Robert A. Lyster), in his introductory remarks, said that when the programme for the session was being prepared it was thought that some attempt should be made to make use of the valuable information gained by the various members of the Public Health Service in this country who had been sent abroad to study health conditions under the scheme organised centrally by the League of Nations and locally by the Society of Medical Officers of Health, and made possible by the funds of the Rockefeller Foundation. Up to the present he did not think they had got quite as much out of that scheme as they might have done, but at that meeting they were really trying to commence putting notes together on the subject and see what results could be produced.

Dr. A. T. Nankivell (M.O.H., Plymouth) was due to open the discussion, but since taking up his new appointment he had found that his committee meetings clashed with the ordinary meetings of the Society, and therefore sent a note of

regret that he would be unable to take part personally in the discussion. In order, however, to fulfil his obligation, Dr. Nankivell forwarded the following notes to the President:—

In Holland I was especially impressed by the association of domestic cleanliness and municipal filth. The Dutch keep their houses delightfully clean, and the Dutch interiors, as seen in the National Gallery, represent true pictures of what actually exists; yet the streets of Dutch towns are badly scavenged and the sewage of the country flows into the Canals in front of the houses. These bubble on a warm day like soda water. The smells from these canals are most offensive to the ordinary susceptible Englishman, but they seem to have no adverse effect on the public health of Holland, indeed the Dutch who have a well-marked sense of humour, attribute the rosy faces of their children to the odours from these open sewers.

A point that greatly interested me was the fact that in Holland it is the custom to nurse cases of infectious disease and even small-pox in ordinary general hospitals. Cross infections are most uncommon and the elimination of the infectious Hospitals results in considerable economy.

The Dutch take extreme care in safe-guarding their meat supplies. All animals are inspected by a qualified veterinary surgeon both before and after slaughter. Meat is stamped, and no unstamped meat can be sold to the public. The tuberculous carcasses are cooked at the Public Abattoir and the meat is sold cheaply to the poorer people. I am inclined to think that the origin of this carefulness in safe-guarding the meat supplies in Holland is that the Dutch eat their meat almost raw and always very much under-done, and that, were they not to control it so carefully, they would suffer from parasitic diseases to an alarming extent.

The Sale of Food and Drugs Acts or their Dutch equivalent are extremely well administered. The country is divided into areas, each one of which has a central laboratory. About 50 samples per thousand population are taken every year and the adulteration of food is in consequence practically non-existent.

The School Medical Services and the Maternity and Child Welfare Services are voluntary in nature, in that Municipalities may supply these services if they wish to do so. In rural areas and in many of the smaller towns nothing whatever is done for babies and school children.

The water supply of Holland is excellent on the whole, and the country is divided into Water

Board areas. The milk supply on the whole is dirty and there is a certain amount of milk-borne enteric fever. It is not the custom to pasteurise milk supplies in Holland; milk which is known to be infected is purchased and cooked for use in Municipal and State Hospitals.

The mentality of the Dutch is very similar to that of the Scotch. They are a thrifty and hard working nation, and they suffer as we do in this country from a multiplication of voluntary societies; "flag days" are as common in Holland as they are in England.

It is interesting to notice that the salaries paid to public health officials are very bad. The Dutch will lavish money on buildings to house their Public Health Staff, and will pay their doctors the wages of a Sanitary Inspector.

Dr. T. S. McIntosh (M.O.H., Hendon) said: The following remarks are based on the impressions obtained during an exchange of Public Health Officers in Holland, in which I was privileged to take part, in April and May, 1924.

To understand the Public Health System of Holland it is necessary to know something of the character of the people. It would, of course, be absurd to come back from a six weeks' visit to the country with a clear-cut estimate of the National character, but I could not fail to form one strong impression, and that was that the Dutch are remarkably like ourselves in a number of both our qualities and our defects. There is, for example, the same keen sense of independence and insistence on personal liberty, and perhaps even a greater distrust of authority and stubborn resistance to avert compulsion. The reformer is met in Holland, as in England, with so-called "Religious and Conscientious" objections, not based on any well-informed convictions, but rather the expression of an instinctive (and perhaps wise) determination to resist anything imposed by arbitrary power.

Holland has, for example, its anti-vaccinationists, who have apparently been powerful enough to prevent the passing of any General Compulsory Vaccination Act. In parenthesis, it may be interesting to record that Holland is, nevertheless, a much better vaccinated country than England. Children are not admitted to the schools unless vaccinated, with the result that the vast bulk of the population are vaccinated at least once in their lives. This struck me as amusingly reminiscent of English ways—attaining an approximation to your object by some sort of back-door method without technically violating some beloved catch-phrase such as "liberty of the subject." That, however, is by the way.

A striking feature of the local government of Holland, which is probably due partly to the strong individual bias of the people, and is certainly in keeping with the traditions and history of the country, is the jealously-guarded right of local autonomy. Local Authorities seem to have much greater powers of initiative and of inertia than in England (each Town or Commune is more a law unto itself), with the result that the Public Health practice, throughout the country, is less uniform than in England. Again, the extent to which Public Health work is in the hands of Voluntary Societies is very noticeable. This, I take to be an indication that there has always been a considerable section of enlightened public opinion in advance of Communal action. (For example, the anti-tuberculosis campaign and the Maternity and Child Welfare work of the country are carried on by Voluntary Societies.) The State and Municipalities, however, have stepped in and made very full use of the Voluntary Societies and Institutions (including the Voluntary Hospitals), and they now take a definite official place in the general scheme of Public Medical Assistance. Definite arrangements, including the payment of subsidies, are made with them by the State and other Municipalities, and their relations with the Public Service seem to be less haphazard than is the case in England. In this particular I think it would undoubtedly be correct to say that the Dutch organisation is much in advance of the English.

I should be inclined to say that this was merely a step towards the nationalisation of all these institutions, which is almost certain ultimately to take place both in England and in Holland. I did not discuss this tendency with any of my Dutch friends, and so cannot say whether they would agree with the prophecy on which I have just ventured.

With the above introduction I shall attempt to give a very brief outline of the Public Health Administration of Holland.

The central organisation is, briefly, as follows: Public Health is a department of the Ministry of Labour.

The Staff of the Ministry for Public Health and Medical Services includes:

1. A Director General.
2. Four Inspectors in Chief.

One of the four Inspectors in Chief is a medical man, and is concerned with Infectious Diseases and with Medical Services generally.

One is a chemist, and deals with foods and drugs, water supplies, etc.

- One is an engineer, whose sphere includes such matters as housing.
- The fourth is a veterinary surgeon, and is concerned with the hygiene of meat supplies.
3. Corresponding to each of these Inspectors in Chief is a number of District Inspectors, each being responsible for a portion of the country.
4. There is a fifth Inspector in Chief who is on a somewhat different footing from the others, as the services with which he is concerned, namely, Tuberculosis, and Maternity and Child Welfare, are provided by Voluntary Societies.

In addition to the technical staff outlined above, there is an advisory body—the Council of Hygiene. This consists of about 70 members, so chosen as to include persons qualified to give expert advice on any subject connected with the Public Health and Medical Services. This Council has a Medical President. The Director General and the Inspectors in Chief are ex-officio members. The Council is divided into various Committees corresponding to the various aspects of its sphere of operation. It is supposed not merely to give advice when asked, but to watch over the Public Health of the country, and to approach the Minister with regard to any question which seems to demand his attention. The President of the Council also gives his personal advice to the Minister in special circumstances.

One naturally wonders how an arrangement like this works, and whether it is advantageous that the Minister should have an advisory council not co-terminous with his staff of technical advisers.

Naturally, I have not the necessary knowledge and certainly not the desire to express any opinion, so far as Holland is concerned, but, in the case of England, I cannot see that the setting up of such a Council would serve any good purpose. The Minister has his Medical and other technical advisers who are presumably capable of advising him on all subjects with which the Ministry is concerned, and in the event of a specialist's advice being required on any particular subject there can be no difficulty in making arrangements to obtain it. That appears to be all that is necessary. So much for the central organisation.

When we come to the local organisation we find that considering the country as a whole there is nothing comparable to the English Public Health Service. Amsterdam has a very complete

and well-organised service and certain other large towns have their Public Health Services too, but the country districts and smaller towns (even fairly large towns) have really no public health service as we understand the words. There is a Public Medical Service everywhere, which provides medical treatment for the poor, and corresponds roughly to our Poor-Law Medical Service, but there is not the Medical Officer of Health and Sanitary Inspector, who are to be found in any district, however remote and primitive, in England.

The Burgomaster in each sanitary district is responsible for taking the necessary Public Health measures, and he may take the advice of any doctor he fancies when occasion arises. There is also in each district a local commission consisting of persons of education and technical knowledge who undertake the duty of exercising supervision over the public health, and giving their advice to the Burgomaster when necessary. The Burgomaster is at liberty to take their advice or not, as he likes.

The District Inspector of the *Central* service also advises the Burgomaster on occasion. If, for example, there is an outbreak of infectious disease in a district, the Inspector would visit the district, advise the Burgomaster as to the measures which should be taken, and even assist in carrying out these measures; in fact, he would act as Medical Officer of Health for the time being. (Here is a marked difference from the English system). Again, the Burgomaster may take the advice of the Inspector or not as he pleases, and no action can be taken without his authority. It is rather curious that so much power is entrusted to the Burgomaster in an intensely democratic country such as Holland is. He has not only much more power in local government than any individual in England, but he is even given some powers and discretion which are not granted to a District Council in England. Moreover, he is not popularly elected, but appointed by the Government.

There are obvious advantages in having power to take action vested in one man instead of in a Council and Committees. At times there may be disadvantages. I shall not attempt to decide on which side the balance rests.

In many respects the general sanitation appears to be very good. The provision of water supplies is a serious problem, but it seems to have been pretty successfully tackled. The cleanliness of streets, and collection and disposal of house refuse struck me as very satisfactory. I

understand, too, that the standard of domestic cleanliness is high. In the matter of drainage and sewage disposal, Holland is not nearly up to English standards, but it must be remembered that in Holland they are confronted with enormous, perhaps insuperable, difficulties, in not having gravitation to assist them, the greater part of the country being dead-level and much of it actually below sea-level, and waterlogged.

A few words may be added with regard to some of the special services.

School Medical Service.—There is no national School Medical Service. Certain towns provide a School Medical Service, but it is left to each district to do this or not, as it pleases, and in the way in which it pleases. The State pays none of the expenses, and has no control. In Amsterdam it is on much the same lines as in our own large towns. In some other towns where it exists it is probably much less complete.

Maternity and Child Welfare. Tuberculosis.—These two services are provided not by the State, but by Voluntary Societies. The Societies are, however, subsidised both by the State and the local authorities, and therefore both of these can exercise a certain amount of supervision and control.

Venereal Diseases.—There is no general public scheme of treatment for these diseases. Certain towns provide V.D. Clinics, and treatment is also provided in various parts of the country by Voluntary bodies, but these are not subsidised or controlled by the State.

National Health Insurance.—Holland has, up to the present, nothing corresponding to our National Health Insurance System. There is a law relating to the insurance of workers against accident, which provides for medical treatment, and, if necessary, hospital treatment in case of accident, but there is no National Scheme of Insurance and medical treatment to cover illness in general. This is provided to a great extent by voluntary workmen's clubs. A law has actually been passed making insurance compulsory, and giving certain regulating and controlling powers to the State, but this law was not yet in operation at the time of our visit.

While I think we may safely say that we have a more thorough and complete Public Health organisation in England than exists in Holland, there is one important respect in which the Dutch organisation is much in advance of ours, namely, with regard to the provision of hospital treatment for general diseases.

The community definitely recognises that one of its duties is to see that those who require hospital treatment obtain it, whether their diseases are infectious or not. (An interesting fact is that there are no Isolation hospitals, infectious diseases, including even smallpox, being admitted to general hospitals.)

The great majority of the hospitals are voluntary, but the public authorities make arrangements with them either by payment of subsidies or by paying for the treatment of individual cases. Thus the municipality definitely interests itself in securing hospital treatment for those of its citizens who require it— if necessary paying the whole or part of the cost according to the patient's circumstances.

In Amsterdam the Public Health Office acts as a hospital clearing-house, allocating patients to a hospital which has beds to receive them. Further, the Medical Officers of the Municipal services decide whether a particular patient (even when recommended by a doctor) is actually in need of hospital treatment; and when there is a shortage of beds, decide which cases shall be given the preference. How their brethren in private practice regard this system I am sorry I cannot say—but it obviously has great advantages.

It may be of interest to add a brief description of the Public Medical Services in Amsterdam, which is a town with a population approaching that of Manchester. In 1921 the population of Amsterdam was 686,180, while that of Manchester was 744,000.

In the first place, Amsterdam has one great advantage over English towns in that all the medical services are administered by one local authority and one medical chief. There are not, as in England, separate authorities and separate medical services for Poor-law medical treatment and other forms of Public Health work.

The following are the principal branches of the Public Medical Service.

1. **Treatment of Indigent Persons.**—This is carried out at various Policlinics, and patients confined to their homes are also visited at home. When they require hospital treatment they are admitted to the general hospitals, some of which are owned and other subsidised by the Town Council. Treatment (apart from hospital treatment) is not provided for non-indigent persons, except where such treatment would tend to prevent the spread of an infectious condition, such as trachoma, ringworm, scabies, or (if there is reason to fear an epidemic of typhus) pediculosis. Here you see the survival of the old idea that the

individual was no concern of the community unless he became obnoxious.

2.—First aid in case of accidents is provided by the Municipal service.

3.—Medical treatment of the large army of Corporation employees is provided by the Municipal service (I fancy this is not a form of activity in which many of us would wish to engage).

4.—A very important function of the service is the *Control of admission of patients to the various hospitals in the city*, as already mentioned.

5.—The provision as regards Maternity and Child Welfare seems to be similar to that of our own cities, and does not call for any special remarks. I should like, in passing, to quote two sentences from the address given to us by the Medical Officer of Health of Amsterdam. He says: "Cases of Puerperal Fever are extremely rare in Amsterdam. More than 99 per cent. of the confinements take place spontaneously." He places these two sentences in juxtaposition just as I have quoted them, but makes no further comment, and I shall follow his example.

6. **School Medical Service.**—Routine examinations of the school children take place three times in the school life of the children very much as is the custom in England.

To a great extent this examination is conducted, not at the schools, but at a neighbouring policlinic. This must have great advantages over our method of examining the children in the schools.

There may be certain advantages in examining the children in the schools, but I am sure that these are completely outweighed by the convenience of examining children in the more peaceful atmosphere of a clinic with the necessary equipment at hand.

Generally speaking, treatment is not provided by the School Medical Service. As in England, parents are notified of the defects of their children and asked to have them treated. The children of indigent parents can obtain treatment under the general scheme for the treatment of indigent persons.

Special schools are provided for deaf and mentally defective children, and arrangements are made for sending certain children to Convalescent Homes, the community paying half their expenses in cases of necessity, and the remainder of the cost being borne by the Charitable Societies which organise these convalescent homes.

7. **Infectious Diseases.**—On the whole there are no very striking differences between the Dutch

and the English practice with regard to these diseases. Certain differences in the law are perhaps worthy of mention.

(a) In Holland there are no compulsory powers for the removal to hospital of a person living in a private dwelling and suffering from one of the common infectious diseases, such as scarlet fever, diphtheria or typhoid.

In England we have, of course, power to enforce the removal to hospital of a patient suffering from any of these diseases, if he cannot be satisfactorily isolated at home.

When you come to consider the practice in the two countries you find, however, that the absence of compulsory powers does not seem to be a serious drawback.

In Amsterdam, in 1923, the following proportions of cases were removed to hospital:—

Typhoid	...	93%
Diphtheria	...	95%
Scarlet Fever	...	81%

I do not suppose that many cities in England show higher percentages.

(b) The following diseases are notifiable in Holland:—

Cholera	Diphtheria.
Smallpox.	Dysentery.
Plague	Cerebro spinal Meningitis.
Typhus	Encephalitis Lethargica.
Typhoid	Poliomyelitis Anterior.
Scarlet Fever	Acuta.

The English list is of course much longer than the Dutch, but the infectious diseases which really occupy the attention of the Medical Officer of Health to any considerable extent are very much the same in the two countries, namely:—

Diphtheria	Scarlet Fever.
Smallpox	Typhoid.

At the present time Smallpox is rare in Holland, while Typhoid, which is quite an important problem in Holland can now hardly be said to be so in England.

With regard to Scarlet Fever and Diphtheria the preventive methods used are much the same as in England. In Amsterdam exclusion of contacts of a case of Scarlet Fever from school is not insisted upon if the patient is removed to hospital. Diphtheria contacts are swabbed, and if the swab is negative they are allowed to return to school. Swabbing of contacts (both adults and children) is carried out more vigorously than is the practice of most Medical Officers of Health in England, but I did not find the Medical Officer, to whom I spoke, very enthusiastic about it. The

Schick test and immunisation are pretty extensively practised in institutions. Very little importance is attached to disinfection, and it has been to a great extent given up. Where disinfection is carried out rooms are not fumigated, but bedding and clothing are disinfected, and the bedstead and its surroundings washed with lysol.

In Holland there are no special hospitals for Infectious Diseases. They are treated in general hospitals, in separate pavilions. I am assured that no harm results either to the patients suffering from general diseases or to the public outside the hospital, although in some cases the Infectious Disease pavilions are at a less distance than 40 feet from each other, from other buildings, or from a busy street. That infectious pavilions may safely form part of a general hospital is only what one would expect, and this expectation has been confirmed by such experiments as the Willesden one. There are such obvious advantages from the point of view of economy and efficiency in adopting such a principle that I need not dwell upon the point.

The Dutch even go the length of admitting Smallpox cases to a general hospital, and again apparently with safety. The members of the nursing staff of the Smallpox pavilions are kept entirely separate from the rest of the staff, and of course are protected by vaccination, and this appears to be all that is necessary. The nurses of the Scarlet Fever Wards are similarly kept separate from the rest of the staff. In the Diphtheria wards they are immunised and allowed to mix with the rest of the staff.

The subject of Typhoid Fever seems to deserve special mention. Typhoid is endemic in Holland to a much greater extent than in England. It seems reasonable to attribute this to the great natural disadvantages under which Holland labours in the matter of drainage. A great portion of the country is absolutely flat and lies below the level of the sea. It is intersected by innumerable canals, which necessarily become polluted. Typhoid is quite a serious problem in Amsterdam, and in the opinion of the Medical Officers there, in a large proportion of the cases the infection is milk-borne. Amsterdam's milk supply is purchased in the villages in the neighbouring low-lying land, and in these villages typhoid is almost constantly present. This is not to be wondered at when one learns that the villagers wash their dishes, salads, vegetables, etc., in the highly-polluted canals on the edges of which their houses are situated.

COMPARATIVE STATISTICS.

	HOLLAND.		ENGLAND & WALES.	
	1922.	1923.	1922.	1923.
Population ...	7,032,179	7,145,647	38,158,000	38,403,000
General death rate per 1000	11.43	9.9	12.8	11.6
Birth rate per 1,000	25.9	26.0	20.4	19.7
Infant mortality rate per 1,000 births	67.3	56.9	77.0	69.0
Deaths per million from:				
Scarlet fever	4	3	36	26
Diphtheria	45	32	107	71
Typhoid	19	24	12	12
Measles	48	106	149	138
Whooping Cough	146	106	167	108
Influenza	525	110	563	220
Heart disease	1073	964	1568	1480
Bronchitis	328	209	1078	852
Lobar pneumonia	605	427	241	239
Tuberculosis, all forms	1145	1053	1121	1062
Tuberculosis, lungs	860	790	889	836
Cancer	(Year 1920) 1100		(Year 1920) 1161	

INCIDENCE OF CERTAIN INFECTIOUS DISEASES PER MILLION INHABITANTS, YEAR 1923.

	HOLLAND.	ENGLAND & WALES.
Typhoid ...	194	80
Smallpox ...	0.69	60
Scarlet Fever ...	501	2240
Diphtheria ...	578	1050

1921.

	AMSTERDAM.	MANCHESTER.
Population ...	686,180	744,000
General death rate per 1000	10.20	13.57
Birth rate per 1000...	21.71	23.66
Infant mortality per 1000 births	54	96.98
Deaths per million from:		
Scarlet Fever ...	6	79
Measles ...	100	6
Diphtheria ...	43	120
Typhoid ...	65	18
Whooping Cough...	190	227
Tuberculosis of Lungs ...	897	1300
Tuberculosis, other forms	354	338
Pneumonia ...	984	1241
Cancer ...	1359	1262
Infectious Diseases notified:		
Scarlet Fever ...	777	5400
(% admitted to Hospital)	80	54.2
Diphtheria ...	1767	1002
(% admitted to Hospital)	92	60.6
Typhoid ...	267	74
(% admitted to Hospital)	89	79

A very simple and effective method of dealing with an infected milk supply is adopted. The town buys the whole of the milk produced on the

infected farms and distributes it to hospitals and other institutions, where it can be relied upon to be effectively pasteurised. This method is said to work entirely satisfactorily. Thus, although no legal powers exist to prohibit the sale of milk infected with typhoid, a rough and ready, but apparently effectual, means has been found of robbing it of its danger.

The accompanying comparative statistics (see preceding column) may be of interest.

Dr. J. J. Paterson, M.O.H., E. Berks., said: In a brief sketch, such as this must be, it is impossible to do greater justice to so wide a subject as "Public Health on the Continent" than to present one's own impression of a few of the more outstanding of its features. At the best these impressions are more or less of the nature of selected snapshots—selected because a visitor can see little more than he is shown and again selected, because of one's personal predilections and prejudices.

The greater part of the views which I am to present to you are based upon experiences gained during that very interesting and instructive course in Austria two years ago, but casual and occasional experiences in other countries have not differed much from what was observed there in considerable detail.

Public Health Organisation in Austria began, much as it did in other countries, in the latter half of the past century by the promulgation of Laws relating to the control of epidemic and epizootic diseases, and gradually developed from the control of established outbreaks to the adoption of measures for prevention. A special department for the exercise of administrative functions in this connection was grafted on the Ministry for Internal Affairs—a union which might be compared in broad outline to our Home Office plus Local Government Board, but with the rapid growth of Public Health affairs the graft acquired an importance beyond that expressed in its subordinate relation to the parent stock. In the new constitution of the Austrian Republic this was recognised by the establishment of a separate "Public Health Office" which is now the highest Authority in health matters. It is however, a political body, and although it has at command a large staff of very eminent scientific advisers, the ultimate control is in the hands of political chiefs. In the case of Germany it is far more difficult to "place" the Public Health authority, for here one is faced with an extraordinary complexity of semi-independent administrative bodies, possessing more or less

restricted powers in health matters, but the essential point is quite clear, namely, that the Health Code is part and parcel of the Penal Code, that is to say, in nine cases out of ten, the executive officer is the policeman, the medical man or the scientist being merely an administrative official or "form-filler." So far as local government or local authority as we understand it, is concerned, I have never been able to find anything quite comparable on the Continent, in fact I have on more than one occasion left my foreign colleagues aghast when I tried to explain to them that I was appointed and "controlled" by a popularly elected Council consisting mostly of local tradesmen, few of whom would be able to explain the significance of the letters D.P.H. after my name. Abroad such local control as exists seems to be vested in a hierarchy of bureaucrats culminating in a District-Commissioner who is a sort of "prince of the province" and who derives his authority directly from a government office, hence all questions, communications and other matters are referred to an "Amt" (office) never to a Committee. Again, it is difficult to find any single medical man who fulfils the multitudinous functions or performs the multifarious duties of a British M.O.H., and there is certainly no one corresponding to that useful lieutenant of his, the Sanitary Inspector. Perhaps in the larger towns the municipal medical officer bears a certain resemblance but he does not appear to have any control over the officials in the special departments, e.g., Tuberculosis, V.D., School, Statistics, etc., in short he is not the actual head of all public health activities. The Sanitary Inspector's work on the other hand seems to be partly distributed amongst members of the engineering staff (housing, water supply, drainage, etc.), but partly in the hands of the police (e.g., notification of infectious disease, sampling of food and drugs, and complaints as to nuisances.)

On the subject of legislation in connection with Public Health, I do not feel competent to say much and the few remarks that follow are made with a considerable amount of reserve. Our own Public Health Law is becoming rather a jumble of Acts, amendments, cross references, judicial decisions, Orders in Council, regulations, to say nothing of bye-laws and private acts, amongst which it is difficult to pick out a clear course, but even these are simple compared with continental legislation. The Government is responsible in the first place for initiating public health law, but government acts appear to deal mostly with administrative machinery and to empower subordinate authorities (provincial and communal) to carry

out executive works of detail. This does not make for uniformity for no two provinces are likely to take the same view of their obligations and still less likely to prescribe similar details. Thus in Germany notification of dangerous infectious disease is compulsory throughout the whole country, but no two states, sometimes not even adjacent towns (e.g., Hamburg and Altona) have similar lists. In some instances suspects are notifiable as well as infects, while important diseases—hydrophobia is one—are omitted altogether or made notifiable in certain circumstances only. As an example of incomplete co-ordination between law and practice let me quote the case of the *Codex Alimentarius Austriacus*. This is a monumental work consisting of three ponderous tomes dealing with every conceivable aspect of all things Man can "take"—meat, malt, milk, even marzipan and snuff are included—a lexicon, a pharmacopocia and a bromographia rolled into one. Official analysts are bound by the methods, tests and standards contained therein, and must report any departure from the normal. It contains the whole of the law and judicial decisions relating to foods and drugs, but for all that, the Courts are not bound by it, they may regard it merely as an expression of expert opinion and deliver judgment irrespectively of its standards. In commerce, however, it is unquestionably accepted as the standard authority.

Now, just a passing word on the financial side. Here exact comparison is impossible, especially in view of the chaotic state of the rates of exchange. Foreign colleagues are astounded at what appears to them the princely salaries paid to Health Officials in this country. So far as I was able to ascertain in Austria (and in Hamburg) the official salaries work out at about one tenth of ours when reduced to sterling value, that is to say, they are barely sufficient for native subsistence. As a result extraneous employment is undertaken to eke out the miserable official pittance and consequently you have all the defects attending part-time work and divided interests. Departmental expenditure in the total is also extremely meagre, but in proportion to the amounts spent in other departments (except the Police) and in proportion to the total income of the town or district, I am much inclined to the opinion that poverty stricken Austria spends relatively more on Public Health works than our own comparatively wealthy country, but owing to inherent defects in the administrative system I doubt whether full value is obtained for the expenditure.

It remains to make some reference to the practical side of the question and to say something of the works one actually sees. This is the most difficult part of all, for I am not disposed to accept the usual vital and mortal statistics as the unerring guide and standard for Public Health achievement. For the present purpose I consider it is of more value to record one's own impression of what is actually being done to relieve or improve adverse conditions of life affecting the bulk of the people. Here it is necessary to distinguish between a huge cosmopolitan city like Vienna and the smaller country towns and villages, also between the older Public Health works of sanitation and the newer developments that are concerned with the health of the individual. So far as water supply, main drainage, scavenging, official slaughtering and inspection of meat are concerned, the large towns, Vienna in particular, are well equipped according to our standards, but the further one penetrates into the country the more rudimentary these primal necessities become, and in the mountain villages, they are primitive in the extreme. Fortunately most of these places are traversed by a fast running mountain stream which serves the double purpose of Water Supply and Sewering. As to slums and dilapidated house property, I failed to find anything very bad although I did attempt to make a few discreet enquiries which generally resulted in my being shown some model workmen's dwellings. Only in one continental town (Rouen) have I discovered the genuine slum and it was appalling. We have nothing that I know of to touch it here. In Hamburg I once discovered a portion of the old town—double rows of back to back houses, which I might describe as "not too bad, considering." The inmates of these quarters, by the way, are not allowed by the police to show face in the main thoroughfares, hence the casual visitor does not see the underlying squalor and misery. The model village belonging to "The Works" where everything is according to plan, stands in a different category. I saw one in Austria—Bernsdorf. Here everything belongs to the Company, houses, shops, churches, schools and hospitals with all their appurtenances, even the people themselves, they were mere pawns having no freedom of choice, but this is not Public Health, it is Public Machinery.

The newer activities, school medical inspection, welfare centres, school clinics, convalescent homes, sanatoria and such like practically date

from the War and show obvious marks of external influence, organisation and financial assistance. They are mostly on a voluntary or semi-official basis, excellent in themselves but acting as isolated units in one immense field of distress, they benefit only a favoured few. The enthusiasm of the staff in those I saw was something to marvel at and if only sufficient funds were forthcoming very satisfactory progress in this direction might be expected.

Viewing the general aspect of Public Health on the Continent as a whole, one is led to the conclusion that it is rooted in different soil and cultivated in a different manner from ours. Public Health laws are branches of the Civil or Penal Code, permissive Acts as far as I am aware, are unknown. New orders and regulations just issue from an office in which it is doubtful if the voice of the people is ever heard, their good will and support is not sought as a necessary backing to any reform. The executive officers do not appear to have discretionary powers, the people must obey or be strafed. Great stress is laid on filling up forms and documents and different departments work independently of each other, there being no common chief. Lack of uniformity both in quantity and quality of sanitary works in different areas is a striking feature and my impression is that altogether the picture presented resembles rather an artist's palette than an ordered composition.

Dr. F. T. H. Wood, O.B.E. (M.O.H., Bootle), said: My contribution to the discussion is based on impressions received in Denmark last summer when I had the honour to participate in the Fifth General Interchange of Health Officers. A study of the Health Administration methods of this progressive nation is, I think, the more valuable in view of the similarity of the two countries in climate—neither being favoured with a large share of sunlight; in local government—both countries practising decentralisation of sanitary control; and in epidemiology—our common infectious diseases being present in Denmark in about the same relative proportions.

I have elsewhere attempted to give an outline of the principal features of public health administration in Denmark, and this afternoon propose only to indicate a few points in which Danish practice is clearly in advance of our own. In the production and distribution of milk the first principles are common to all countries, and Denmark is a striking example of their observance not by a small minority of dairy farmers, but by

the greater part of those engaged in the industry. In brief it may be said that the possession of sound cattle, periodically submitted for veterinary inspection, their milking with exemplary cleanliness and the enhancing of the keeping qualities of the milk by immediate cooling, are ideals commonly attained in Denmark. The credit for this happy state of affairs is to be shared between the large proprietary dairy concerns, the co-operative dairy associations and the sanitary authorities of the larger towns. Incidentally it may be noted that there is no municipal or national enforcement of bacterial standards, and only one specially designated milk is recognized, viz., that for the use of infants; that there is practically no pasteurisation of milk intended for human consumption; and that the practice of bottling, which is on the increase, adds only one-fifth of a penny per litre to the selling price.

The inspection of meat, in particular of bacon for export, is thorough, and in the large export slaughter-houses is conducted by specialised veterinary surgeons. It was noted that a pistol is always used for stunning large bovines, and that in the opinion of the veterinary surgeons the flesh of animals so treated is in no way inferior to that of animals stunned by the poleaxe. After inspection the meat is marked first or second grade, and included in the latter is a certain quantity which is dealt with in this country on no settled plan. I refer to cases of suspected general disease, in which 24-hour cultures in broth or agar of specimens from glands, spleen and kidneys are made and examined; the detection of cocci or bacteria leads to total condemnation, but their absence makes it possible to pass the meat for consumption.

In considering Danish maternity and child welfare schemes one has to bear in mind the high illegitimate birth rate—10% of the births in the country generally and 20% in Copenhagen are to unmarried mothers, as contrasted with 4% in England and Wales. This striking difference is reflected in the varying prominence given to certain phases of child welfare work when compared with England, for Denmark has in large numbers Infants' Homes receiving illegitimate or neglected infants; Young Children's Homes (some 150 of them) receiving orphans or the children of parents temporarily in hospital; Crèches undertaking the daily care of infants; Kindergartens for children between three and seven years; but Infant Consultations are only very few in number, and are reserved for breast-fed babies.

These latter breast-feeding controlling stations are found in Copenhagen alone, and are the only

analogues of our numerous and popular Infant Consultations—they adopt the guiding principle of admitting only infants wholly or partially breast-fed, and assist the mothers by weekly weighing and sympathetic instruction supplemented with milk or dinners. Lastly, there are elaborate arrangements for the supervision of children placed out with foster parents, and sane provisions for the maintenance of illegitimate children. The striking contrasts with English experience then, include the absence of Health Visitors, from whom we have derived so much benefit in this country in the spread of knowledge of mothercraft; the lack of Infant Consultations as we know them; and, on the other hand, the very large importance attached to the State care of infants and young children who because of illegitimacy, neglect, orphanhood or parental misfortune stand in need of continuous skilled supervision. The results, however, of such maternity and child welfare work are as striking in Denmark as in England. The Infant Mortality rate in 1875 was 154, and in 1922 it was 85; the Infant Mortality rate amongst illegitimate children in Copenhagen in 1885 was 341, and in 1922 it had fallen to 89.

The School Medical Service exists in the large towns only, and is staffed with part-time officers with similar duties to those of our own School Medical Service. A full examination is conducted at the commencement and at the end of school life, but there is, in addition, the usual following-up, and an annual inspection of pupils from which selected children are picked out for more detailed examination. A high standard of personal cleanliness is reached by both town and country children, and verminous conditions of the hair are far less common than in our own country. Excellent provision, both educational and medical, is made for the exceptional child, including the partially blind, the hard of hearing and the physically defective. Two points in connection with the educational system call for special mention, viz., the excellence of the physical training, which is given in the gymnasium found on every school building by ordinary class teachers who impart the instruction in such a way that the children carry out the exercises with energy, precision and enjoyment. The other point is the organised provision of country holidays for town scholars, who are sent singly or in small groups to the homes of country people, who provide free board and lodging, the State Railway granting free passes. The organisation, which is in the hands of the Teachers' Associations, provides

each year for half of the school children of Copenhagen either in private families or in holiday camps.

The campaign against tuberculosis is conducted on much the same lines as in England, except that there is no Tuberculosis Officer, and the Dispensary serves less as a clearing house than is the case with us, this function being to some extent carried out by the tuberculosis hospitals. Special mention may be made of the universal recognition of the curative powers of the carbon-arc in tuberculosis; of the fact that the boarding out of healthy children from infected homes is practiced more than with us; and that Copenhagen has an open-air cure resort, where tubercular patients attend daily and under medical supervision are allowed to undertake work in or out of the establishment in accordance with their powers; this scheme is naturally a special boon to married women. The anti-tuberculosis campaign, which has probably cost Denmark proportionately more than any other country in Europe, has also given it the lowest tuberculosis mortality, the death-rates from all forms of tuberculosis being now less than 1 per 1,000.

The venereal disease campaign in Denmark is of long-standing as the first statutory provision with respect thereto dates from 1788, and is based on the right to free treatment, coupled with the obligation to submit thereto; this policy has been made possible through the effectual prohibition of unqualified medical practice and of the advertisement of patent medicines. A point of interest is that whereas British Army and Colonial statistics indicate the ratio of prevalence of syphilis and gonorrhoea to be 1:3, and British civil statistics of the numbers attending the treatment centres give a misleading suggestion of equal incidence, Danish experience points in the reverse direction and shows only one case of syphilis to five or six of gonorrhoea. Does this mean that a century of venereal treatment is there attenuating the virus of syphilis against which a specific is possessed, or does it merely mean that the Danes are more alive to the importance of treating gonorrhoea? In either case there would seem to be ground for our encouragement.

Artificial light treatment, which is at last beginning to receive practical attention in this country, arose out of modest beginnings at the Copenhagen Municipal Hospital in 1896, and by 1901 had established its position so firmly as to warrant the foundation of the Finsen Medical Light Institute, which consists of laboratories, outpatient clinics and more than 200 beds for skin

diseases, surgical diseases, diseases of the ear, nose and throat, as well as for general internal diseases. The earlier work of Finsen dealing with the effect of local concentrated ultra-violet rays was extended by him and his successor, Dr. Axel Reyn, in researches dealing with the effect of general carbon-arc light baths. Their work during the last 20 years in Denmark has brought the matter well past the experimental stage, and no provincial hospital in Denmark, however small, considers itself equipped unless provided with apparatus for light treatment; and it is a reproach to public health administration in this country that its introduction is only now commencing and is being embarked upon as if confirmation of its striking therapeutic effects had still to be obtained. If Denmark has nothing else to teach, its special experience in this particular field demands the careful study of all public health workers.

Finally, grateful acknowledgement may be made of the stimulus to be obtained from association, however short, with authorities of international repute on epidemiology, artificial light-therapy, dietetics and cancer research, such as Madsen, Reyn, Hindhede and Fibiger. Public health and medical research, not only on the continent but in this country, owe much to their distinguished labours, and as a result a local study of Danish sanitary principles and practice may be confidently recommended to any colleague desirous of widening his experience and at the same time of making acquaintance with a hospitable and friendly people.

General Discussion.

Dr. R. H. Wilshaw (M.O.H., Worthing) said he did not know the method adopted in selecting the countries to which the various officials were sent, but after listening to the several speakers it did not seem that there was much to learn except, as he gathered, from Denmark where in many respects they would appear to be in advance of this country. Presumably the information obtained as a result of those visits was sent on officially to headquarters, but it struck him that the experiences ought to be recorded and collated. In his view it might be regarded as of doubtful benefit to send men in future to places where there was not much to learn, and taking a broad view of the matter the line to be followed ought surely to be that of paying visits to those countries where most good could be derived.

Dr. G. Clark Trotter (M.O.H., Islington) expressed his great indebtedness to those who had spoken that afternoon. There was a good deal,

of course, to be learned, particularly in the matter of details, even from countries not considered to be so well advanced as this country. For instance, the control the police had in some places. The public health control was quite different on the Continent, and the police had a large hand in it. With regard to the voluntary hospitals in Amsterdam, Dr. Trotter enquired how these were supported. Was it by means of a tax on advertisements, for example? With regard to the amount of milk consumed per individual, he believed it was higher in Denmark than in any other country, the United States coming next, with Great Britain very low in the scale. Was there any information as to how much went to the children in Denmark? Though as regards general sanitation there was probably not much for this country to learn, other countries had gone ahead on the scientific side, and from many of their laboratories and hospitals there was much that could be gained.

Dr. McIntosh said that one interesting point was the fact that although the birth-rate in Holland was considerably higher than that of Great Britain the infantile mortality rate was considerably lower. In reply to a question, Dr. McIntosh agreed that the two towns, Amsterdam and Manchester, were not comparable except as regards population. As to whether the cleanliness of the houses helped to keep down infectious disease he had no information. With regard to the sewerage system of Amsterdam, the newer part of the town had a main sewer through which the sewage was pumped to the Zuyder Zee; in the older portion the sewage simply discharged into the canal. In the latter case there was a method of cleaning the canal by the tide with the aid of sluices. Concerning the value of the visits abroad, he thought they got something by going to countries less advanced than themselves. It did good to see how other people looked at public health problems, not from the detailed but from the philosophic aspect. The association with colleagues from other countries was an agreeable and valuable experience, and enabled them all to review their own ideas on the subject of public health. In answer to Dr. Trotter's query, the Amsterdam hospitals were supported largely by voluntary subscriptions, but also received subsidies both from the State and the town of Amsterdam.

Dr. Paterson remarked that he had often tried to find out how much milk was used domestically abroad. Did foreign children get a drink of milk when they wanted it? In France he could not

remember seeing anywhere a shop corresponding to the dairies in Great Britain where milk was sold by retail. In Holland milk could always be obtained in a restaurant. In the rural districts of Holland the persons in the houses were extremely clean, and in regard to the cleansing of the streets generally he agreed with Dr. McIntosh rather than Dr. Nankivell.

Dr. Wood explained that it was the custom at the end of the foreign courses for the delegates to go to Geneva and to report generally or specially on the things they had seen. He had had the privilege of a talk with Dr. Rajchman, Medical Director of the Health Section of the League of Nations, and had gathered that a good purpose was served in sending public health officials to backward countries. It stimulated public opinion in those countries, and the League felt that benefit would result in that way. Also it had been found that the men from the various countries taking part in the visit stimulated each other. Dr. Wood thought that there was little doubt in the minds of those who took part in the Danish tour that very strong impressions had been formed. Those impressions had been passed on in private conversations or in contributions to a Branch of the Society, and where they had been, as in his own case, impressions of good work, one had done one's best to drive the lessons home. With regard to the milk question in Denmark, the price last summer was roughly fourpence for a pint and three-quarters of loose milk. As to the proportion of milk that went to the Danish child, he knew of no statistics on that point. An interesting matter was receiving attention at the time of their visit. It had been pointed out by a Swedish Professor that owing to the export on a large scale of eggs, butter, etc., the population of Denmark was being deprived of its vitamins in the economic interests of the country, and a suggestion had been made that it would pay Denmark to import a thousand tons of cod liver oil per year.

The President remarked on Dr. Wood's reference to the small increase in cost as the result of supplying milk in bottles. That was a point worth making prominent in many districts in this country, because the certified milk campaign had fallen rather flat owing to the cost. Speaking of the discussion generally, the President said that he felt sure that every member of that unfortunately limited audience would wish to associate himself with an expression of appreciation to those who had come and given notes of their experiences abroad. He was quite certain that

Dr. Wilshaw realised the value of the visits, although from the business point of view it might seem from the reports that other countries were not so advanced generally as our own. In the broadening of their views and the freshening of their minds alone he thought that those who paid for that really great undertaking were getting their value. He had not met anyone who had taken part in a foreign course who had failed to derive very great benefit. All had found that their vision had been extended and their perspective improved, and he was sure that they came back with a renewed zest for work. The League of Nations was to be congratulated upon the fine results of their most valuable system of interchange of public health officers.

The President moved a hearty vote of thanks to the principal speakers, and also voiced the appreciation of the whole Society, who would read in the Journal of what had been said at that meeting. The vote of thanks was carried with acclamation.

Society of Medical Officers of Health.

YORKSHIRE BRANCH.

A Joint Meeting of the Yorkshire Coroners' Society and the Yorkshire Branch of the Society of Medical Officers of Health was held at the Royal Station Hotel, York, on June 11th, 1925.

Present: Messrs. J. R. Wood, York and District (N.E. and W. Ridings), President of the Yorkshire Coroners' Society; Frank Allen, Doncaster District (W. Riding); W. H. Clarke, Leeds City; J. G. Hutchinson, Bradford City; E. W. Norris, Halifax, Huddersfield and District (W. Riding), Hon. Secretary, Yorkshire Coroners' Society. Drs. James Mair, Harrogate, President, Yorks. Branch, Soc. M.O.H.; Belam, Brighouse; Buck, Hunslet; Castle, Darfield; Francis, Barnsley; Galbraith, York (Deputy); Hebblethwaite, Leeds (Deputy); Hill, Selby; Jefferson, Ripon; Jervis, Leeds; Kaye, West Riding; McNaught, York; Pearce, Batley; Pick, Spensborough; Roe, Wakefield (Deputy); Thornley, East Riding; Williams, Todmorden; Banks, Halifax, Hon. Sec. Yorkshire Branch, Soc. M.O.H.

Apologies for absence: Mr. Edgar Wood, Skipton District; Mr. C. J. Haworth, Wakefield District; and several other coroners. Drs. Buchan, Daley, Dunne, Linton and Moore.

The chair was taken by Mr. J. R. Wood, President of the Yorkshire Coroners' Society, who welcomed the Medical Officers of Health. Dr. Mair suitably responded.

The Chairman having announced that the first subject for discussion would be the provision of mortuaries, Dr. Kaye stated that this subject had been before the West Riding County Council for many years and had recently been re-opened. In view of the housing conditions at present existing, mortuaries should be established for the holding of post-mortem examinations. He hoped for the day when all bodies would be sent to mortuaries pending interment.

Mr. Norris outlined the law on the subject, and pointed out that although under Sec. 141 of the P.H.A., 1875, a Local Authority might be required by the Ministry of Health to construct a mortuary, such mortuaries and mortuaries at workhouses were not, strictly speaking, available for post-mortem examinations ordered by the Coroner, and that there was no obligation on Local Authorities to construct suitable places for post-mortem examinations, although they had power to do so under Sec. 143 of the Act.

In large towns, places to which a coroner could order a body to be removed were usually available, but in the rural areas and in the smaller urban districts suitable places for the holding of post-mortem examinations were few, the workhouse mortuaries not being available for use on the order of the Coroner.

Mr. Clark described as appalling the conditions in which post-mortem examinations were conducted in cottages. In Leeds it was unnecessary to have the examinations made in private houses, but he understood the rural areas were ill-provided with mortuaries. Any mortuary belonging to a public authority should be available for a post-mortem ordered by a Coroner.

After describing the facilities in Bradford, in which he had not needed to order a post-mortem to be made in a house for many years, Mr. Hutchinson pointed out that a Coroner had no power to order the removal of a body except for the purpose of a post-mortem examination, nor could he order a post-mortem examination unless an inquest was to be held on the body. The new Coroners' Act would probably alter this.

Dr. Pearce outlined a successful arrangement at Batley, under which the mortuary of the local general hospital was available for the use of medical men making examinations on the order of a Coroner, and also for the retention of bodies from houses in which facilities for keeping bodies pending interment did not exist.

Dr. Buck, speaking after many years' experience in the medical profession, said that a doctor who had to perform an autopsy in a private house could not do justice to the case.

The following resolution was moved by Mr. Clarke, and seconded by Dr. Francis:—

"That it is desirable that the provision of mortuaries erected at the public expense should be extended, and that such mortuaries should be available for use for post-mortem examinations and for the keeping of the dead under sanitary conditions until interment."

Dr. Williams suggested the addition of the words "a post-mortem examination should not be performed in a private house without the approval of the medical officer of health." He thought the latter would be able to judge as to the suitability of the premises.

Dr. Williams' suggestion was considered impracticable by several speakers, and was not accepted.

Dr. Jervis described the provision of mortuaries in connection with police stations in Leeds, but stated that when, during the influenza epidemic, it was necessary to remove many bodies to the mortuaries, objections were made by some persons against the removal of their relatives' bodies to unconsecrated places.

Dr. Kaye said that in the West Riding the suggestion to provide mortuaries at police stations had been combatted.

Dr. Thornley thought the provision of special mortuaries was unnecessary for the use of Coroners in the extreme rural areas, and the Coroner ought to have power to order the removal of a body to a workhouse mortuary.

The resolution was passed.

It was decided to send copies of the resolution to the County Councils of each of the Ridings of Yorkshire.

The next subject for discussion was stillbirths.

Mr. Norris explained the existing law. A person in charge of a graveyard could bury a child as a still-birth on receipt of the following: (a) a certificate from a doctor present at birth, or who had examined the body though not present at birth. (b) a declaration by the father, mother or occupier of the house in which the child was born. (c) a certificate from a Coroner after inquest. Mr. Norris thought that unless a doctor was present at birth, or unless the child was of less than seven months gestation, it was impossible for the doctor to say that the child was still-born without performing an autopsy. The present law appeared to be unsatisfactory, and should be altered so that a certificate should not be accepted from a doctor not present at birth, nor should burial be allowed from an occupier or from a person present at birth other than a registered medical practitioner.

The matter was then thoroughly discussed around the table.

A resolution having been drafted and discussed it was formerly moved by Dr. Jervis, seconded by Mr. Allen, and carried, as follows:—

"The body of a deceased child of over 28 weeks' gestation should not be buried as still-born except on the certificate of a registered medical practitioner present at birth, or, in the absence of such certificate, after an enquiry has been made by a Coroner."

An amendment to add the words: "or of a certified midwife" after the word "practitioner" was proposed by Dr. Williams, and seconded by Mr. Clarke, but was not carried.

It was decided to send copies of the resolution to the Home Office and the Ministry of Health.

A discussion on abortion was raised on a letter received from Mr. Haworth, who was not able to be present, but was not pursued. Those present were asked to consider the matter with a view to discussion at a further meeting.

The Yorkshire Coroners' Society kindly provided tea.

Dr. Jefferson proposed, and Mr. Mair seconded a resolution thanking the President and members of the Yorkshire Coroners' Society for their hospitality, which was carried, and Mr. Wood suitably replied.

It can be recorded that the meeting was generally regarded as a success and worthy of repetition.

MIDLAND BRANCH.

A Special Meeting of this Branch was held at the Council House, Birmingham, on Thursday, May 14th, 1925, at 3 p.m. There were present: the President (Dr. Woolsey Stocks) and nine members.

Apologies for absence were read from Doctors Ridley Bailey, Petgrave, Johnson, Garrow and Auden.

The first item on the agenda was the question of the enforcement of the Public Health Meat Regulations, with a view to uniformity of action.

A lengthy discussion took place on Sections 8, 19, and 20 of these regulations, and many interesting points were raised. Various members described the action that was being taken in their own areas to meet the requirements of Section 19 in regard to stalls. It was agreed to invite members to submit drawings and plans of suitable stalls at the next meeting.

Although no resolutions were passed, the interchange of views that took place was most instructive.

A letter was then read from the Executive Secretary inviting observations from the Branch on certain paragraphs in the report of the Special Committee on the Midwives' Acts (powers of delegation contained in Section 9 of the Act of 1902, but repealed by Section 12 of the Act 1918). After a short discussion the following resolution was passed unanimously:—

"The administration of the Midwives' Act by Local Authorities gives rise to many anomalies which will not be removed until the whole country is divided into autonomous areas of reasonable size. No useful purpose can be served at the present time by re-opening the discussion on the advisability of County Councils being empowered to delegate the supervision of midwives in their area to some or any of their constituent authorities."

NORTHERN BRANCH.

The Annual Summer Meeting of this Branch was held at the Tyneside Golf Club House, Ryton-on-Tyne, on Friday, 26th June, 1925. There were present: The President (Dr. W. H. Dickinson), Vice-President (Dr. R. MacLeod), and Drs. Mabel Brodie, A. Bryans, G. Foggin, W. Grant, T. Eustace Hill, G. Hurrell, J. A. Hislop, H. Kerr, J. D. Leigh, J. M. MacLachlan, I. MacLachlan, G. C. M'Gonigle, T. N. V. Potts, A. F. G. Spinks, A. Smith, J. W. Smith, and S. V. Tinsley.

The minutes of the last meeting, 5th June, 1925, were taken as read.

Arising out of the minutes the case connected with the application for the proscribed M.O.H. appointment at South Shields, was re-considered, and in view of the candidate's explanation and undertaking to abide by the ruling of the Society in future, the Honorary Secretary was instructed to inform the Executive Secretary that the Branch does not desire any further action to be taken, and that the decision of last meeting in regard to the candidate in question be rescinded. It was understood that Dr. W. Campbell Lyons, who accepted the appointment, is not a member of the Society.

Apologies for absence were received from the following: Drs. Jas. Bannerman, Mabel Campbell, W. J. Fordham, C. Franks, C. G. R. Goodwin, F. J. Henry, F. H. Morison, and A. M. Masters.

A letter was reported from the Honorary Secretary of the Tuberculosis Group reminding the Secretary of the Northern Branch that a resolution similar to that put forward by the Branch to the Group (Private Consultation Fees for Tuberculosis Medical Officers) was being raised by the Derbyshire Division of the B.M.A. at the Annual Representative Meeting of the B.M.A., at Bath.

President.—Dr. W. H. Dickinson was unanimously re-elected as President for 1925-1926, and Dr. Roderick MacLeod as Vice-President.

Dr. H. Kerr was re-elected Honorary Secretary and Treasurer, and Representative of the Branch on the Council of the Society.

The members were entertained to lunch in the club house by Dr. J. W. Smith, ex-Medical Officer of Health, Ryton-on-Tyne U.D.C. After the loyal toast, the President proposed the health of Dr. J. W. Smith, and thanked him on behalf of the members for his hospitality, and congratulated him on his continued enthusiasm for the public health service.

Dr. Smith replied, and referred to the great growth of the Branch, and to the fact that its individuals, while active members of the Society, were equally keen and strong supporters of the B.M.A., which was as it should be. He also referred to the urgent necessity, as instanced by recent cases, for every health officer to become a member of a Defence Association.

After lunch, members took part in a golf sweepstake, which was won by Dr. T. Eustace Hill with a net score of 75 (gross 84).

The day as usual was thoroughly enjoyable.

NORTH-WESTERN BRANCH.

On the occasion of the Annual Meeting, on Friday, June 12th, 1925, members of this Branch paid a visit to Congleton by char-a-banc (kindly provided by the President). The party left Manchester Central Station about 2.30 p.m., arriving at Congleton about 4 p.m. Members assembled at the Queen's Head Hotel, near the station. There were present: Dr. J. Beard (President, in the Chair), Drs. R. Veitch Clark, T. W. N. Barlow, C. W. Paget Moffatt, E. H. Walker, A. V. Stock, H. Holroyd, T. W. Campbell Brown, J. M. Valentine, R. Hannah, H. Whitehead, J. Niven, T. P. Edwards, J. M. Gibson, J. Robinson, F. T. H. Wood, J. B. Wilkinson, J. E. Spence, J. J. Butterworth, H. Peck, H. C. Mulholland, and G. W. N. Joseph (Hon. Secretary).

The minutes of the last annual meeting were read and confirmed.

The Hon. Secretary reported the recovery from illness of Dr. Hitchon, but he was not yet well enough to furnish the annual statement of accounts.

A letter was read from the Executive Secretary, forwarding resolutions for the consideration of the Branch, and after discussion it was resolved that the N.W. Branch support the following:—

- (a) 1. That the existing legal powers for ensuring a pure, clean milk supply are inadequate, even if fully enforced. Any further postponements of the Milk and Dairies (Consolidation) Act, 1915, which comes into force September next, will be prejudicial to the health of the country.
2. That the Tuberculosis Order of 1914 be amended and put into force, and worked by the Public Health Committee in each area.
- (b) That in the opinion of this Branch all butchers should be required to provide glass fronts for their shop windows."

Dr. Veitch Clark issued an invitation to the members present to visit, on Friday, June 19th, the *Daily Dispatch* Pure Food Exhibition, at present being held in Manchester.

The report of the Hon. Secretary was submitted and adopted.

The following officers were elected for the Session 1925-26: President, Dr. R. Veitch Clark; Hon. Treasurer, Dr. H. H. I. Hitchon; Hon. Secretary, Dr. G. W. N. Joseph; Council Representatives: Drs. Veitch Clark, James Wheatley, and the Hon. Secretary; Committee: Drs. J. Ferguson, Paget Moffatt, F. T. H. Wood, J. E. Spence, C. O. Stallybrass, together with Vice-Presidents and Officers.

After the business of the meeting was completed the members inspected the Dairy of the Co-operative Wholesale Society, at Congleton, and saw the various processes in the manufacture of dried milk. A first-rate tea was afterwards provided for all by the kindness of the Directors, of whom Messrs. Park and Bradshaw were present.

A hearty vote of thanks, on the proposition of the President, seconded by Dr. Veitch Clark, was accorded the Directors for their hospitality.

The return journey to Manchester was undertaken about 6.30 p.m.

Dr. J. C. McVail has been elected president of the Epidemiology and State Medicine Section of the Royal Society of Medicine.

Reviews.

TREATMENT OF GONOCOCCAL INFECTION BY DIATHERMY. Cumberbatch and Robinson. Published by Heinemann, 7s. 6d.

One of the most pressing problems of the present day both from a personal and public health point of view is the curing of an infection by the Gonococcus. It is therefore obvious that any new form of treatment or any new modification of a well established form of treatment should receive our careful study and consideration. In this little book Dr. E. P. Cumberbatch and Dr. C. A. Robinson, working in the Electrical Department at St. Bartholomew's Hospital, have given us the results of their cases, together with some clear description of the technique used in the treatment of particular areas of infection. Some of their cases were sent to the Electric Department from special centres for the treatment of venereal diseases after the more common methods of treatment had to a large extent failed, and it was generally found that a considerable improvement—in some cases an apparently complete cure—took place after properly directed treatment by Diathermy. It may perhaps be mentioned that treatment by Diathermy involves the local raising of the temperature of the body tissues by an electric current of very high frequency.

The cases are conveniently arranged in clinical groups—Arthritis, Bursitis and Fibrositis, Cervicitis, Urethritis, Orchitis, Salpingitis, etc., and the technique suitable for each case is described. A useful group is that treating of children and virgins.

The book is clear and well written. The results of the treatment appear in many cases to be highly satisfactory and it would almost certainly be of very great advantage if this form of treatment could be made available for suitably selected cases at venereal disease clinics.

THE ANATOMY OF THE ROOT-CANALS OF THE TEETH, by Walter Hess and Ernest Zürcher. pp. 199. 4to; 63 plates. Bale, Sons and Danielsson. 16s.

The problem of how to preserve pulpless teeth so that they do not eventually become foci of septic infection must be acknowledged to be an outstanding one of conservative dentistry. The solution of this problem can only come through a clear understanding of all the factors involved, of which a very important one is dealt with in the volume before us.

The authors have been able by the adoption of a new method to demonstrate the true anatomy of root-canals in a way which is at once instructive and surprising, as even a casual inspection of the plates from actual preparations (1380 illustrations altogether) will show the utter inadequacy in the vast majority of cases of the older methods of dealing with the devitalised root, which it is desired to retain in the mouth.

We can therefore strongly recommend this volume for careful study to the dental surgeon as well as the anatomist, as a due consideration of the facts demonstrated cannot fail generally to advance the cause of oral hygiene.

The book is well got up, and the illustrations are admirable.

Correspondence.

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

THE CONTROL OF INFECTIOUS DISEASE.

The Editor, "Public Health."

Sir,—Adverting to the letter of X.Y.Z. in your last issue, respecting the part played by Isolation Hospitals in the control of infectious diseases, I hardly think that any unprejudiced authority can reasonably claim that the Isolation Hospital is ever likely to eradicate infectious diseases in much the same way as small-pox, e.g., might be exterminated by an efficient system of vaccination.

As X.Y.Z. points out, the Isolation Hospital is admittedly incapable of eradicating diseases, which to a great extent, are spread by missed cases and carriers, but at the same time it does provide a means whereby acutely infectious cases can be removed from unsuitable surroundings, and so prevented from becoming obvious foci of dissemination under frequently the most favourable conditions for spread.

That hospital is more efficient than home isolation in the control of infectious diseases, is now, I think, an established fact, while the increasing use made of isolation hospitals in the past, has undoubtedly played an important part in the diminished present-day mortalities of both scarlet fever and diphtheria.

Yours faithfully,

K. SIMPSON,

Medical Officer of Health.

Barking, Essex.

14th July, 1925.

Public Health

THE JOURNAL OF
The Society of Medical Officers of Health.

No. 12.

SEPTEMBER, 1925.

VOL. XXXVIII.

Subscription price, 31s. 6d. per annum, post free in advance. Single copies, 2s. 6d., post free.

CONTENTS.

EDITORIAL—

	PAGE
The Registrar-General's Annual Statistical Review	353
Influence of Migration on Death Rates	354
Artificial Sunlight Clinics	355
Pure Milk	355
Preservatives and Colouring Matters in Foods... ..	356
Public Health Problems in Equatorial Africa	357
Milk and Dairies (Consolidation) Act, 1915	358
Prevention of Tubercular Infection of Milk	358
Round-Worm Infestation	358
Welfare of the Blind	359
Poor Law Institutions and Tuberculosis	359
Foreign Visit of Medical Statisticians	360

Public Health in Hungary. (By C. W. Hutt, M.A., M.D., Cantab., D.P.H., M.O.H., Met. Borough of Holborn)	361
The Medicolegal Aspects of Self Inflicted Wounds on Active Service. (By Col. J. S. Warrack, A.M.S., T.D., M.D., M.A., D.P.H., Barrister-at-Law, Dep. M.O.H., Port of London)	366
The Organisation of Propaganda in the Interests of Public Health. (By J. S. Purdy, D.S.O., M.D., C.M. (Aberd.), D.P.H. (Camb.), F.R.S. (Edin.), Metropolitan Medical Officer of Health, Sydney, N.S.W.)	370

SOCIETY OF MEDICAL OFFICERS OF HEALTH—

Notices	360
Council Meeting	374
Annual Provincial Meeting	374
Metropolitan Branch	375
West of England Branch	376
Midland Branch	376

REVIEWS—

Medical Education—A Comparative Study	377
Sex and Exercise	378
Papworth—Administrative and Economic Problems in Tuberculosis	379
Flies and Lice	379
Healthy Childhood, Between Infancy and School Age	379

CORRESPONDENCE—

Woolley Settlement, and <i>The Temps</i>	380
Food Leaflets	380

Editorial.

THE REGISTRAR-GENERAL'S ANNUAL STATISTICAL REVIEW.

It has not infrequently been remarked that Medical Officers of Health do not use or draw upon the statistical material and observations contained in the Registrar-General's Annual Reports to the extent which might be anticipated when account is taken of the mass of valuable information regarding the incidence and fatality of disease which is given in those reports. As is well known, this series of official publications has always presented the special advantage of permitting the experience of any district, whether large or small, or of any particular individual, to be compared with that of corresponding districts or other individuals elsewhere as well as with that of the country as a whole.

Several explanations of this circumstance may be offered, and among them is the fact that the systematic local examination of medical statistics in many instances was broken during the war period, and has not since been completely renewed. It also seems to be insufficiently understood that the Registrar-General's Annual Report, which up to 1920 consisted of a single large volume, has since 1921 appeared under the name of "Registrar-General's Statistical Review" in three smaller separate volumes of octavo size. Two of these (part I. Medical and "Text") should be in the possession of every Public Health Department.

By special arrangement with H.M. Treasury, these volumes, ordinarily on sale at a price of £1 for the two, will be supplied for the use of officers in the public health services at an inclusive charge of 12/6 per annum, provided (1) that a subscription is now taken up for five years, and (2) that the number of such subscriptions taken up by public health authorities or officers is sufficient, in the opinion of H.M. Treasury, to justify the special arrangement being proceeded with. It is

therefore important that the Registrar-General be notified without delay if it is proposed to take advantage of this offer. Forms for the purpose, together with an explanatory memorandum have been sent to the Clerks of Local Authorities, but as these officials do not always pass on the information to the medical officer of health, we advise the latter to take steps to ensure that the order form is sent in at once.

It is a little unfortunate that the Ministry sends out this request as well as a number of other Circulars and Memoranda at this particular season, when most authorities are in recess, and officials away on holiday. It is a mistake from a business point of view to issue such documents in the month of August.

INFLUENCE OF MIGRATION ON DEATH RATES.

In his presidential address to the Epidemiological Section of the Royal Society of Medicine, in 1912, Sir William Hamer discussed the effect which migration had on phthisis death rates, and suggested that internal migration was an important factor in contrasting rates of mortality. The question has been considered by the Medical Research Council, and they found that knowledge of the precise effects of migration and even of the general conditions of life in rural districts upon mortality was very scanty. To undertake a thorough study of the question would involve an enquiry extending over the whole country, which was more than they could undertake. They resolved, however, to institute a small-scale enquiry in a sample area, with the object of determining what kind of information could actually be obtained, and whether the results of a first essay were sufficiently valuable to justify a complete investigation. The County of Essex was chosen for this purpose, and a report prepared by Mr. A. B. Hill, B.Sc., has recently been issued. It has involved a great deal of work which has been done very thoroughly, but, unfortunately, owing to the sparsity of data, the result reached is indecisive, and it does not seem probable that any similar investigation would repay the effort. Although the enquiry has been disappointing as regards its original objective, as so often happens in research work, other results have emerged which are more rewarding. The historical development of migration extending over a period of 120 years, and the inferences deduced from the figures are worthy of attention, and the dietetic study increases appreciably our knowledge of the

present nutritional level of the population of our rural areas.

The enquiry confirms, although it does not definitely prove, the view that migrants from the County represent the healthier members of the rural community, and that they retain their advantage in an urban environment in comparison with other urban residents.* Conversely the tendency is for the weaker (mentally if not physically) to remain behind. This naturally might lead to a higher death-rate, and while the rates are lower in Essex Rural Districts than for England and Wales at all age periods 5 to 65, yet in the groups 15-20-25 the rates more closely approximate to the rates for the whole country, and for females are higher than for London, which evidently benefits by the influx of healthy persons at that age. Very few migrants appear to return home on account of loss of health. Whether the theory that a less vigorous population is left at home be true or not, recognition must be given to the possibility of other factors of rural life being such as to place the "home-keepers" at a disadvantage when compared with their brothers and sisters in the towns. The general evidence was that the state of the housing in the rural districts of Essex is to be deplored; that many of the cottages are small and old-fashioned, with insufficient accommodation, especially for sleeping purposes; that many of them are cold and damp and defective in ventilation; and that in many of them the sanitary conveniences and drainage are both primitive and objectionable from every point of view. For their water supply the population is too often dependant upon rain water, ponds and shallow wells. As a set-off, the greater part of the rural population is leading an open-air life, with pure air and sunlight. Enquiries were made as to food; in many cases the diet appeared to be low, but it was difficult to obtain reliable figures, or to estimate to what extent bought food was supplemented by garden produce carrying with it a supply of vitamins. Gauged by observation of the children, very few cases showed signs of mal-nutrition or lack of growth; in fact, when compared with elementary school children of coal-miners in the North or Midlands, the children of Essex agricul-

*Enquiry was made as to the birth-place of each person, including Jews, attending the tuberculosis dispensaries in the Borough of Stepney, in order to supplement the information as to whether the migrant had failed in that direction. It would have been better had the enquiry been made in other London Boroughs, such as Westminster, St. Marylebone, or Kensington, which have a larger proportion of British born migrants than has Stepney.

tural labourers show to advantage both as regards height and weight. The enquiry seems to indicate that the death-rate of the districts in which the migrant takes up residence benefits, while the rural death-rate suffers.

Mr. Hill appears to think that a greater share in the production of an excessive death-rate is to be attributed to a population, weakened by selection, succumbing to disease which the general conditions of their life did not assist them to overcome.

ARTIFICIAL SUNLIGHT CLINICS.

The remarkably rapid growth during the past four years of the cult of treatment by sunlight in this country, and artificial substitutes for sunlight, is a phenomenon which has not perhaps been fully recognised; though it is sufficiently striking when contrasted with the slow, steady growth usually experienced in the development of a particular aspect of Public Health in England and Wales. Apart from the increased facilities for treatment by the sun's rays at various institutions dealing with the young child, the crippled child, and the tuberculous patient, there has been a large extension in the provision of clinics, either municipal or at voluntary hospitals, for treatment by artificial sunlight. The city of Kingston-upon-Hull has been a pioneer in this respect, and it is of interest to note the report presented by the Medical Officer of Health, Dr. Allen Daley, to his committee on the progress of the work. The first municipal clinic in this country for the treatment of rachitic children by artificial sunlight was established in Hull, through the generosity of a member of the City Council, Mr. Percy Hall. A tungsten arc lamp was provided, and patients were under treatment in April, 1914. The treatment is at present limited to children seen under the maternity and child welfare scheme; but the hope is clearly implied in the report that such treatment will be extended to meet the needs of tuberculous patients. The course of treatment lasts about six weeks, but in many cases a repetition of the course is necessary. The proof—if any were needed—that the clinic is popular is shown by the fact that over one-third of the children attending came from portions of the town necessitating a change from one tram to another before reaching the clinic.

Attached to Dr. Daley's report is one from Dr. Katherine Gamgee, the medical officer responsible for the conduct of the clinic. It is clear that the popularity of the clinic is steadily and rapidly

increasing, and that the prominent feature in the treatment is the remarkable increase in liveliness of the children, often first noticed by the mothers, who further comment on the child being able to sleep better, and being far less trouble at home.

The extension of clinics of the type referred to here must inevitably, and before very long, bring increased attention to bear on more general methods of preventing the loss of natural sunshine now so generally experienced in the smoky atmosphere of all the larger and some even of our smaller towns. Hull itself—to use as an illustration this city which is so well to the front in the matter of artificial light treatment—would have far fewer children to send to such a clinic for treatment by synthetic sunshine, were it able to eliminate the smoke which so materially diminishes the effectiveness of its natural sunshine.

PURE MILK.

It is with sincere gratitude to Dr. William Savage that we recommend his pamphlet on the Milk Supply and its Improvement* to all practitioners and students of Public Health. Nobody professes to understand fully the hopeless muddle which surrounds the milk supply in England, but Dr. Savage is certainly the clearest exponent of the subject, and, unlike most authorities on milk, he leaves his readers, after they have read his pamphlet, less confused than they were before.

The happiest country is that which has no history. May we presume that the happiest trade is that which has no legislation? If so, we can understand the sorry plight of the milk trade, for nothing has been legislated for so much or legislated for so ill. Act after Act, Order after Order, modifying, altering, reversing (but seldom repealing) those which have gone before, yet all agreeing in admitting safeguards which render them useless and elaborate processes, which render them unworkable, have been thrust upon us, so that most of us don't, won't, or can't carry them out and there is very little gained by those who do.

Less milk is drunk in England than in any other civilized country. Why? Because no one can recommend milk as a food without equivocations and cautions—and the general mass of mankind is bored by explanations and won't be

* "The Milk Supply and its Improvement," by William G. Savage, B.Sc., M.B.Lond., reprinted from *The Lancet*.

bothered with precautions. The medical profession is unanimous in opinion on the high food value of milk, but it is also unanimous in opinion on the dangers of the grossly polluted and altered product which masquerades under the name "pure milk."

Up to the present the farmers have used their influence to misdirect the Ministry in framing new Orders, but there are signs of a change of front. In many parts of the country the local milk industry is beginning to find that though a pure milk supply entails trouble and expense, it also encourages demand and the balance eventually tells in their favour. We are certain that a pure milk supply is a business proposition and equally certain that the farmers can be made to recognise it eventually—as they have done in every country but our own. We therefore look to the education of the producers as the most necessary step in obtaining a better order of things. The education of the public to demand pure milk is equally necessary but it is fraught with unusual difficulty. So long as it is possible to obtain the foulest fluid which can be legally sold as milk cheaper than good milk, there is a class—and that the class for whom pure milk is most essential—who will save its pennies at the cost of its life. This class expects to be protected and fondly imagines that it is, so when we read of a judicial authority ruling that cowdung is a legitimate occupant of the milk jug, we cannot wonder that the public look upon this campaign for a purer supply as a covert advertisement of a vested interest.

On September 1st, the Milk and Dairies Act of 1915 comes into operation. This Act offers a hope that things may possibly be improved, but except in one or two directions it does very little more. The main provision of the Act is that which gives the Ministry of Health power to make Orders. If the Ministry makes the Orders—and there are good Orders, very great advance will be made, but if it makes no Orders or only Orders similar to the many it has made before, we shall remain precisely as we are at present. The Act is a consolidating Act and only to a small extent a repealing Act, so in practice it will probably prove a confusing Act. Still it has some excellent provisions, and the processes involved, though elaborate, do not, on the surface, read impossible or impracticable, so we shall not prejudge it. It is the best we have got so far, and though it scarcely touches the main points at issue, it allows of Orders being made which could go to the root of the real problem.

We advise our readers to peruse Dr. Savage's pamphlet as a *hors d'oeuvre* to tackling the 1915 Act—we do not promise that it will turn the latter into light refreshment, but it will make digestion somewhat easier.

PRESERVATIVES AND COLOURING MATTERS IN FOODS.

The Minister of Health has issued regulations which he has made, based on the recommendations of the recent Departmental Committee on the Use of Preservatives and Colouring Matters in Food. The regulations provide for the prohibition of the importation and sale of articles of foods to which preservatives and other specified substances have been added.

The regulations are to come into operation on January 1st, 1927, with the provision that:—

(i) The Regulations shall come into operation on January 1st, 1928, so far as they relate to butter and cream and to the revocation of such of the provisions of the Public Health (Milk and Cream) Regulations, 1912, and the Public Health (Milk and Cream) Regulations, 1912, Amendment Order, 1917, as relate to cream; and

(ii) So far as the Regulations prohibit the sale of an article of food containing any preservative which is necessarily introduced by the use in its preparation of preserved bacon, ham, margarine, or butter, they shall come into operation on July 1st, 1927, in the case of bacon, ham, and Margarine, and July 1st, 1928, in the case of butter.

A schedule to the regulations contains, in Part I., a list of articles of food which may contain preservative and the nature and proportion of preservative (either sulphur dioxide or benzoic acid) allowed in each case. Part II. of the schedule defines colouring matter which may not be added to food.

The regulations apply also to imported foods. The import rules will be enforced by the officers of Customs and Excise, and by the responsible port and other sanitary authorities, the Customs and Excise officials dealing with all foods other than meat and fish and their products, which will fall within the sphere of the local authorities' officers.

Foods in which preservatives are allowed for the present must bear a label specifying the name and amount of preservatives used. One of the recommendations of the Departmental Committee was that any prohibitions or limitations imposed by regulations should bind the

courts in proceedings taken under the Sale of Food and Drugs Acts. The Minister is entirely in agreement therewith, but legislation is necessary to give effect thereto.

Time has been allowed in the Regulations for manufacturers to adjust their methods and processes and for the clearance of existing stocks before they come into operation, but as in the early period difficulties may occur which might be satisfactorily cleared up by administrative action, it is left to the discretion of Local Authorities as to whether or not they will give the vendor an opportunity of furnishing an explanation before deciding on the institution of legal proceedings. Shop-keepers dealing in foods sold in close retainers should welcome the regulation whereby proceedings may be taken against the manufacturer or wholesaler by whom the article was previously sold.

PUBLIC HEALTH PROBLEMS IN EQUATORIAL AFRICA.

A further report on tuberculosis and sleeping sickness in Equatorial Africa has been recently issued by the Health Organisation of the League of Nations.* It is a contribution towards a medical topography of Africa, and well illustrates how vast and complex are the problems for public health endeavour in that great continent.

The two diseases which are considered in this report have this in common: both have increased to a large extent in recent years, with the development of communications, and both threaten to become very serious as causes of death among the native populations.

Tuberculosis appears in a new perspective in the light of this report to anyone who has viewed it only in Europe, and perhaps been lulled by the oft-quoted figures of declining mortality into regarding it as an enemy already defeated. It appears here mostly as an acute and formidable disease in a population with little or no acquired racial immunity. Thus in Senegal the cuti-reaction was positive in 4% of children under 1 year, 18.6% in those between 1 and 15, and 15.4% in adults. The corresponding figures for Lille, France, are 9% for children under 1 year, and 87% for persons over 15 (Calmette). Tubercle in meat or milk is apparently rare. In East Africa it is hoped to maintain the freedom from bovine tuberculosis by the careful supervision of

* Publication Department, League of Nations, Geneva, Switzerland.

imported stock. The source of infection is the consumptive patient. Primitive habits add to the risks of infection. Thus in French Somaliland we are told that among the natives "custom decrees that they receive in their hands the sputa of the sick relative or friend." We are reminded of the superstitions associated with spitting, many examples of which are to be found in the Old Testament, which survive among many native races. Johnston states that every Masai, before extending his hand to him spat on it first. "Newly-born children are spat on by everyone who sees them. . . . They spit when they meet and when they part, and bargains are sealed in this way." Overcrowding is rife in many of the towns, where of course also the infectious cases are more likely to be found; thus in Dakar, in Senegal, "ten natives sleeping in one small unventilated bedroom is not uncommon. In one inn 17 rooms accommodated 138 persons." In some districts medical officers consider that malaria predisposes to tuberculosis, and also aggravates existing cases, because windows and doors have to be closely shut up to keep out mosquitoes. Other diseases which are thought to predispose to tubercle by different medical officers in their districts are syphilis, and ankylostomiasis and other helminthic infections. Those who would have us believe that sunlight is the sovereign prophylactic against tuberculosis receive no support from French Somaliland, where we are told "the indigenous inhabitants are shepherds, sleeping in tents and spending the whole day in the sun, but this does not save them."

The second part of the report deals with sleeping sickness. Reports on prophylaxis and treatment from various areas are abstracted, which illustrate the difficulties in getting the tsetse fly under control, and in isolating and treating infected cases. The eradication of sleeping sickness from the Portuguese island of Principe, from 1912 onwards, is one of those satisfying and complete demonstrations of a public health campaign based on correct scientific data, and carried through with vigour to a successful conclusion, such as cannot be often achieved. An English translation by Lieut.-Col. J. A. Wyllie of Dr. da Costa's report on this campaign has been published. In the present volume it is briefly summarised. Previous to 1912, there was an increasing yearly mortality from sleeping sickness which threatened the island cocoa industry with extinction. The *Glossina* was systematically attacked by a fly-catching crusade with bird-lime (the best specimens of which, we are told, were

obtained from an English firm). Gradually the numbers of flies caught became less, until the supply failed. At the same time the number of wild pigs and other fauna harbouring the trypanosome was reduced. Meanwhile the whole of the inhabitants of the island were subjected to quarterly blood examinations, and every infected individual was at once segregated and treated with atoxyl. Principe is now free from sleeping sickness, a remarkable achievement and a demonstration of the essential rightness of the public health measures adopted. To apply them to the mainland, however, is obviously a very different matter.

MILK AND DAIRIES (CONSOLIDATION) ACT, 1915.

We would remind medical officers of health that this Act comes into full operation on the 1st September. It will be recollected that the operation of most of its provisions were deferred for a period during and after the War.

Power is given to make orders extending the list of purposes for which similar orders could be made under the Contagious Diseases (Animals) Act, 1878, and advantage will be taken of this as soon as possible, but in pursuance of the proviso to Section 21 (3), the Dairies, Cowsheds and Milkshops orders of 1885, 1886, and 1899, and the Regulations made by Local Authorities under Art. 13 of the Order of 1885 will, until altered or revoked, continue in force as if made under the new Act.

Provision is made for stopping the supply of milk which is likely to cause tuberculosis, similar to the powers contained in a number of local Acts. The duty of enforcement is placed on the County or County Borough in which the cows are kept, and any order made by them will prohibit the sale of the affected milk in any area. The County or County Borough Medical Officer is required to make the necessary investigations on receipt of a notice from any other Medical Officer of Health. This Order made by the Minister of Agriculture, dealing with the slaughtering of affected bovine animals also comes into force on the 1st September.

The methods of procedure with regard to the sampling of milk are materially altered, specially in connection with cases in which a warranty is involved.

Attention may also be drawn to the definition of the expression "Dairy." It does not include a shop from which milk is not supplied otherwise

than in the properly closed and unopened receptacles in which it was delivered to the shop. This will necessitate some revision of registers. In view of the numerous new problems which will arise, the Society and its Branches may with advantage devote some time to their discussion during the coming season, and it might be well to invite the Public Analysts and Veterinary Surgeons to such meetings.

PREVENTION OF TUBERCULAR INFECTION OF MILK.

A circular has been issued by the Minister of Health covering new Regulations [1925, No. 757] dealing with the prevention of the spread of infection through the handling of milk by persons suffering from tuberculosis. The principal provision is that no person who is aware that he is suffering from tuberculosis of the respiratory tract shall enter upon any employment or occupation in connection with a dairy which would involve the milking of cows, the treatment of milk, or the handling of vessels used for containing milk.

Any affected person who is in infectious state, and is engaged in such employment or occupation may be required by the local authority to discontinue his employment or occupation. If he considers himself aggrieved he may appeal to a court of summary jurisdiction which will have power to direct that he be examined by a medical practitioner nominated by the court. It is therefore essential that the medical officer of health before taking action, should be in a position to show that he has taken all reasonable steps in his power to obtain satisfactory medical evidence including a report by a pathologist as to the presence of tubercle bacilli in the patient's sputum. The weak point in the Order is that a dairy does not include a shop or other place in which milk is sold for consumption on the premises only. We feel sure that public opinion would support the Ministry in taking the strongest action possible to protect all food supplies from infection or contamination of any kind.

ROUND-WORM INFESTATION.

In many tropical countries infestation of the human subjects by *ascaris lumbricoides* is exceedingly common. In this country it has been generally considered to be of only occasional occurrence. Dr. Monckton Copeman (Ministry of Health Report, No. 31) shows that it is

endemic in certain parts, and is possibly more common than hitherto supposed. The origin of the enquiry which led to this report arose through Dr. Gilroy, of Hemel Hempstead, who called the attention of Dr. Gruggen to the endemic infestation of the inhabitants of a small hamlet in the Berkhamstead Rural District of Hertfordshire. Apparently such infestation has been prevalent there for at least 60 years. The continuance of the trouble seems to have been maintained by the practice of spreading the contents of the earth-closets, and of the litter or excreta from pig-sties, on the surface of the gardens attached to the cottages. Dr. Copeman recommended that this manure in future should be well trenched in, and that greater care should be taken in the washing of hands, especially of children, after playing or working in the garden. Dr. Copeman has gone very thoroughly into the natural history of the *ascaris lumbricoides*, and to the pathological conditions which may be set up. F. H. Stewart has shown that on hatching-out of the infested ova the young larvae pursue a migratory course in the body of their host, passing through the intestinal walls into the blood stream, by which they are carried to the liver and also to the lungs, from which, in turn, they migrate via the trachea into the intestinal tract once more. Under such circumstances pneumonia, obstruction of the bile ducts, etc., may be set up, with other symptoms, due to irritation.

WELFARE OF THE BLIND.

We fear that Medical Officers of Health are not so fully informed as they might be as to what has been done during recent years for those who are in the unfortunate position of being blind. The Ministry issues reports on many important subjects which the medical officer ought to have if he is to keep abreast of the continual advance which is taking place; but how few of these reports ever reach him. The Fifth Annual Report of the Advisory Committee on the Welfare of the Blind has just been published. It is for the year 1923-24, so is somewhat belated. The Blind Persons' Act was passed in 1920, and the Committee was thereafter set up. It has done good work. When they entered on their duties the Act was only in operation in one or two areas, whereas now all Authorities have schemes, nearly all in operation. Work is carried out in co-operation with voluntary agencies, which themselves have undergone rapid development; workshops have been provided, and home-workers have increased. There is now much better op-

portunity for training and subsequent employment than there was. Great advance has been made in the provision of assistance to the unemployable blind who constitute about 60 per cent. of the 36,518 registered blind persons. It is difficult to-day to find a blind person in extreme want.

It is interesting to note that of the present blind population 20 per cent. became blind in infancy, but the tendency is for this percentage to decline, reflecting the improved measures which are being devoted to the case of mothers and infants, and is not unconnected with the decrease in syphilis. The actual number of blind infants has decreased from 302 in 1921 to 229 in 1923, which, however, shows the need for continued effort on the part of those engaged in welfare work.

POOR LAW INSTITUTIONS AND TUBERCULOSIS.

The Ministry has issued a circular to Boards of Guardians urging the desirability of close co-operation between the Poor Law Authorities and the Local Authorities undertaking general schemes for the institutional treatment of tuberculosis—viz., the Councils of Counties and County Boroughs, or Joint Committees of such Councils. In the case of some Poor Law Institutions it is the practice for the Tuberculosis Officer of the Local Authority to visit the Institution on request, but the Minister considers that there is much advantage in the course which has already been adopted by other Boards of Guardians of appointing the appropriate Tuberculosis Officer or Officers as consultants upon the staff of the Poor Law Institution.

The Minister also considers that it is desirable that, when application for admission to a Poor Law Institution is made in respect of a person who appears to the Medical Officer of the Institution to require treatment for which the Council or Joint Committee have facilities, and particularly in cases in a stage of tuberculosis which affords a reasonable prospect of arrest of the disease, the Tuberculosis Officer should be requested to examine the patient, either before admission to the Institution, or, if there are reasons for immediate admission, as soon as possible after admission has taken place, with a view to his considering whether the case is one in which he should make a recommendation for residential treatment to the local authority. Presumably this recommendation is intended to apply in cases in which the Tuberculosis Officer has not been appointed consultant.

FOREIGN VISIT OF MEDICAL STATISTICIANS.

The League of Nations have organised a collective study tour of medical statisticians, which commenced work in Denmark on 29th July last. The participants afterwards visited Sweden and Norway, and arriving in Scotland on August 10th, they visited the General Register Office and received instruction from Dr. J. C. Dunlop. August 11th they spent at the Health Chambers of the City of Edinburgh. On August 12th the party visited the General Register Office in London, where they were instructed in the work of that department by Dr. Stevenson. In the afternoon of that day they were addressed at the Ministry of Health by Dr. Carnwath and Col. S. P. James. On Friday, August 13th, the participants received instruction at the County Hall from Lt.-Col. Butler on the work of the London County Council, and in the afternoon they visited the Kensington Town Hall for the purpose of gathering from Dr. Fenton the routine work of the Public Health Department of a Metropolitan Borough Council. On Friday, August 14th, the party were taken to the Galton Laboratory and the Local Register Office at St. Marylebone.

The medical statisticians received a Government welcome on Thursday, August 13th, when Sir H. Kingsley Wood presided. The guests were:

Dr. S. Rosenfeld (Austria), Dr. Camille Jaquart (Belgium), Dr. H. J. Hansen (Denmark), Dr. T. H. C. Stevenson (England), Dr. Martti Kovero (Finland), Dr. M. Huber (France), Dr. E. Roesle (Germany), Dr. Cunnar Jahn (Norway), Dr. J. C. Dunlop (Scotland), Dr. E. H. N. Arosenius (Sweden), Dr. Marcél Ney (Switzerland), Dr. W. H. Davis (United States), Dr. A. Aguirre-Sayago (Chile), Dr. Martin Kacprzak (Poland), Dr. K. Stouman and Mr. J. Pagnod (League of Nations).

Sir H. Kingsley Wood said he felt himself privileged in being able to welcome workers from so many parts of the world, distinguished in an important branch of public health work. He himself was a politician, but in that capacity realized to the full the value of the work of the statistician. He was glad to think that the important work which the League was doing in the field of public health had taken its origin in conferences held at the Ministry of Health, and that the Government had always been in the forefront of the movement. He could assure those present that wherever they might go they would never receive a more hearty welcome than that accorded them by His Majesty's Government, who were deeply interested in the results achieved by their work.

Dr. J. Stouman, member of the Health Section, League of Nations, expressed on behalf of himself and his colleagues their appreciation of the

welcome they had received in this country. In the studies they were making in public health, they had toured widely in Northern Europe, but they came to this country remembering, as Sir Kingsley Wood had said, that it was here, by the work of an expert committee, that the health side of the League of Nations was first set afoot, and he knew full well that that side of the work always found enthusiastic support from the Government of this country.

Among those present to meet the visitors were: Sir Humphry Rolleston, Sir Arthur Newsholme, Mr. Henry Robinson, Lt.-Col. W. Butler, Dr. Percy Stocks, Dr. J. Brownlee, Dr. Norman White, Dr. J. C. McVail and Dr. J. Fenton. Owing to absence on holiday, a number of those invited were unable to attend.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

NOTICES.

The Annual Dinner of the Society will be held at the Piccadilly Hotel, on Friday, 16th October next, at 7 for 7.30 p.m. The new President (Dr. G. F. Buchan) will be in the chair, and the Council hope that members will be present in large numbers to welcome the guests of the evening. Amongst those who have already accepted are:—

Sir Arthur Robinson and Sir George Newman from the Ministry of Health, the Rt. Hon. Sir Alfred Mond, M.P., Lt.-Col. the Hon. G. F. Stanley, M.P., Sir St. Clair Thomson (Pres. Roy. Soc. of Medicine), Sir Arthur Chapman (Chairman County Councils' Assoc.), Sir Seymour Williams (President R.D. Councils' Association), Sir John Utting (Assoc. of Municipal Corporations), Sir Walter Morley Fletcher, Sir Dawson Williams, Sir Squire Sprigge, Maj.-Genl. Sir W. B. Leishman, Surg. Vice-Admiral J. Chambers, and Dr. R. A. Bolam (Chairman of Council, B.M.A.).

Ladies are invited, and members are asked to give early notice to the Executive Secretary of their intention to be present, with the names of their guests. A payment of 12s. 6d. for each ticket should be made with applications sent before October 10th; after that date the cost of tickets will be 15s. each.

It should be noted that the salary offered for the post of Medical Officer of Health for Bethnal Green, now being advertised in the lay newspapers, is not in accordance with the Scale approved by the British Medical Association. Until the terms of appointment have been revised no member of the Society of Medical Officers of Health is likely to apply for the post.

PUBLIC HEALTH IN HUNGARY.

BY

C. W. HUTT, M.A., M.D. Cantab., D.P.H.
M.O.H., Met. Borough of Holborn.

Hungary—Magyarbiradolom the land of Kossuth and liberty—is to most of us stay-at-home-Britons an unknown land or at best is known by the hundred and fifty books of Maurice Jokai. But to those fortunate enough to visit the smiling land and to partake of Hungarian hospitality, Magyarbiradolom has very pleasant associations.

The population now is about 8,160,000 and the area of the country 35,790 square miles. The flat sandy plain of the Alföld takes up a large proportion of the country; the population is largely rural, although industry was beginning to forge ahead before the War; since then the country has lost its mountainous parts in the North and South-East with their forests and coal mines and the clock has been put back for years. Before the War, Hungary was divided, for administrative purposes, into 63 counties (comitats) and 26 urban municipalities, that is to say, into secondary administrative units possessing a certain degree of self-government. The boundaries fixed by the Treaty of Trianon left Hungary with only 10 complete counties and 24 others, of which she has retained only a portion. Of the urban municipalities, there are 12 in the present territory of Hungary.

The industries are chiefly situated in Budapest which has a population of about a million; an anthracite mine near Pécs has, however, much to do with the prosperity of this city. The next largest towns to the capital are Szeged, with a population of 120,000 and Debrecen, with 110,000 inhabitants.

The proportion of non-Magyar population is now small; it comprises some 350,000 Germans (most of whom with the exception of a few German villages around Budapest are scattered throughout the country) and some 17,000 Roumanians. Although the Magyar nation came to Europe as late as the 8th and 9th centuries the people are now Europeanised, although the country comprises a large proportion of Jews and Gipsies than more western lands.

The Census of 1920 showed that 69 per cent. of the total population has attended 4 classes of the primary school and that 84.8 per cent. of those above six years of age speaking Hungarian could read and write.

There are four Universities, Budapest (the home of Semmelweis) which contains 71.4 per cent. of

the 10,830 university students, Szeged, Debrecen to which the students from Kolosvar, now in Roumanian territory were transferred and Pécs, to which the students from Porsony, now in Czecho-Slovakia transferred. All these universities have medical faculties, the recent foundation of the newer universities has, in spite of the serious economic condition of the country, wisely been utilised to provide some of the finest University buildings in Europe. Until recently Hungarian medical students spent two or three years of study in Vienna, although as long ago as 1898 medical reciprocity with Austria was abrogated. The long association of the two countries has resulted in a close resemblance of their Public Health organisations which have developed contemporaneously and on parallel lines; Hungary has however always taken a great pride in its child welfare institutions which have served as models for Austrian institutions. Much interest in this branch of social activity has always been taken by the Hungarian aristocracy.

For many years there has been an over production of medical practitioners in Hungary, and unfortunately the numbers of medical students is still increasing. Medical men are forced to go abroad, the more fortunate are able to find work in the United States, the others are found in various parts of the world such as the Dutch East Indies. The same distressing lowering of the standards of living found in Austria among the professional and official classes is accentuated in Hungary: all medical men holding official positions are allowed private practice but this is not very remunerative and they are forced to depend largely for their food on the products of their gardens. In some districts attempts have been made to fix doctors fees on a stable basis, such as wheat, exempt from the fluctuations of the crown, but no palliative is of much avail.

A medical man wishing to take an official position or to become a hospital medical officer, police medical officer, or expert in forensic medicine must show evidence that he has practised for the required number of years and produce the proficiency certificate required for these official posts.

The law authorises the Ministers of Labour and Social Welfare and of Education to hold a special examination (conducted by a specially appointed board) for municipal medical officers and police medical officers on the lines suggested by the administrative duties they will have to perform. Only doctors who have passed this

examination are eligible for the posts of chief medical officer and police medical officer.

There is also a Central Board for advanced medical training. Every year the Board organises courses at the universities.

In the publication of the Health Section of the League of Nations on "The Organisation of the Public Health Services in Hungary," no vital statistics are given, although the more important figures would perhaps not be out of place.

The most important vital statistics of pre- and post-war Hungary are, however, as follows:

	General Death Rate.	Marriage Rate.	Birth Rate.	Births minus deaths 0/00
1909-1912				
average	23.3	9.1	35.2	11.9
1921	19.3	10.5	27.9	8.6
1922	20.8	10.5	29.4	8.6
1923	19.2	9.5	28.4	9.2
1924	20.1	9.0	26.3	6.2

The League's publication has been prepared by Alexander de Dobrovits, M.D., a statistician, from a publication, "Public Hygiene in Hungary," written by Aladár de Fay, Under-Secretary of State. The name of the translator is not given; although the translation of the document into English has been done very well, it would have been an advantage if the proofs had been revised by an English medical officer of health, who would have been able to indicate the several points which are not very clear to readers in this country.

The organisation of the public health services is based on Law XIV. of 1876, amended and supplemented since then by a number of new laws and regulations. The most important of these is the Law IV. of 1918, which provided for the establishment of a Ministry of Labour and Social Welfare, and included administrative measures regarding public health among the other duties of this Ministry.

The supreme direction of public health matters is in the hands of the Minister of Labour and Social Welfare. The various duties of the Ministry are distributed as follows: Social Policy (framing of laws); General Public Health; Social Hygiene; Sick Insurance; Civil Servants' Sick Insurance; Child Welfare; Technical Workers' Insurance; War Victims' Relief; Disability Insurance; Poor Relief; Refugee Service; Housing; Health Institutions of Public Security Organisations.

A general purview of the medical organisation of the country gives an impression of more State organisation of the work of the medical profession and ancillary services than in this country. For instance, the employees of the

State curative institutions rank as civil servants and enjoy similar privileges. There is also a larger measure of co-ordination, if not of unification; the university clinics and national midwifery schools come as training establishments under the Ministry of Education and Public Worship; the miners' hospitals under the Ministry of Finance, the reformatory and prison hospitals under the Minister of Justice, but the general direction of all these establishments from the therapeutic standpoint comes within the province of the Minister of Labour and Social Welfare.

The control of prostitution, the measures to be enforced against the traffic in women and the regulations concerning cabarets and the retail trade in wine and spirits come within the province of the Minister of the Interior, who must, however, act in concert with the Minister of Labour and Social Welfare in these matters.

In addition to the Minister of Labour and Social Welfare the Minister of Public Worship and Education has important duties connected with public health, viz., the training of doctors, and the educational supervision of the clinics attached to the University medical faculties and midwifery schools.

The Minister of Labour and Social Welfare relies for expert medical advice on the National Public Health Council, a committee of real importance on which the leading medical men of the country are pleased to serve; its members are not civil servants and their functions are purely advisory.

The cost of the Public Health Service is defrayed to a larger extent by the Central Government than is the case in this country.

The Treasury defrays the cost of treatment, in hospitals and nursing homes when these cannot be recovered either from the patient or his family, and also the cost for the treatment of maternity cases in hospitals.

It also defrays the cost of medical treatment of indigent patients suffering from venereal disease or trachoma; of the treatment of the indigent insane, either in asylums for the insane or in families with which they are placed by the authorities; of persons who have no nationality, and aliens (in so far as the refund of these expenses cannot be claimed from the country concerned under reciprocal conventions); of indigent patients in university clinics and in public midwifery schools, and all costs involved by protective measures against cholera and plague.

A careful study of the League's Report reveals certain differences in medical practice inherent on a scattered population, essentially rural in character.

The importance of rabies is marked by the existence of a State Pasteur Institute; this disease as in Austria provides a live problem. One is reminded of the somewhat misplaced energy of a

Vietnamese film producer who had brought out a most excellent film dealing with rabies from A to Z, which he hoped to display in England and the United States.

The Report conveys an idea of a larger degree of state Control than in England, needs provided by private enterprise in this country are in Hungary supplied by the State. For instance, the Minister is entitled to make official pronouncements on questions of principle regarding the training of medical men and pharmacists: there is a State laboratory for the production of diphtheria antitoxin and State artificial limb factories.

The local government of the country is well organised; at the head of the administrative unit is the Prefect, the representative of the Government. He appoints the chief municipal medical officer of health and the medical officers of the districts and sanitary cantons.

There is an administrative committee (council), a supervisory body—made up of the directors of the local State offices, the higher municipal officers—including the chief medical officer—and ten members elected from the municipal committee (council). The president of the committee is the Prefect.

The municipalities enjoy complete independence in the direction of their internal affairs; they frame regulations and enforce their decisions, as well as governmental laws and decrees.

The chief of the autonomous administration in the counties (comitats) is the vice-prefect (alispan) and in the municipalities the mayor, who is elected by a municipal commission. There is a municipal committee (council) one-half of which consists of the most heavily taxed taxpayers and the other half of nominated members; their numbers vary from 48 to 60 according to the population.

"The health committee of a town administered by a corporation consists of the town medical officer (or officers as the case may be), of the town veterinary surgeon, the pharmacists (i.e., the pharmacists nominated by the representative council), the ministers of religion, the notaries, the chief of police, one teacher from each school, and, finally, five residents elected by the representative council." "The health committee of the commune consists of the communal medical officer (or medical officers), the communal (or sanitary canton) veterinary surgeon, the pharmacists (i.e., the pharmacists nominated by the representative council), the ministers of religion, the notaries, one teacher from each school, and, finally, three persons resident in the commune elected by the representative body."

"The sanitary district health committee consists of the district medical officer, the district veterinary surgeon, the ministers of religion in the communes in the district, the pharmacists, the secretaries, one teacher from each school, and representatives of each commune."

The town (communal or canton) medical officer is responsible for supervising sanitary conditions in the commune; he is entrusted with the medical police service and with the medico-legal duties of his commune (town or canton). "His duties are as follows:—

1. He treats the indigent sick free of charge, and gives all requisite medical assistance to maternity cases; persons possessing adequate means pay the fees prescribed by law.

He is specially remunerated for inspecting the colonies of State-supported children. The amount of such remuneration is fixed by the Minister of Labour and Social Welfare.

2. He must take note of all occurrences having any bearing on the public health of the town (commune or area), and make recommendations for remedying defects or imperfections to the communal and to the immediately superior authorities.

3. He performs vaccination, re-vaccination and, if need be, the compulsory vaccination of adults, at rates laid down by the Minister of Labour and Social Welfare.

4. In the principal town and in places in the neighbourhood where there is no other medical officer specially designated for the purpose, he certifies deaths, free of charge for the poor, and at a fee fixed by the administrative municipal committee for persons in easy circumstances. He supervises the officials appointed for the certification of death in the other communes of his canton.

He keeps a record of all deaths certified, and issues death certificates to the communal authorities and to the registrar.

5. He supervises State-supported children and watches over those who are put out to nurse, as also harmless lunatics, the feeble-minded, the dumb, deaf-mutes, the blind and disabled persons entrusted to the care of the commune, and also lunatics who are placed in the care of families by the asylums. He is required to keep a register of all these individuals.

6. He supervises the sale of foodstuffs and beverages and the state of the receptacles containing them.

7. He supervises the pharmacies.

8. He supervises sanitary conditions in infants' and elementary schools, and he reports any defects to his immediately superior health authority.

9. He supervises sanitary conditions in slaughter-houses and butcheries, and inspects the meat exposed for sale therein. Failing a veterinary surgeon or competent inspector, he inspects the meat in the slaughter-house at the principal town and receives the prescribed fee.

10. He inspects wells, water-conduits and springs. In short, he superintends the purity and wholesomeness of drinking-water and mineral waters.

11. He supervises the midwives in his canton (town or commune) and keeps a register of them.

12. He attends first-aid cases.

13. In return for a fixed fee, he carries out medico-legal duties and performs post-mortem examinations.

14. He supervises the measures adopted against infectious diseases, and satisfies himself that all prescriptions regarding disinfection are properly carried out; failing a special medical staff, he superintends the fever hospitals.

15. He acts as *rappporteur* to the health committee of the town (commune or canton).

16. The town medical officer submits a monthly health report to the chief municipal medical officer; the communal (or canton) medical officer sends his report to the district medical officer."

The salaries of most of the medical officers working for the State is standardised, they are placed in one or other of the different classes as regards salary.

Certification of Death and Burial Regulations.

"The Public Health Law contains a regulation for verifying that death has actually occurred, and that it is not due to a criminal act. Further, all measures required in the interests of public health must be enforced.

The certification of death is compulsory in all parts of Hungary, and no corpse may be buried until the certifying official, who is appointed under attestation, has issued a death certificate.

All bodies must be examined within the time limit laid down by law, or in the regulations published by the authorities."

This certification of death by a State Official, seen also in Austria, is a puzzle to English visitors, the volume of work entailed by the examination of each corpse by the local official would seem to be impossible. Why should there be the need for it? Is it a relic of the past conditions or does it produce more exact certification of the causes of death than the somewhat haphazard British system? Does it prevent the occasional apparently somewhat unnecessary and painful public investigations into causes of death seen in these Islands from time to time, apparently as the result of the appointment of officials with a legal training only as Coroners?

Infectious Diseases.

Notification is compulsory (*inter alia*) to whooping cough, mumps, granular ophthalmia, relapsing fever, plague, cholera, yellow fever among endemic diseases and infectious diseases imported from abroad, also non-infectious diseases pellagra, ankylostomiasis and cases of bites by mad dogs.

The summer resorts are required by law to provide adequate isolation accommodation for cases of infectious disease among the visitors, an example which could be followed in this country with very great advantage.

Austria and Hungary both pride themselves on being Western countries, who are the bulwarks of western Europe against infectious disease. Small-pox is evidently adequately guarded against, only an occasional case occurs from time to time. This satisfactory result is doubtless due to compulsory vaccination during the first year of life, and again shortly before admission to school. The existence of the vaccination muddle in this country is a perpetual astonishment to our Hungarian friends. Typhus exists somewhat abundantly

according to British ideas; trachoma is a serious problem. The official organisation of the anti-trachoma campaign in Hungary dates from 1883; the sufferers are treated as out-patients in dispensaries for the most part; they are thus able to continue to earn their living, and only serious cases which cannot be isolated at home are taken into hospital. A State hospital for diseases of the eye at Budapest takes in these patients, also a trachoma hospital at Szeged, and other hospitals with special wards for the purpose.

As one of the results of the recent balancing of the Budget in Hungary very little money is available for public health purposes; the unfortunate consequences are no more clearly shown than in the absence of control of tuberculosis, the campaign against which had already been seriously handicapped by the war and the considerable subsequent decline in the general standard of living. Compulsory notification has not been introduced because it is impossible to isolate the patients owing to the housing shortage. The State's contribution to the movement is insignificant; its efforts are concentrated on the maintenance of dispensaries, of which there are about 48. One interesting feature is the greater incidence of the disease in Hungarian agricultural as opposed to industrial workers, a fact comparable to that of the greater prevalence of tuberculosis in Welsh rural as opposed to urban districts.

Venereal Diseases.

"The law prescribes the compulsory treatment of venereal disease; it is, however, very frequently impossible to enforce it. The Minister of Labour and Social Welfare has accordingly instructed the authorities to use all possible tact, and only to take action in absolutely proved cases, so as to avoid any possibility of error.

In order to prevent the spread of venereal disease, soldiers must undergo a medical examination before discharge, and no man found to be infected is discharged until he is completely cured.

An enquiry is held into cases of venereal disease diagnosed among soldiers in order to discover the origin of the disease, and the administrative authority is notified and takes the necessary measures.

The Penal Code provides for very severe penalties for women who practise professionally as wet-nurses though aware that they are infected with a venereal disease.

Under the Health Law, prostitution is regulated by special ordinances; according to this provision, every municipality must promulgate regulations in the matter, allowance, of course, being made for local conditions.

The most important provisions in these regulations, from the hygienic standpoint, are the following:—

Women under 17 years of age may not be admitted to a brothel. Prostitutes are provided with a medical booklet, and must undergo examination at least twice a week by a medical officer. Every woman must have her own speculum. Women are forbidden to practise prostitution until they are cured; women infected with disease may not be treated or nursed in brothels, etc.

Alcoholic drinks are forbidden to be sold in brothels; again, women practising prostitution professionally may not be employed in establishments where alcoholic beverages are sold.

Prostitutes living in hotels in the provinces must undergo medical inspection, and be given an inspection booklet; the authorities must take measures to ensure that the linen in hotels is always clean, in order to prevent the spread of infectious diseases by means of contaminated linen.

Various associations have been founded to promote the campaign against venereal diseases, among them the "Teleia" Association for offering facilities for treatment to poor persons, more especially by the free distribution of remedies and medical appliances."

Housing.

Measures have been taken to improve the housing of certain classes of the population; acting on the instructions of the Minister of Labour and Social Welfare, the municipalities have issued regulations regarding the dwellings of agricultural labourers. Under these regulations the system of common dwellings has been abolished; farmers are obliged to give each permanent labourer a separate healthy dwelling consisting of at least one room and an outhouse.

Industrial Hygiene.

The public health authorities must satisfy themselves that industrial establishments do not carry on processes which are injurious to public health. They must take protective measures against the injurious effects caused by certain industries or occupations not subject to the Industrial Law.

They must make representations to undertaking employing a large number of workers with a view to the provision of housing accommodation for their employees, when the latter are unable owing to local circumstances, to find it themselves. These undertakings are also urged to establish sick-wards in which the employees can obtain medical treatment.

The Control of Midwives.

The birth-rate is of the order of 26·3, but unfortunately the pernicious idea of two parents one child is being implanted in the most sturdy of its inhabitants.

"Only women who hold a legal diploma valid throughout Hungary, or a proficiency certificate signed by the chief municipal medical officer are qualified to practise as midwives.

Since 1921, however, only midwives provided with the diploma are allowed to practise, and those who only possess a proficiency certificate signed by the chief municipal medical officer must retire from practice, if a midwife holding a diploma sets up in the commune.

Midwifery certificates issued abroad are subject to the same formalities as medical diplomas; they must be validated in Hungary before their holders can practice professionally.

Each town (or commune) is required to employ at least one midwife possessing the requisite qualifications.

Town and communes of 2,000 to 5,000 inhabitants are obliged to employ two midwives, those from 5,000 to 10,000 three midwives, and those with over 10,000 one midwife per 5,000 inhabitants, or at least to procure the services of a private midwife for indigent maternity cases. The departmental authorities are responsible for issuing the necessary regulations."

Pharmacists.

There is the same higher position of the pharmacist as met with in Austria and Germany. In conformity with the Public Health Law, pharmacies in Hungary are not commercial businesses, but public health institutions placed under Government supervision.

A licence to open a pharmacy can only be issued by the Minister of Labour and Social Welfare, on the recommendation of the municipal authorities. *Workers' Sickness Relief and Accident Insurance.*

"Under the terms of the law, every worker who is subject to the Industrial Law, carrying on any occupation either permanently or temporarily, must insure himself against sickness if his wages do not exceed a specified sum.

The term "subject to the Industrial Law" should not be interpreted too strictly. The insurance law in question is, as a matter of fact, very elastic, and refers not only to industrial and commercial employers, but also to workers following analogous occupations.

Employees who are not compulsorily insured are entitled to insure themselves if their annual salary or daily wage does not exceed the specified sum."

The section on *food control* is not the least interesting in the Report. The use of *saccharin* is prohibited, the use of colouring matters is very strictly limited, vinegar factories are placed under special supervision.

A detailed list of dyestuffs permissible for colouring articles of daily use, such as cosmetics, toys and picture books is published, together with a list of prohibited substances.

The Health Section of the League of Nations are to be congratulated on providing a most valuable study of Public Health in a country situated in the danger zone from which disease may easily spread to the rest of Western Europe.

THE MEDICOLEGAL ASPECTS OF SELF INFLICTED WOUNDS ON ACTIVE SERVICE.*

BY

COLONEL J. S. WARRACK, A.M.S., T.D., M.D.,
M.A., D.P.H., Barrister-at-Law
(Dep. M.O.H., Port of London.)

In this paper dealing with this subject, I propose to confine myself to wounds self-inflicted under active service conditions, where the inflictor survives, and not to take up the differential diagnosis between homicidal and suicidal injuries, which may be studied in any text-book of Forensic Medicine. Now the self-inflicted wound may be simply defined as one which has been inflicted by an individual on himself. It excites an attitude of suspicion at once, by its situation, and by the manner and circumstances of the infliction.

The self-infliction may be, first of his own volition, with the motive, and intention of substituting a lesser danger for a greater, and so removing himself from a position of great personal risk, to one of comparative security, or for some other reason equally cogent to his mind; second, by negligence, handling familiar or unfamiliar weapons, or ammunition in a careless way, regardless of the consequences to himself or his comrades, or by forgetfulness of the dangerous nature of the objects of his investigation; third, by accident which means the occurrence of the event independently of the will of the individual and excludes the above.

Therefore, in dealing with cases of self-inflicted wounds these must be distinguished, otherwise injustice will be done to the individual, or the State will be prejudiced, or the morale of his service be impaired, should the inflictor escape the penalty of his action.

*Paper read before the Naval, Military, and Air Force Group, of the Society of Medical Officers of Health, January 30th, 1925.

Now the Branch of the Service which is most concerned in seeing that the whole matter be put in the proper light to those in Authority is the Medical Branch. The Medical Officer is bound to be called in sooner or later to express an opinion as to the means by which the wound was sustained, either by the nature of the wound itself, or by inference from the observations of eye witnesses, or of the circumstances of the occurrence.

It is, therefore, essential that he should see as early as possible the wound, the weapon with which inflicted, the place where it was inflicted, and if this is impossible, and in any event, should the exigencies of the Service permit, he should interview the eye witnesses, or read their statements of what occurred.

His description of the wound must be accurate, and he should have knowledge of the action of the weapon, and of the effect of the missile. His report will be of the greatest possible value in deciding the question of disciplinary proceedings.

There are certain principles which he must have in mind, and he must bring his diagnostic acumen to bear on the case.

The wound deliberately self-inflicted will be on an extremity, the arm, the leg, the hand, the foot. It may be blackened, but if the shot was fired through a sand bag, or other obstacle, blackening may be absent; or it may have been inflicted in various ways, ingenious or otherwise, or by the agency of a comrade, but it will not be of a character designedly dangerous to life, unless the motive was suicidal. The negligently, or accidentally self-inflicted wound may be anywhere on the body, and to form the correct opinion other evidence may be necessary, such being that of the eye witness or evidence of motive. It may be very difficult on active service to secure the eye witness, and if secured to get him to speak the truth. Wounds may, of course, be self-inflicted by cutting as well as by bullets. Having these things in mind the Medical Officer will write a concise description in his field report book, giving name, number, unit, place, date, sign the report, have a carbon copy. He must not trust to the field medical card as the only record, as this document is very easily lost, indeed, its loss would be most suspicious, and moreover, it might be altered or varied. The original notes taken by him at the time, will be valuable evidence, when produced by him later at an enquiry or trial, and could be used as evidence, if he became a casualty, should the Court hold them to be admissible.

The following quotation from the Manual of Military Law, page 70, para. 56, 1914 edition, states the law concisely:—

"A statement, written or oral, or an entry which it

is a duty of a person to make in the ordinary course of his business, or professional employment, is admissible as evidence after his death, provided it is made contemporaneously, with the act to which it relates. But it is only admissible to prove these facts which it was the duty of the person making the statement or entry to include in it, and of which he had personal knowledge."

The best witness then should be the Medical Officer who saw the casualty first, and he should be in a strong position to help the course of justice.

In getting out a report, he should see the original weapon, or one of similar pattern, and the same principle applies to the missile. He may be required to do some experiments with the weapon, or quote from recognised authorities, and produce the books on the point. Should he be able to visit the locality, he should reconstruct the positions of all concerned as far as possible, and if practicable, get the eye witnesses to show him what happened.

Having then obtained all the data possible, he should make a clear and concise statement of the facts that have come to his knowledge, and give an accurate opinion based on them, drawing the proper inferences, and avoiding qualifications.

If then, the accused is to be tried, the evidence of the Medical Officer will be ready, there will be no delay. His statement with those of the other witnesses will be sent to the Defence, and the Court will not allow new matter to be brought in for the prosecution at the trial, without previous notice to the defence. The defence are not obliged to disclose their case. The accused is presumed to be innocent until proved guilty, and it is for the Prosecution to bring his guilt home to him.

The Medical Officer must remember that he will be liable to cross examination by defending Counsel or prisoner's friend, and that the defence will endeavour to prove accident, or failing that, negligence.

Therefore, what he says in examination in chief, he should stick to, but if he has anything which may be in favour of the accused, he should say so. He should not volunteer statements, but confine himself to answering relevant questions, using plain language, giving as candid and clear answers to the defence as to the Prosecution, and avoid any semblance of partiality or bias. He will be entitled to refer to his notes to refresh his memory, but he if does produce in the witness box anything in writing, or print, either side may require him to hand it to the Court for inspection, and subsequent questioning.

Under the Army Act, prosecutions as regards Officers are taken under Section 16, which reads "Every officer who, being subject to military law, commits the following offence; that is to say, behaves in a scandalous manner, unbecoming the character

of an officer and a gentleman, shall, on conviction by court martial, be cashiered."

Prosecutions of soldiers for disgraceful conduct are taken under section 18, and for self-inflicted wounds, sub-section 2. The offence must be wilful, and wilfulness must be proved by evidence. Prosecutions for negligence are taken under section 40: "Every person subject to military law who commits any of the following offences; that is to say, is guilty of any act, conduct, disorder or neglect, to the prejudice of good order and military discipline, shall on conviction by court martial, be liable . . . (here follow the penalties).

I will now give an illustrative case, in which I was concerned as Counsel, where a mis-description of the wound, and an erroneous deduction therefrom, were of material assistance to me in upsetting the evidence for the prosecution, and so securing an acquittal.

This is the story, and I will call the accused H., the first Medical Officer R., the second Medical Officer C., and the locality F.

The event occurred at the beginning of October, 1916, and the facts were as follows:—

H. a Captain in the Royal Flying Corps. S. R. had enlisted as a private, and had served in South Africa in the De Wet rebellion, and then in German South-west Africa. His character was good. He had suffered from sunstroke, and was liable to headaches. He came to England in September, 1915, was commissioned as an Aviator, obtained his aviation certificate, did a good deal of flying in England, including night-flying over London, until September, 1916, when he was ordered to France. He arrived at a place called F., where he commenced further instruction in flying, he used a Sopwith plane, and learned the use of a Vickers gun on the ground. He did several practice flights, both as pilot and as observer. On the first day of October, 1919, the following events occurred:—

At 11 a.m. he obtained a Colt automatic pistol, had it loaded, put it in the pocket of a plane, and left it there. It was found impossible to use that plane, so it was arranged that he should go up in a Sopwith plane.

At 2 p.m., he produced the same pistol to a witness, enquired if it was loaded, received some instruction in its working, which he said he did not know. He then proceeded to get into the plane, he had the weapon in his hand, but I elicited that he put it in the left-hand pocket of his leather coat, and accused in evidence, said that it was his practice so to do, and other witnesses said that this was not unusual.

At 2.20 p.m., he left the ground without a passenger. As regards the Vickers gun, which at that time was the defensive and offensive armament of certain

planes, he had asked not to have this loaded, and it was unloaded for him.

At, or about, 2.25 p.m., some men playing football in a field about four miles away, saw a plane come down in a swaying manner. It reached the ground, and in a few minutes time, attracted by curiosity, they went to have a look. The plane had got on fire, and this they put out. Then they saw an airman standing on the left side of the machine, he was wounded in the left arm, and blood was running down the sleeve of his leather coat profusely. He was dazed, made some disjointed statements, so they laid him on the stubble, an R.A.M.C. man, one of the players, gave him some brandy, put on a first field dressing, and sent for the Medical Officer.

The first Medical Officer, R., came on the scene at 3 p.m., saw and redressed the wound in the left arm, and asked a few questions as to what had happened. Accused replied that he had gone up to see the line and the country, he had seen a hostile air craft, tried to fire at it, but his gun was slow in starting, and just then something happened, and he could remember no more about it. Some other general remarks passed, and R. reported that accused was quite rational.

Then, in his statement, R. found on examination "that the accused was suffering from a compound fracture of the left forearm, which appeared to have been caused by a bullet entering on the inner side of the arm, and passing out on the outer side, he had not lost much blood, but that the shock and loss of blood might explain the temporary aberration of memory, that the accused had looked round the machine, and appeared satisfied."

Then R. went on to state "that there was nothing in the wound to cause a suspicion that it had been self-inflicted, but that it was obvious that it had passed from the inside to the outside." He did not see the accused subsequently. All this was sent to the defence.

At 4 p.m., the plane was examined by a party from the unit, and certain discoveries were made.

At 9 p.m., some officers of the formation arrived, the witness, R., was with them, and they all came to the conclusion that the shot must have been fired inside the fuselage. There was found a hole in the fabric on the left side of the pilots seat, the pistol was found fully cocked under this seat. There was a round in the chamber of the pistol, and five rounds in the magazine, which left one round unaccounted for. The shell was not found. The leather coat had two holes in the left sleeve. The Vickers gun was unloaded, and had not been used.

Therefore, H., the strange officer who had only been with the unit a short time, had told an untrue story

To go back to R., He sent a note later to his colleague, C., in which he said that he was of opinion "that this officer's injury was probably self-inflicted."

A Court of Enquiry was held, at which H. was not present, but he was questioned at his bedside, and could say nothing to explain what had happened, he could not recall what had happened in the few minutes he was aloft. He was then arrested for trial by court martial, and was charged under Sections 16, with scandalous conduct, etc., and under Section 40, "negligence," so that if he was not caught under the first he might be brought down by the second.

He was sent to my unit to await his trial, and I was asked to defend him.

Now, what had to be got over, was this statement about trying to fire at hostile air craft, and other remarks, and it is possible that the effects of the brandy and shock, together, might account for it. It was quite clear that the wound was self-inflicted and in the plane, therefore, it must be accounted for by accident which accused could not help. The evidence of the combatant witnesses was quite straight forward, as to the condition of the plane, the weapon, and the unloaded and unfired Vickers gun, but in cross examination, all the mechanics and armourers were anxious to say, and did say, that Colt automatic pistols were dangerous weapons, and went off very easily. One witness saw H. put the pistol in his left-hand pocket, as he got into the plane, and another loaded the pistol in court, and a cartridge went straight into the chamber, the safety catch went to "danger" with a touch, the members of the court became most uncomfortable, and a good effect was produced for the defence, by the demonstration of this exhibit.

Previous to the trial, I took an afternoon off to look at a Sopwith plane, and try to reconstruct the accident. I searched round for a Colt pistol, and this was produced by the dentist, and also a leather coat. So we went to the aerodrome together, and I put him in a Sopwith plane with his left hand on the joy stick, got him to take the pistol out of the left hand coat pocket, and on withdrawing it, the muzzle pointed straight at the left forearm.

Now, as to the actual condition of the injury, the scars were there, and so the statement of R. could be checked. This was the actual condition. "There were two scars, one on the anterior surface of the forearm, mid-way between elbow and wrist, towards the radial side, and one on the posterior surface over the ulnar side. The first was circular and healed, the second larger and not quite healed. It was slightly further down from the elbow. The inference was, that the entrance was in front, and the

exit behind, the arm partly pronated, with the elbow flexed. It was put to the medical witnesses, and to the Court, that this was consistent with the accidental discharge of the weapon, on the assumption that it had been taken out of the left-hand pocket of the leather coat low down when the accused was sitting in his seat, by means of the right hand, the left being on the joy stick, and that this accounted for the injury. Moreover, R.'s description meant that the arm must have been in a most unusual position for a man guiding a plane. R. was then shown the scars, and asked to explain his statement that the wound was from inside to outside. He could only say that he was using popular language. Asked also to explain why he said that it was probably self-inflicted, when he had not made a careful examination, and why he had changed his mind he had no answer. The theory of accident was then put to him, and he was forced to admit the possibility. His colleague, C., at the Hospital, was a better witness. He described the injury accurately, said that it was consistent with accident, and with the use of the weapon as above mentioned.

The accused gave evidence. He had a good military record, and testimony from two of his Commanding Officers, one of whom was in court, and also some evidence from two of the men who were playing football when the plane came down. He was able to say what had occurred previous to the flight only, and his cross examination was directed to suggest that he knew a good deal more about what happened in the plane than he chose to say. During his examination in chief, he was directed to put on his leather coat, sit down in a chair, the pistol in the left hand pocket, to put his left hand on a stick to represent a joy stick, and to draw the pistol from the pocket. On this being done, the muzzle pointed directly towards the hole in the sleeve. The end of the trial was, that he was acquitted of both charges.

The case goes to show how a prosecution can be upset by an inaccurate and hasty examination by a medical witness, how any inferences drawn are worthless, and how divergent statements by medical witnesses can be used by the defence to support their side, and how valuable it is to reconstruct as far as possible, the events, and then see how far they point to an accurate and logical conclusion.

In all cases under these sections of the Army Act, where wilfulness is an essential ingredient, there must be evidence of motive. Motives can be inferred from previous overt acts, conduct, and words. The mere fact of a man being in a potentially dangerous position is not enough. To bring guilt home to the prisoner, motive must be proved, and the chain of circumstances must be such as to lead

to a conviction of guilt in the minds of those trying him.

The Officers of the court martial are both judges and jury. They have the assistance, where possible, of Counsel sitting as assessor with them, and the prisoner has the benefit on conviction, of having his case afterwards reviewed for confirmation or revision by higher Authority. It would be an advantage if an experienced Medical Officer, preferably with a legal training, were a member of the Court, or at any rate of the Reviewing Authority, in important cases, where the death penalty, penal servitude, or cashiering is involved.

Note.—This paper has dealt with procedure under the Army Acts. The rules of evidence in all court martials, whether naval, military or air force, to be followed, are those adopted in courts of ordinary criminal jurisdiction in England.

DISCUSSION.

An interesting discussion took place after Colonel Warrack's paper in which the following took part: Sir William H. Willcox, K.C.I.E., C.B., C.M.G. Maj-Gen. Sir Wilfred W. O. Beveridge, K.B.E., C.B., D.S.O., Air Commodore David Munro, C.B., C.I.E., Surg.-Comdr. T. B. Shaw, R.N.

Sir William Willcox said: The determination as to whether a firearm wound was self-inflicted was often extremely difficult. In 1916, some experiments with the Service rifle were carried out by me at the request of the War Office. The results of these experiments were published in June, 1916. (*R.A.M.C. Journal*.)

In 1908 a paper on the Medico Legal importance of wounds produced by firearms was read by me before the Medico Legal Society.

When the muzzle of the firearm is near to the body fired at the character of the wound will often indicate the actual distance of the muzzle from the object. It is necessary to know the weapon used, and also the type of bullet and the powder, and whether ordinary gunpowder or smokeless powder.

Preliminary experiments made by firing at white cardboard at distances of 3, 6, 9, 12, 18, and 24 inches respectively are helpful.

The presence of blackening, scorching and peppering or tattooing around the inlet wound will generally enable one to form a fairly accurate opinion as to the distance of the muzzle from the object, assuming that this is under two feet. Also the character of the wound itself, and the presence of powder in the deep tissues is of importance.

The direction and the situation of the wound are also obviously of great importance. When all these factors are carefully considered, the possibility or probability of a wound being self-inflicted is made

clear. Usually collateral evidence is necessary before a definite opinion can be formed, also the mental condition of the suspected person is of great importance.

A wound may be purposely or accidentally self-inflicted and the determination of this is one of great difficulty. In the case quoted by Col. Warrack, there did not appear to have been any sign of blackening or tattooing on the surface of the coat through which the bullet passed, it therefore appeared that the distance of the muzzle was probably over one foot from the inlet puncture in the coat. This being so, the probability is that the wound was accidentally self-inflicted.

Col. Warrack's paper was of great interest since the mental condition of the accused person undoubtedly was an important factor in the case. It would be of interest to know if the accused person had ever suffered from epilepsy or if there was any family history of this disease. The lack of memory occurring at the time of the accident suggested the possibility of a post-epileptic state or a condition such as larvated epilepsy.

The trial of a person accused of self-inflicted wounding on Active Service was one of great difficulty and few Medical Officers were willing to state that a wound *must* be self-inflicted, and still less say that it was wilfully self-inflicted.

In cases of this kind, the scientific evidence and deductions should be placed before the Court Martial, and the decision based on the facts available left with them. In Col. Warrack's case a correct verdict was, in my opinion, obtained.

Maj.-Gen. Sir Wilfred W. O. Beveridge gave some experiments of some self-inflicted wounds among the Indian Expeditionary Force during the war. He also stated how rare suicide was in the late, as compared to the South African, war.

Air Commodore David Munro stated that in the Indian Expeditionary Force, other methods adopted to avoid service in the trenches were the causing of conjunctivitis by the introduction of foreign bodies into the eye, as well as the production of an abscess of the leg by introducing a needle fouled with faecal matter. This latter method was accidentally discovered by the finding of a piece of thread.

Surg.-Comdr. Shaw, R.N., said that during the war he had spent some time in the North Sea, the vigorous conditions of which were only too well known, but in spite of this fact, in his experience, self-inflicted wounds were comparatively rare in the Navy.

Col. Warrack in his reply stated that he had gone into the question of epilepsy with the accused, and that this was denied, and as regards blackening that none was found on the coat of the accused.

THE ORGANISATION OF PROPAGANDA IN THE INTERESTS OF PUBLIC HEALTH.

BY

J. S. PURDY, D.S.O., M.D., C.M. (Aberd.), D.P.H. (Camb.), F.R.S. (Edin.), Metropolitan Medical Officer of Health, Sydney, N.S.W.

After reading the paper of Dr. W. Allen Daley, Medical Officer of Health, Blackburn, in "Public Health," September, 1924, I thought it might be of interest to publish some of our experiences in Australia.

In my present position as Metropolitan Medical Officer of Health for an area covering 443,981 acres and a population estimated at 1,092,110, with a City Council and 55 other Local Authorities, I have found inestimable advantage in organised propaganda. However necessary in order to educate public opinion propaganda is in a modern Health Department, in a position such as mine, without any qualified medical assistance, it is absolutely essential.

In September, 1921, there was an outbreak of Plague introduced to Sydney from Brisbane. In co-operation with the Lord Mayor, the business portion of the city proper was divided into 27 blocks each with a President, a Secretary and a Committee of five (5) appointed from representatives of each block. Public meetings were held in the Town Hall, which were addressed by the Lord Mayor, and Dr. W. G. Armstrong, Director General of Public Health. The 27 Block Associations were united under the Presidency of Mr. E. J. Coote, a prominent business man, with a Council, under the designation of "The United Block Associations of Sydney," and a Secretary. Other groups of Block Associations were formed at Paddington and Glebe, two of the adjoining suburbs.

In May, 1922, The United Block Associations decided to have a "Clean Your City Campaign." Mr. Geoffrey Sawyer, who at one time acted as Secretary for the Red Cross Association, London, was engaged as the organising publicity agent. Meetings of the Mayors, Town Clerks and Inspectors of the Local Authorities in the Metropolitan Area as well as meetings of the New South Wales Health Society and the National Council of Women were held. The campaign was inaugurated by a luncheon to His Excellency the Governor, Sir Walter Davidson.

The following was the main programme:—

Publicity was given to an extensive and intensive rat campaign by:—

1. Leaders in all daily, evening and weekly papers.

2. Special advertisements couched in short, snappy phrases.
3. Special editions voluntarily contributed by firms in their general advertising.
4. Mass meetings and addresses to the general public in Martin Place and the Sydney Domain.
5. Special instruction in schools in the form of dictation to all pupils of 100 or 200 words on the extermination of rats.
6. Utilisation of the Boy Scout Organisation by a circular sent out by the Commissioner of Scouts to all Scout Masters, urging the boys to compete in rat extermination and to earn the bonus for troop funds.
7. Special slides exhibited at all picture-shows.
8. Window exhibits of rats lent by the Sydney Museum Authorities, traps, poisons, etc.
9. Special posters such as those used in Health Week by the Organisers in 1920-1921.
10. Distribution broadcast of special pamphlets.

It was recognised that the ordinary man in the street will not read half a dozen or more pages of print about plague or rats. It was necessary to tempt him to read in the same way as it is necessary to tempt him to read automobile catalogues, or an advertisement in a magazine, or any other commercial advertisement. Attractive drawings, and pictures, good art work, directed, suggested and planned by health workers, executed by good artists made people pay attention. A coloured picture with a small title will arouse the curiosity of a reader to see what it is about. A picture on each page will cause him to turn page after page to see it all.

The raising of funds to defray cost of printing, distribution, etc., was the function of the United Block Associations. Special posters were exhibited in schools, theatres, picture-shows, post offices, etc. With regard to meetings in the evening with moving-pictures or slides, such were widely advertised, and the addition of music was an attraction. Thus in the case of a band playing in a park, an interval of ten minutes was given for an address by practised speakers, whom we found held the crowds in Martin Place during Health Week the previous year. In addition there were mid-day addresses in factories, appeals from the pulpits to church-goers, talks in Sunday Schools, and organised rat hunts on garbage tips.

Prizes to the amount of £500 were awarded by one paper, the "Sunday Times," for the most rats caught by one individual over a specified period. One must remember, of course, that sometimes too much publicity may produce too much smoke and very little fire. Therefore in Sydney we have concentrated our propaganda each year in a Health Week. Thus in September, 1921, arrangements were made by the Director General of Public Health, the Principal Medical Officer, Education Department, and the Metropolitan Medical Officer of Health, for a Health Week extending from the 16th to the 22nd October.

The objective as in the original movement inaugurated in London in 1912, was the focussing of public attention on all matters appertaining to health and to healthy conditions generally, and to arouse a direct sense of personal responsibility in connection therewith. Special emphasis was made to get people to realise the fact that Maternal and Infantile Mortality could be materially reduced. As Dr. Harvey Sutton stated—"a man of public affairs is like a surf bather who waits for the incoming wave," so it was realised in the event of a wave of public opinion being created such as a well-aroused and effectively awakened sanitary conscience, the public would realise that the fundamental advantage of happiness and efficiency primarily depended on Health.

Popular lectures and demonstrations were given in the Town Hall and the Assembly Hall of the Education Department on "Swimming, Health and Life Saving," "Flies and Disease," "Infant Welfare," "Health of the School Child," "Story Telling for Health," "Material Environment and Health," "The Use and Dangers of Illuminating Gas," "The Evils of Everyday Microbes," "Health and Sound Mind and Body," illustrated by statuary, "Repression of Animal Tuberculosis."

The main exhibits of Health Week were those displayed in shop windows, thus Messrs. Farmer and Co., Ltd., who have one of the leading general emporiums in Australia, had special window displays. One window under the caption "Nothing is so valuable economically as the man—Safety First" displayed a number of devices employed in the protection of life and the elimination of accidents in mines, quarries, factories, etc. Another display under the heading "It is the duty of every man to protect himself and those associated with him from accident!!" (Abraham Lincoln) especially showed the organisation for the prevention of accidents in the street from traffic. Another under the heading, "The

foundation of the whole Commonwealth is the proper bringing up of the young—(Cicero)" was specially arranged by the Dental Association, and graphically displayed the advantages of dental hygiene.

There were three special windows showing specimens of food which had been seized as unfit for human consumption, the measures taken for protecting the milk supply, and the special dangers from preservatives, food contamination, etc. Another display under the heading "One half the Infantile Mortality is due indirectly to Flies," showed models illustrating the life history of the fly and otherwise graphically showed the risks from horse manure, garbage and night-soil.

The Royal Society for the Welfare of Mothers and Infants also had a special display illustrating the work of the Baby Clinics, whilst the St. John Ambulance Association had models dressed as nurses and patients, displaying treatments for accidents.

The following year, 1922, in conjunction with a special Health Conference, we also had a Health Week with the usual exhibits. On this occasion Sir James Barrett, of Melbourne, gave twelve addresses on different subjects associated with Health.

A special feature in our Health Weeks has been addresses during luncheon to the Commercial Travellers' Club, the Millions Club, the Masonic Club, the Rotarians and other Associations. During the present year we have had special propaganda with regard to the prevention of V.D., including the exhibition of special films "Waste," "Memories," "The Flaw," and the interesting American film illustrating the development of a child under the title of "The Gift of Life." We have also published 22,000 copies of a booklet (32 pages) under the title "Health Makes the Common Wealth," the cost of which was defrayed by advertisements.

The Poster Competition, with a prize of £25, donated by Mr. E. Hillier, which secured competitors from Victoria, South Australia, and Queensland, as well as New South Wales, was divided between Mr. James Crisp for a poster of "Boy Charlton," the world's champion swimmer, and another poster by Messrs. Smith and Julius, illustrating a happy healthy family. The former winning poster was reproduced in eight colours the cost being defrayed by Mr. T. E. Rofe.

There have also been Health Weeks in Melbourne (Victoria), Adelaide (South Australia), Brisbane (Queensland), and more recently in Auckland and Wellington (New Zealand). Some

of the smaller towns, such as Wagga, Balarat, Newcastle on the Hunter, as well as suburbs of Sydney, have also made a special feature of Health Week.

Advantage has been taken of broadcasting to give Radio Talks on the Extermination of Mosquitoes, Town Planning and special talks by the Principal Medical Officer of the Education Department to Schools. With regard to Radio Talks, however, it has to be remembered that most people expect to be entertained and amused by the radio, and it is not advisable to overdo broadcasting for health propaganda. It is advisable in Radio Talks to epitomise or give in tabloid form a short pithy statement not occupying more than seven minutes.

Another important feature in Health Propaganda is that of writing a weekly column for reproduction in weekly newspapers throughout the country. This was a special feature used in New Zealand by Dr. Truby King in his Propaganda with regard to the care and feeding of infants. Melbourne this year held in the Town Hall a special Health Exhibition, which was organised by the Melbourne "Herald."

The Health Exhibits Committee of the National Health Council, U.S.A. made a special study with regard to Health Exposition in New York by informal questionnaires, which indicated the following:—

1. That the explanation of attendants at the booths particularly attracts the passer-by. Two girls stopped at the ice exhibit, a commercial exhibit, because of the very interesting way in which the man in charge of the booth presented the subject. The dentist's chair was also very attractive because the person who cleaned the teeth of the children in the chair also talked with the people visiting the booth. The same report was made about the shoe booth.
2. That motion arrests interest. No one seemed to fail to see one exhibit where milk was constantly pouring out of a milk pail.
3. That the miniature three dimension exhibit is particularly popular.
4. That wall charts, whether they contain pictures or verbiage, or statistical facts, receive the attention of only the unusual person.

The Council recommends with regard to a Health Show the topical arrangement and design of exhibits illustrating the fundamental principles

of individual and community health. The exhibits should be grouped under general headings, such as Food, Clothing, Recreation, Cleanliness, Housing, Air, Ventilation, etc.

The commercial and other agencies would then be grouped under these agencies:—

Under Food would be grouped such agencies as Soups, Meats, Groceries, Nutrition Class Exhibits, Home Economics Clubs, etc.

Under Recreation.—An exhibit of a Children's Playground would have alongside it displays of tennis racquets, golf sticks, etc.

Thus visitors to the Exhibition receives ideas in an orderly fashion, adjustment being done beforehand to save the difficult mental process of classifying new impressions.

Another feature of successful Propaganda which I saw during the Health Congress in Brisbane in 1922, was a Health Play performed by School Children. In all Kindergartens in Sydney a special feature is made of teaching simple rules and habits of health by graphic drawing and short talks to children. A feature which offers good possibilities from the point of view of publicity is the use of Illuminated Signs.

With regard to results, it is impossible of course to assess the value of Public Health Propaganda, but as far as Sydney is concerned, we can at least claim a fair report. Thus in 1922, with a population of over a million, the death rate was only 8.16 per thousand, whilst last year (1923) it was 9.6, in both years presumably less than any other City with a population of over half a million.

Our Infantile Mortality Rate which was 56 per thousand births in 1922, has gone up to 64 for last year. There was a remarkable drop in the Infantile Mortality Rate from 1904—1918, which synchronised with the campaign commenced by Dr. W. G. Armstrong, my predecessor, in 1904, for the visiting of mothers by trained nurse inspectors and the urging of the importance of breast-feeding. Whereas the percentage of breast-fed children in 1904 was only 72; in 1911 it was 82; 1912, 84; 1913, 90; and 1914, 93.

The supervision of the Baby Clinic Nurses is not now immediately under the control of the M.O.H.

There has been a continuous reduction in deaths from Typhoid Fever from 41 in 1922 to 27 in 1923, a decrease of 43 per cent. on the previous five (5) years. The death rate for Typhoid Fever is now 1/17th of what obtained in the Metropolis of Sydney a little less than half a century ago. We find that the death rate from Typhoid Fever per hundred thousand has fallen

from 51.3 for the years 1888—1890, to 21.6 for 1891—1900, to 13.2 for 1901—1910, to 7.6 for 1911—1920, and to 3 for the last three years. This record average of which Sydney may be justly proud is one which must be envied in the United States. We aim, however, at the absolute abolition of this disease so that we may have a record like that of Edinburgh, which recently had not a single case of Typhoid Fever.

With regard to deaths from Pulmonary Tuberculosis, the Metropolis of Sydney had only 539 deaths last year, whereas twenty years ago there were 589 deaths, although the population has nearly doubled in that time.

A spot map of the City graphically showed the location of deaths from Tuberculosis during the past twenty (20) years. The data and maps published influenced the City Council in unanimously endorsing the Lord Mayor's, Alderman David Gilpin's, policy of demolishing certain congested areas and building model dwellings in such replanned portions of the City. Improved housing, improved appreciation of personal and communal hygiene, reduction in the hours of labour with improved conditions in industry, together with improved nutrition in children by the encouragement of a greater consumption of fresh milk, have been stressed and broadcasted, as making the chances of succumbing to Tuberculosis less for the present generation. In season and out of season it has been preached that if we can maintain the present progress and decently house the people in our Metropolitan areas, there is reason to believe that Tuberculosis will still further diminish.

Australia and New Zealand should easily maintain their position of having the lowest death rate from Tuberculosis—i.e., nearly half of that of England and the United States. In Public Health Propaganda, enormous assistance is given by the very fine Press we have in Australia and New Zealand. During each Health Week, the "Sydney Morning Herald," one of the largest in size and circulation of any of the papers in the Empire, has given special leading articles on Health and reported various meetings, lectures, etc. The Melbourne "Herald" has financially assisted the movement known as "Health Week."

The Colonial Mutual Life Assurance Society, Ltd., has distributed thousands of leaflets throughout Australia, dealing with various questions making for better health.

The function of the Health Officer in comparatively new countries like New Zealand, Tasmania and New South Wales has largely been that of a

missionary of health. On occasion one has had to take the public platform to advocate the introduction of water supplies, sanitary services or sewerage schemes. Once having aroused, however, the sanitary conscience of the community, it is not difficult with a loyal, well-trained and capable staff of inspectors such as we have in Australia and New Zealand, to keep up a general interest in Community Health.

The medical profession unfortunately has not been able to assist with public propaganda to the same extent as it has in the United States, and even during recent Health Weeks, in England. There has been in Sydney, however, a series of Lectures given by medical practitioners weekly at the Y.M.C.A. on medical subjects, and the profession has made the St. John Ambulance Association a success. The work of the St. John Ambulance Association during the thirty-six years it has been established in teaching hundreds of thousands of men and women has been of incalculable benefit.

In spite of the considerable increase of population during the seven years from 1913—1920, the number of fatal accidents fell from 352 to 338 in the Metropolis of Sydney. The fatal cases of drowning fell from 46 in 1913 to 19 in 1920, as a result of the splendid organisation of the Life Saving Associations on our beaches. In Australia, police, firemen and railway men are all well trained in First Aid.

Safety First Campaigns have been organised in each of the Capital States. In Hobart recently the Fire Brigade organised a Clean Up, Paint Up and Keep It Up Campaign. Such Campaigns in the United States are largely supported by Insurance Companies who recognise that a clean house, seldom burns. Rubbish in cellars, under stairs, in attics or kitchens, especially old paper and rats and mice are the worst enemies of the fire preventionist. Fire prevention pageants are held to give demonstrations, and fire drills in the factories, and tests are made as to the time of emptying theatres.

Stress is laid on the fact that education is the keynote of universal safety.

I would be pleased to receive any pamphlets from anyone interested in Public Health Propaganda.

AMENDED rules for the M.D. examination of London University in branch V (state medicine) for internal and external students in and after 1926 have been approved and may be obtained on application to the academic or external registrar.

Society of Medical Officers of Health.

COUNCIL MEETING.

An emergency meeting of the Council was held at the University, Edinburgh, on Wednesday, 22nd July, 1925. The President (Dr. R. A. Lyster) was in the chair, and there were present Prof. Harold Kerr, Dr. G. H. Pearce, Dr. J. Cates, Dr. P. S. Stirk, and Dr. Cyril Banks.

The Council had under consideration resolutions forwarded by the British Medical Association in reference to the draft Public Health (Preservatives, etc., in Food.) Regulations to the following effect:—

"That the B.M.A. is satisfied from the experiments made, from the recorded cases, and also from the fact that other countries have discontinued their use, that it is essential in the interests of public health that boric acid and borons should not be used as food preservatives.

"That, whilst recognising that there are difficulties inherent in this country due to the lack of cold storage facilities and efficient means of transport, which do not exist to the same extent in America and other foreign countries, the B.M.A. is of opinion that as a matter of principle it would have been better if the example of other countries in prohibiting entirely the use of preservatives and metallic and other toxic colouring matters in foods could have been followed in the Draft Regulations re food preservatives, etc., issued by the Ministry of Health."

"That, subject to the foregoing Recommendations, the B.M.A. places on record its approval of the Draft Regulations (issued by the Ministry of Health, on February 17th, 1925) with regard to preservatives, etc. in food.

The Council agreed to bring the above resolutions to the notice of the Annual Provincial Meeting of the Society, to be held later in the day, with the recommendation that the Society record its opinion that the use of preservatives in Food in any form is detrimental to the interests of public health, and should be entirely prohibited.

The Council then adjourned.

ANNUAL PROVINCIAL MEETING.

The Annual Provincial Meeting of the Society was held at the University, Edinburgh, on Wednesday, 22nd July, 1925. The President (Dr. R. A. Lyster) was in the chair; over forty

members were in attendance. The minutes of the last Annual Provincial Meeting having been read, Dr. Cecil L. Williams took exception to the paragraph in reference to the selection of candidates for Public Health appointments, which conveyed an inaccurate impression of his remarks in opening the discussion.

Dr. J. Howard Jones, who had presided on the occasion in question, said that he had approved the minutes as a fair record of the proceedings, but it was agreed that in view of Dr. Williams' protest the paragraph in question should be deleted. The meeting then considered the recommendation adopted at an emergency meeting of the Council, held earlier in the day, in reference to the draft Public Health (Preservatives, etc. in Food) Regulations, and after a prolonged discussion, it was resolved "That while approving the B.M.A. resolutions, this Society desires most strongly to express its opinion that the addition of preservatives to food, should, in the interests of public health, be altogether forbidden at the earliest possible date."

The following candidates were elected to the Society:—

As Fellows:

Castle, Wm. Field Langstaff, M.B., Ch.B., Sheff.; Cockayne, Alan Andreas, D.S.C., B.A. Cantab., M.R.C.S., L.R.C.P.; Dawson, George Alex., M.D., B.Ch., Belf., D.P.H.; De Crux, A. W. J., L.M.S.; Duffus, Alan Alex., M.B. Ch.B., Aberd., D.P.H.; Ellis, Harold, M.B., B.S. Lond., M.R.C.S., L.R.C.P., D.P.H.; Fernandez, P. C., L.M.S.; Fulton, George Keith, Capt. R.A.M.C., M.B., Ch.B. Glasg.; Gilmour, Colin Campbell Blair, M.B., Ch.B., Glasg.; Graham, Matthew Joseph, M.B., B.Ch., N.U.I., D.P.H.; Harvey, William, M.D., B.Ch. Belf., D.P.H.; Kelly, R. W. C., M.R.C.S., L.R.C.P.; Lowe, Arthur Hamilton, M.B., C.M., Edin., D.P.H.; Lowson, Charles Stewart, Major I.M.S. (ret.), M.B., C.M. Glasg.; MacAlister, George Hugh Kidd, M.D., Ch.B., Cantab., M.R.C.S., L.R.C.P., D.P.H.; Outram, Marjorie Isabelle, M.B., Ch.B., Aberd., D.P.H.; Reid, John, M.D., Ch.B., Glas. F.R.F.P.S., D.P.H.; Richmond, Henry, M.B., B.Ch. Birm., D.P.H.; Roberts, David Rees, M.B., Durh.; Rivaz, Percy Montgomery, Surg. Cdr., R.N., M.B., B.S., Durh., D.P.H.; Tinsley, Sidney Verling, M.B., Ch.B., Liv.

As Associates:

McHutchinson, George Browne, B.A., M.D., B.Ch. Dub., D.T.M.; Ward, Arthur Wm. Thomas, L.D.S. Eng.

The meeting then adjourned.

METROPOLITAN BRANCH.

The Annual Meeting of this Branch was held at the House of the Society on Friday afternoon, 19th June last, under the Chairmanship of the President, Dr. Charles Porter. Sixteen other members were present.

The proceedings of the meeting of the Council of the Branch, held earlier in the afternoon, were reported.

As a mark of their appreciation of the very able way in which Dr. Charles Porter had conducted the meetings of the Branch during the past session, the Branch unanimously invited him to hold the office of President for a further period of twelve months.

The following were re-elected to their respective offices:

Vice-Presidents ... Sir William Hamer.
Dr. F. H. Thomson.
Hon. Secretary ... Dr. James Fenton.
Hon. Treasurer ... Dr. C. S. Thomson.

Dr. Charles Porter and Dr. James Fenton were nominated as representatives of the Branch of the Council of the Society.

The Annual Report of the Council showing the work carried out during the session 1924-25 was presented to the Branch, and it was resolved to send a copy to each member.

A deputation from the Metropolitan Grocers', Provision Dealers' and Oilmen's Association was received, and a lengthy discussion upon the requirements of the Public Health (Meat) Regulations, 1924, took place. The Association impressed on the Branch the importance of watering roadways more frequently during the summer months, and suggested that notices requesting the public not to handle food exposed for sale should be issued by Local Authorities to shopkeepers.

After the deputation had withdrawn, the Branch discussed the progress which has been made in the various Boroughs in London in the enforcement of the Regulations, and expressed regret that the Minister of Health has, in Circular 604, advised Local Authorities to regard cooked meat as coming outside the scope of the Meat Regulations. It was decided to request the Council of the Society to forward an appropriate communication to the Minister of Health on this matter.

Consideration was given to information received from various London Medical Officers of Health and Almoners of Special and General Hospitals in regard to the facilities available for the institutional treatment of tuberculosis complicated with pregnancy. As Sir William Hamer informed the Branch that this matter is receiving careful attention at the hands of the London County Council, it was decided to take no further action at the present time.

WEST OF ENGLAND BRANCH.

At a Meeting of this Branch, held at Gloucester, on Wednesday, 1st July, 1925, Dr. R. A. Askins (President) was in the chair, and there was an attendance of eleven members.

An interesting paper was read by Dr. R. B. Berry, of Gloucester, on "Smallpox and Alastrim."

Dr. Davies, Dr. Martin, and Dr. Askins took part in the discussion which followed.

Correspondence was read from the Executive Secretary, asking the Branch to consider a resolution passed at the last meeting of the W.E. Branch, and it was decided to back up the Council in any action they might think suitable.

Re resolution of the Home Counties Branch—"That in the opinion of this Branch, all butchers should be required to provide glass fronts to their shop windows"—after considerable discussion, it was thought that such resolution was impracticable, and therefore was not adopted by the meeting.

Resolution of the Council *re* Delegation of Powers under the Midwives' Act, and recommendation of the Committee thereon, viz.:—"That in view of the decision arrived at by this Committee and confirmed by the Council of the Society in August, 1923 (*PUBLIC HEALTH*, September, 1923, page 343), the repeal of Section 12 of the Act of 1918 should not be recommended, and that no useful purpose is likely to be served by re-opening the discussion"—The following resolution was passed with one dissentient: "That in the opinion of the W.E. Branch, County Councils should be able to delegate the Inspection of Midwives to those Authorities who employ whole-time Medical Officers of Health, both parties agreeing to the delegation."

A letter was read from Col. Herbert Jones, thanking the Branch for the resolution of sympathy passed with him at the previous meeting.

The Secretary was instructed to write Col. Herbert Jones, congratulating him on his election as a Vice-President of the Society, and expressing their satisfaction at his continued improvement.

It was also resolved to send a congratulatory letter to Sir John Robertson, of Birmingham, on the honour which has recently been conferred upon him.

The following officers were elected for the Session 1925-26:—

President—Dr. S. Noy Scott.

Vice-President—Dr. C. E. Tangye. (Subject to his acceptance.)

Secretary—Dr. P. H. Stirk.

Assistant Secretary—Dr. B. A. Peters.

Treasurer—Dr. J. F. Blackett.

Journal Correspondent—Dr. P. H. Stirk.

Representative on Council—Dr. P. H. Stirk.

Previous to the meeting, a visit was paid to Messrs. S. J. Moreland and Sons' match factory, Bristol Road, Gloucester, where a most interesting and useful afternoon was spent, members being conducted over the factory by the Manager, who explained and showed in detail the work of the factory. He also explained what is done for the welfare of the workers.

At the subsequent meeting a vote of thanks was passed by Messrs. S. J. Moreland and Sons.

MIDLAND BRANCH.

The Annual Meeting of the Branch was held on Saturday, July 11th, 1925. Members, and ladies accompanying them, were received at the West Bromwich Town Hall by the Mayor and Mayoress, and by Miss Hazel (Chairman of the Sanitary Committee), and short addresses of welcome were delivered in the Council Chamber.

The annual business meeting followed. There were present: Dr. Woolsey Stocks (in the chair), Dr. R. A. Lyster (President of the Society), Mr. G. S. Elliston (Executive Secretary), and thirteen members.

The minutes of the last annual meeting (which had been published in *PUBLIC HEALTH*) were confirmed and signed.

Apologies for absence were intimated from Sir John Robertson, and Doctors Cowie, Dixon, Tapper, Miller, Badger, Mabyn Read, O'Connor, Gibbons Ward, Heffernan, Watt.

ELECTION OF OFFICERS AND COUNCIL.

The following were elected:—

President, Dr. W. H. Davison, O.B.E.; *President Elect*, Dr. G. B. Dixon; *Vice-Presidents*, Sir John Robertson, Dr. A. Bostock Hill, Dr. George Reid, Dr. T. Ridley Bailey, Dr. E. H. Snell, Dr. H. Gibbons Ward, Dr. R. Woolsey Stocks.

MEMBERS OF THE COUNCIL.

Drs. Auden, Molloy, Cowie, Goldie, Watt, Bell Ferguson, A. Hamilton Wood; *Treasurer*, Dr. T.

Reviews.

MEDICAL EDUCATION—A COMPARATIVE STUDY.

By ABRAHAM FLEXNER. New York: The MacMillan Company. pp. 334. 10s. 6d. net. 1925.

This volume gives in admirable form a comprehensive view of medical education in certain European countries and America, against the background afforded by the general educational systems of the respective countries, tracing its history and development into its present forms. Dr. Flexner divides schools of medicine into three types—the clinical, the university and the proprietary. The last had its origin in America, and may have served in the past, before there existed proper facilities for training. Fortunately this type is dying out, for the education they professed to give was scarcely to be classed as such.

Both in England and in France, medical schools grew up as accretions round hospitals, and are consequently classed as the clinical type. They had a simple and single object, viz., the training of students by practical methods.

The second, or university, type of medical school developed in Germany and Northern Europe. Its point of departure was the lecturing university professor, authoritatively expounding the traditional lore. The antecedent difference between these two types was one of ideals; in one, medical education arose out of practice, in the other it was derived from learning. The university type has developed itself through organisation linking up the laboratory side with the clinical. In this country something has also been done in this direction by our hospital schools, and improvements are taking place, but still there is much to be done to make the fullest use of the great opportunities we possess. One difficulty with which we have to contend is the want of funds.

No one who has been engaged in teaching can have failed to observe the difference which exists in the previous education of students. With the vast and rapidly increasing volume of knowledge which he has to acquire it is essential that his previous training should be such that he is able to grasp and assimilate it. Dr. Flexner discusses this aspect very fully in an enquiry as to how secondary schools perform their functions, and in particular for preparation for the study of medicine, and indicates certain weaknesses in the present methods of teaching. We regret that Dr. Flexner has not developed more fully the relation

Ridley Bailey; *Secretary*, Dr. R. H. H. Jolly; *Branch Correspondent*, Dr. W. H. Davison; *Representatives of the Council of the Society*, Dr. R. H. H. Jolly, Dr. E. H. Snell; *Auditor*, Dr. W. R. H. H. Jolly, Dr. E. H. Snell; *Auditor*, Dr. W. M. Clendinnen.

The Hon Sec. reported that certain matters had been referred to the Council of the Society for the consideration of the Branch: (a) Resolution from West of England Branch *re* Milk; (b) Resolution from Home Counties Branch *re* Public Health (Meat) Regulations. It was decided to postpone these matters until the next meeting of the Branch.

The usual vote of thanks to the Corporation of Birmingham for the continued use of the Committee Room was passed.

A hearty vote of thanks was given to the Mayor of West Bromwich for his kindness in placing the Council Chamber at the disposal of the Branch for their annual meeting. It was further agreed to send a vote of thanks to the Joint Committee of Barr Hall for their hospitality in permitting members to visit there and see the work of that institution.

A resolution was passed authorising the Hon. Sec. to print and circulate to each member a list of all Public Health Medical Officers residing in the area in the Midland Branch, whether members of the Society or not.

It was agreed that any deficit on the complimentary dinner to Sir John and Lady Robertson should be defrayed out of the Branch funds.

Dr. Ridley Bailey proposed that a hearty welcome be given to the President (Dr. R. A. Lyster), and the Executive Secretary (Mr. Elliston). This was carried by acclamation.

At the conclusion of the meeting the party proceeded by motor to Barr Hall Colony for Mentally Defectives. The party were received by S. Saunders, Esq. (Chairman of the West Bromwich and Walsall Joint Committee), and J. Smith, Esq. (Chairman of the Building Committee). A complete tour of the institution was made and the visitors were extremely interested in the skill displayed by the patients in the different trades at which they were seen working. At the conclusion of the visit tea was kindly provided by the management in the Board Room of the institution.

The President thanked the Committee most warmly for their hospitality.

Dr. Buttery then proposed a vote of thanks to Dr. Woolsey Stocks for the interesting and enjoyable programme arranged by him on the occasion of the annual meeting. Dr. Stocks suitably responded.

of Preventive Medicine to the general training of the student, for his views thereon would have carried weight with all teachers of medicine. One short paragraph only is devoted to Hygiene, in which he remarks that a change of view, gradually perceptible, is tending to permeate the entire medical school with the thought of preventive medicine. Sir George Newman, in this country, and Dr. W. H. Welch, in America, have both admirably emphasised the need for the co-operation of the general practitioner, and the realisation of his responsibility to the community. Dr. Welch, in the second Sedgwick Memorial Lecture, delivered last year at the Massachusetts Institute of Technology,* regards the lack of sufficient active participation of the general medical profession in public health activities as of serious concern to modern public health. The fault he considers is on both sides. There has been encroachment upon the field of the private practitioner, and there has often been a lack of sympathy and co-operation with health officials and with health programmes on the part of practitioners. The remedy for this is to be sought in the first instance in improvement of medical education whereby a sense of responsibility for the health of the community, as well as of the individual patient, is inculcated, and the idea of prevention not less than that of cure is impressed upon the minds of the students. There is no subject of medical study without some bearing on preventive medicine, and he considers that every teacher should consider it his duty to emphasize these aspects. In a word, as Sir George Newman expresses it, the whole medical curriculum should be permeated with the idea of prevention. One difficulty in achieving this object is that many teachers have not themselves yet realised this point of view. We have, however, noticed that those who served in the Army during the War have developed this "Communal" view to some extent, and are much more ready to co-operate with the medical officer of health than previously was the case. We believe practitioners would be willing to co-operate to a greater extent than they now do, if their services were accorded some recognition. We must remember that the practitioner is trying to earn an income for himself and his family, and if he gives up time to writing reports of cases, taking swabs of contacts, and such like, he ought to be paid for such

assistance. It was the intention of the National Insurance Act that it should be an active auxiliary in the prevention of disease and the elevation of the general standard of health, but that aim has not yet been realised or developed. The public are in need of much education on the subject. As the late Lord Derby said, "Sanitary instruction is even more important than sanitary legislation."

SEX AND EXERCISE. By ETTIE A. ROUT. London: 1925. William Heinemann (Medical Books) Ltd. pp. x. + 98. Price, 6s. net.

We are informed, in a sub-title, that this book is "a study of the sex function in women, and its relation to exercise." Chronic constipation is, no doubt, the cause of many ills. The authoress considers an overloaded colon to be a main factor in the production of sexual frigidity in women. She gives us a description of a system of exercises devised for the development of the abdominal and pelvic muscles. The diligent practice of these exercises would, doubtless, do much to prevent constipation, and would tend to the improvement of health in other ways. So far, well. But the authoress lays far too much stress upon the physical side of the sex act. Were her theories correct, it would seem to follow that girls with an athletic and gymnastic training should make the happiest marriages. There is no evidence that such is the case. That the sex act is purely physical is a common view, and a view which is responsible for much confusion in discussions on this momentous subject. Actually, the sex act has many psychological components. And it is failure in the due satisfaction of these latter components which is the main cause of sexual frigidity and marital unhappiness.

From the psychological aspect, the book is superficial and unsatisfactory. The statement is made that masturbation in adolescent girls blunts their sensibility for normal sex relations in later life because of deficient stimulation of the clitoris during normal intercourse. The true explanation of this phenomenon is that adolescent masturbation prevents the normal transfer of sexuality from the clitoris to the vagina.

The authoress indulges in sundry diatribes against our current sex taboos. That our conventional system of morality is responsible for many evils, and that we pay a heavy price for its maintenance, is true, and the subject merits impartial investigation. But there are many intricate problems involved. And the matter cannot be dismissed in so summary a fashion as that which is adopted by Miss Rout.

The book contains an interesting description of the various dances which are indulged in by primitive peoples. The physical and social importance of these dances is indicated. They are well worthy of intensive and sympathetic study. It is pointed out that these dances may be roughly divided into "war" dances and "love" (or "life") dances. The former, are, actually, much more repellent in their character. But it is the latter which missionary effort has endeavoured to suppress. Attempts have even been made to destroy the records of these love dances.

The suggested physical exercises are illustrated by photographs, which will, no doubt, assist those who desire to practise the exercises.

PAPWORTH—ADMINISTRATIVE AND ECONOMIC PROBLEMS IN TUBERCULOSIS. By the late Sir GERMAN SIMS WOODHEAD, the late Rt. Hon. Sir CLIFFORD ALLBUTT, and Dr. P. C. VARRIER JONES. (Cambridge University Press.)

This small volume contains three papers reprinted from the *Lancet*, 1922-24, whose titles sufficiently indicate their scope: "Further Experiences in Colony Treatment and After-care," "Village Settlements for the Consumptive," "The Dispensary, the Sanatorium and the Tuberculosis Officer." Sir James Kingston Fowler contributes an introductory chapter in appreciation of Papworth.

It is worth noting that the book is published by the Cambridge University Press, but "the printing has been done entirely at Papworth by the Papworth Press," and a very creditable and attractive piece of printing it is.

We are glad to observe that graduated labour in sanatoria meets with criticism from the authors. "The amount of hard manual work prescribed" they say "is too often excessive and rarely beneficial." That is very significant coming from an institution which is so largely identified with the employment of tuberculous persons.

In the last chapter are some shrewd observations on the failings of the tuberculosis officer, who is alleged to devote his time to mere routine clinical examinations, ignoring the wider outlook of preventive medicine. Rightly, the authors complain that the system is responsible for most of this. How many authorities, we wonder, have ever consulted their clinical tuberculosis officers on the general aspects of their tuberculosis schemes? To be quite frank, is there not a tendency to regard the work of these officers as

mere routine, differing only in degree and not in kind from the work of clerks? Under such circumstances it is not surprising that these men get out of their clinical into administrative appointments as soon as they can, others ignore the preventive side and become more and more wrapped up in clinical work with its own absorbing problems, and some degenerate into drudges without hope.

FLIES AND LICE.—The British Museum (Natural History) issued a third edition of their well-known leaflet. In dealing with head lice no mention is made of special combs or of the preparation so successfully used by the London Education Authority. Copies for distribution may be obtained at the rate of 2s. 6d. for 100.

HEALTHY CHILDHOOD, BETWEEN INFANCY AND SCHOOL AGE. By MARY E. WESTON, M.B., Apt. S.M.O. and Infant Welfare, County of Leicester. 4s. net. The Scientific Press.

Numerous books have been written on the care of the infant and on the care of the school child, but the child at the pre-school age has not hitherto had a brochure for itself. Dr. Weston has filled that gap. Her book is not intended to be a medical treatise, but deals simply and practically with the common difficulties encountered by mothers in piloting the child through this important period. The information is presented in a simple and attractive form which can be readily understood. Dr. Weston's book can be recommended, and if the instructions are followed will be found of value to mothers in all ranks of life.

SIR CHARLES SHERRINGTON, P.R.S., Waynflete professor of physiology in the University of Oxford, has been appointed a member of the Medical Research Council from 30th September next, in the vacancy caused by the retirement of Dr. Henry Head under the provisions governing the rotation of membership.

SUBJECT to the Approval of the Ministry of Health, the Wilts. county council have allowed Dr. J. B. Lowe, one of the county assistant medical officers, to be appointed as medical officer for the borough of Chippenham and the Chippenham rural district council.

* *Public Health in Theory and Practice*. Price 4s. 6d. Mr. Milford, Oxford University Press, Amen House, Warwick Square, London, E.C.4.

Correspondence.

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

To the Editor of PUBLIC HEALTH. *MSB, M88, 38*

Sir,—The Medical Superintendent of this Institution has called my attention to your leader in the current issue of PUBLIC HEALTH, dealing with Health Publicity, and to the kindly reference you make to our publication *The Temps*.

I admit that to the uninitiated, the title of our magazine may appear somewhat crude. A short summary, therefore, of our history, besides being of interest, may also serve to explain our rather bizarre title.

The Temps first saw the light of day on January 1st, 1924, fifty copies being cyclostyled on a very indifferent machine which had been presented to the Settlement. This issue was circulated amongst patients and ex-patients, and as the months went by it became obvious that the machine we were using was unable to cope with the demand for copies. This factor compelled us to have the magazine printed. The only purpose aimed at in these early days was to produce an interesting magazine which would amuse patients in residence and keep ex-patients in touch with the Institution. *69268*

The possibilities of the magazine, however, as a medium for Health Publicity were very quickly recognised by the Medical Superintendent and the County Medical Officer.

On April 1st, 1925, our "make-up" was considerably altered, its size increased, and with the co-operation of the County Medical Officer and his staff, the magazine in its present form appeared. The fact that we have at present a circulation of 3,000 per month proves, I think, that we have attained some measure of success in our efforts on behalf of Health Publicity.

Our title—*The Temps*—appearing on our first issue was the result of a request to patients to suggest something original. After eliminating the inevitable "Wooley Gazettes," "Wooley Heralds," etc., etc., the present title was selected, not altogether for its French associations, but rather because the word "temps" (used as a contraction for "temperatures") is in common use in Sanatoria throughout the length and breadth of the country.

To conclude on a personal note. Whatever success *The Temps* is to obtain outside this Institution as a medium of Health Publicity, it is undoubtedly solving the economic future of certain patients at present under treatment, who, if discharged from the Sanatorium would be unemployable, including myself.

Since April, 1925, the profits derived from the sale of *The Temps* have been more than sufficient to allow me to remain in residence as Editor, with full maintenance and an adequate wage. Furthermore, since the installation of a modern printing press, and consequent reduction of our printing charges, I can state with authority that two additional patients can be provided for immediately.

I am, Sir,
Yours faithfully,
CHAS. C. LAWSON,
(Editor, *The Temps*).

Wooley Settlement,
Near Hexham,
Northumberland.
21st July, 1925.

FOOD LEAFLETS.

To the Editor of PUBLIC HEALTH.

Sir,—A most important Parliamentary and medical memorial was recently presented to the Minister of Health suggesting that local authorities acquainted with the requirements of their respective districts should be asked to consider the advisability of preparing and circulating popular food leaflets which, without advocating any special system of diet, would direct attention to healthy economical foods.

We have been asked to supply leaflets on these lines, but we feel that such publications would carry much more weight if they were compiled and issued by the Society of Medical Officers of Health. Is it too much to hope that the Society will undertake this important work?

Yours faithfully,
MAY YATES,
Hon. Sec.,
Bread and Food Reform League.

37, Essex Street,
W.C.2.

THE Worcestershire county council have granted an extension of sick leave to Dr. G. H. Fosbrooke, C.M.O., until 31st December, 1925.